

June 23, 2026

James McDonald, Ph.D.
Director, Air and Radiation Division
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Re: 2026 Annual Network Plan

Please find enclosed the 2026 Annual Network Plan (ANP) from the Oklahoma Department of Environmental Quality (Oklahoma DEQ). This document was posted on our website for the required 30-day public comment period and is now ready for submittal to your office.

The Asset Management inventory report requested by EPA has been submitted as a separate submission from the Oklahoma DEQ 2026 ANP. The SO₂ Annual Report requested by EPA and required under 40 CFR §51.1205 will be a separate submission from the Oklahoma DEQ 2026 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 or Bryan Sims at 405.702.4139.

Sincerely,



Melanie Foster
Environmental Programs Manager
Data and Planning Section

**Oklahoma Department of Environmental Quality
Air Quality Division
2026**

Air Monitoring Annual Network Plan



Oklahoma Department of Environmental Quality
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Abbreviations

Abbreviation	Meaning
ANP	Annual Network Plan
AOC	Area of Concern
AQD	Air Quality Division
AQI	Air Quality Index
AQS	Air Quality System
CAA	Clean Air Act
CBSA	Core-Based Statistical Area
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DRR	Data Requirements Rule
EPA	Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
MAAC	Maximum Acceptable Ambient Concentration
MDN	Mercury Deposition Network
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NATTS	National Air Toxics Trend Station
NCore	National Core Multi-Pollutant Site
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NO _y	Reactive Nitrogen
NTN	National Trends Network
O ₃	Ozone
Oklahoma DEQ	Oklahoma Department of Environmental Quality
PAMS	Photochemical Assessment Monitoring Station
Pb	Lead
PM	Particulate Matter
PM ₁₀	Particulate Matter less than 10 µm
PM _{2.5}	Particulate Matter less than 2.5µm
PSD	Prevention of Significant Deterioration
PWEI	Population Weighted Emission Index
QA	Quality Assurance
RA40	Regional Administrator Required Monitoring
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SPM	Special Purpose Monitor
TAC	Toxic Air Contaminants

Introduction

This report documents the annual review of the air-monitoring network operated by the Oklahoma Department of Environmental Quality's (Oklahoma DEQ) Air Quality Division (AQD). When finalized it will be submitted by July 1, 2026, to the 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 58, Appendix A; performs within specifications in accordance with 40 CFR 58, Appendix B; follows procedures outlined within 40 CFR 58, Appendix C; designs its network in accordance with 40 CFR 58, Appendix D; and locates its sites to meet all requirements of 40 CFR 58, Appendix E.

Below is a summary of changes that have been implemented since the last Annual Network Plan (ANP) and are either approved by Region 6 EPA or are Special Purpose Monitors (SPM):

- 40-147-0217 (Copan): Ozone SPM halted collection on 12/02/2025
- 40-147-0217 (Copan): Particulate Matter 2.5 (PM 2.5) and Particulate Matter 10 (PM 10) SPM halted collection 12/16/2025.
- 40-147-0207 (Union): Ozone SPM began collection on 12/24/2026
- 40-143-0175 (Tulsa Newblock) H₂S halted collection on 10/14/2025
- 40-143-0235 (Tulsa TCWD): H₂S halted collection on 10/21/2025
- 40-085-0300 (Burneyville): Ozone SPM halted collection on 05/14/2026

Table 1 is a list of all currently existing ambient air monitoring sites that AQD operates and maintains as of 05/05/2026. Table 3 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 05/22/2026 through 06/21/2026 by posting the document 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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Tables

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 Comp.	CSA - CBSA ¹
40-109-0035 (Central Fire Station)	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 (Moore)	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 ³	Continuous	Population Exposure	Urban	Yes	
				PM ₁₀	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	No	
40-109-0096 (Choctaw)	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 (OKC Near Road)	3112 N. Grand Blvd, OKC	35.503070	-97.577981	NO ₂	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	
40-017-0101 (Yukon)	12575 NW 10 th (Water Tower), Yukon	35.479215	-97.751503	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC- Shawnee CSA-OKC CBSA
40-037-0144 (Mannford)	Mannford Water Plant, Mannford	36.105481	-96.361196	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 Comp.	CSA - CBSA ¹
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40-143-0174 (Glenpool)	502 E. 144th Pl., Glenpool	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 ³	Continuous	Population Exposure	Urban	Yes	
				PM ₁₀	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	No	
40-143-0175 (Tulsa Newblock)	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 CBSA
40-143-0178 (Tulsa East)	18707 E. 21st St., Tulsa	36.133802	-95.764537	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa–Muskogee-Bartlesville CSA-Tulsa CBSA
40-147-0207 (Union)	Oklahoma Union School, Lenepah	36.918410	-95.632286	Ozone	U.V. Absorption	SPM	Continuous	Regional Transport	Regional	No ⁶	Tulsa–Muskogee-Bartlesville CSA-Bartlesville MSA
40-113-0226 (Skiatook)	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 (Tulsa TCWD)	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 CBSA
40-019-0297 (Healdton)	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 (Burneyville)	Noble Foundation-Red River Research Farm, Burneyville	33.880812	-97.275896	Ozone	U.V. Absorption	SPM	Continuous	Regional Transport	Regional	No ⁶	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 Comp.	CSA - CBSA ¹
40-121-0415		34.885608	-95.784410	Ozone	U.V. Absorption	SLAMS	Continuous	Regional Transport	Regional	Yes	

(McAlester)	104 Airport Rd., (McAlester Municipal Airport), McAlester			PM _{2.5}	Broadband Spectroscopy	SLAMS	Continuous Primary	Population Exposure	Regional	Yes	Not in CSA-McAlester CBSA
				PM ₁₀	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	No	
				PM _{2.5}	Sequential FRM/Micro-gravimetric Filter Weighing	SLAMS	(1 in 6) Collocated	Quality Assurance/ Method Collocation	Regional	Yes	
40-121-0416 (Savanna)	117 Liberty St., Savanna	34.833715	-95.842816	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 (Oxbow/ Kremlin)	11826 N 30th St, Kremlin	36.512363	-97.845959	SO ₂ ⁴	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Not in CSA-Enid CBSA
40-071-0604 (Ponca City)	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-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 (Lawton)	2211 NW 25 th , 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 ³	Continuous	Population Exposure	Urban	Yes	
				PM ₁₀	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	No	
40-075-0711 (Great Plains State Park)	22487 N 2250 Rd, Mountain Park	34.745832	-98.967698	Ozone	U.V. Absorption	SPM	Continuous	Regional Transport	Regional	No ⁶	Not in CSA/ CBSA
40-043-0860 (Seiling)	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	

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comp.	CSA - CBSA ¹
40-109-1037 (OKC North)	2501 E. Memorial Rd., (Oklahoma	35.614131	-97.475083	SO ₂ ⁴	U.V. Fluorescence	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC-Shawnee CSA-OKC CBSA
				Ozone	U.V. Absorption	SLAMS	Continuous	Highest Concentration	Urban	Yes	

	Christian University), Edmond			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/ 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)	18388 190 th St., Purcell	34.984686	-97.522753	Ozone	U.V. Absorption	SLAMS	Continuous	Background	Urban	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 Comp.	CSA - CBSA ¹
40-143-1127 (Tulsa Central)	3520 1/2 N. Peoria, Tulsa	36.204902	-95.976537	Ozone	U.V. Absorption	NCore/ SLAMS	Continuous	Maximum Precursor Emissions Impact	Urban	Yes	Tulsa-Muskogee-Bartlesville
				Trace Level NO ₂	Chemiluminescence	NCore/ SLAMS	Continuous	Maximum Precursor Emissions Impact/	Urban	Yes	

								Area-wide NO ₂ and RA40 NO ₂ for Tulsa CBSA			CSA-Tulsa CBSA
				Trace level NO _y	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 Collocation	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 and Core-Based Statistical Area abbreviated to CSA 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 SO₂ monitors due to reports being entered for both hourly and 5-minute data.

⁵ H₂S SPMs are used to monitor major sources in the Tulsa area in response to the state-implemented H₂S 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 40-147-0217, 40-019-0297, 40-069-0324, 40-067-0671, 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 PM₁₀. All others are API Model T640 instruments designated NAAQS comparable for PM_{2.5} and non-NAAQS comparable for PM₁₀.

Table 2. AQD NAAQS Monitor Instrument Types

Pollutant Measured	Manufacturer	Instrument
PM _{2.5} – FRM PM ₁₀ – FRM	Thermo Environmental	2025i Sequential Air Sampler
PM _{2.5} – Continuous FEM	Teledyne API	T640
PM _{2.5} – Continuous FEM PM ₁₀ – Continuous FEM	Teledyne API	T640X

PM _{2.5} – Speciation	URG	3000N
	Met One	SASS
Ozone	Teledyne API	T400
	Thermo Environmental	49iQ
	Ecotech	Serinus 10
CO	Teledyne API	T300
	Teledyne API	T300U
	Thermo Environmental	48iQ
NO _x	Thermo Environmental	42iQ
	Teledyne API	T200U
	Ecotech	Serinus 40
NO _y	Thermo Environmental	42iY
SO ₂	Thermo Environmental	43iQ
	Teledyne API	T100
	Teledyne API	T100U
Lead	Tisch	High Volume Air Sampler TE-5170V
Black Carbon	Magee Scientific	Aethalometer AE33

Oklahoma DEQ will be submitting an instrument inventory to EPA by July 1, 2026. The detailed inventory list is not part of the ANP but will be submitted separately. Oklahoma DEQ will transition from The Teledyne API T640 to a Thermo 5030iQ instrument network wide beginning July 1, 2026. Those instrument changes will be included with the next ANP.

Table 3. 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
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40-143-0174 ¹ (Glenpool)	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	

¹40-143-0174: DEQ is currently discussing the relocation of Site 40-143-0174 with the Glenpool Public School System. The site is on the verge of not meeting siting criteria as specified by 40 CFR 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.

Table 4: 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
			3	SPM and/or Transport	4
			7	AQI/Advisories	6
Total	6		10		16
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
NO _y	1	NCore/PAMS			1
Total	1				1
Sulfur Dioxide	1	NCore			1
	1	SO ₂ DRR ²			1
	1	Tulsa CBSA PWEI			1
			2	Major Source	2
			1	OKC MSA/Population	1
Total	3		3		6
Lead	1	Sources > 0.5 tons/year			1
	1	QA Collocation			1
Total	2				2
PM _{2.5} ³	2	OKC MSA/Population			2
	1	Tulsa MSA - Population/NCore			1
	2	Method Collocation			2
	1	QA Collocation			1
	1	Background			1
	1	Transport			1
	1	Near-Road			1
			6	AQI/Advisories	6
			0	SPM/Transport	1
Total	9		6		15

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
PM ₁₀ ^{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
			1	SPM/Transport (Non-NAAQS Comparable)	2
Total	4		9		13
PM _{10-2.5} (Coarse)	1	NCore			1
			1	Supplemental	1
Total	1		1		2

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

²Though listed as being required under 40 CFR 58 Appendix D, the DRR monitors are required under 40 CFR 51.

³Per 40 CFR 58 Table D-5 of Appendix D, while the Enid MSA has a population of >50,000, it has met the minimum monitoring requirements due to the Enid MSA PM_{2.5} being <85% of PM_{2.5} NAAQS. Per 40 CFR 58 Table D-5 of Appendix D, the Tulsa MSA has a population of >1,000,000 and an expected design value of ≥85%, therefore it may not meet the minimum monitoring requirement. DEQ anticipates the addition of a PM_{2.5} monitor at the planned Tulsa Near Road location to alleviate this deficit. Per 40 CFR 58 Table D-5 of Appendix D,

⁴Per 40 CFR 58 Table D-4 of Appendix D, while the Lawton MSA has a population of >100,000, DEQ has met the minimum monitoring requirements due to Lawton MSA PM₁₀ being <80% of PM₁₀ NAAQS.

Note – This chart reflects existing network conditions.

Table 5: PWEI¹ Numbers for Determination of Minimum SO₂ Sites

MSA/CBSA	Counties	2024 SO ₂ Emissions ² (tons)	Total Emissions ² (tons)	2025 Population ³ (people)	PWEI ² (million persons-tons per year)
Oklahoma City	Oklahoma County	119	308	1,512,813	465
	Cleveland County	5			
	Canadian County	110			
	Grady County	40			
	Logan County	1			
	McClain County	33			
	Lincoln County	0			
Tulsa	Tulsa County	237	3,249	1,069,273	3,474
	Rogers County	2,653			
	Wagoner County	14			
	Creek County	207			
	Osage County	2			
	Okmulgee County	136			
	Pawnee County	0			
Lawton	Comanche County	4	4	127,590	0
	Cotton County	0			
Stillwater	Payne County	6	6	83,889	0
Shawnee	Pottawatomie County	2	2	75,102	0
Muskogee	Muskogee County	1,673	1,673	66,708	111
Enid	Garfield County	14,241	14,241	61,779	879
Bartlesville	Washington County	0	0	54,037	0
Tahlequah	Cherokee County	4	4	49,196	0
Ardmore	Carter County	294	295	48,910	14
	Love County	1			
Ponca City	Kay County	305	305	43,490	13
McAlester	Pittsburg County	26	26	43,320	1
Duncan	Stephens County	77	77	44,310	3
Durant	Bryan County	263	263	51,367	13
Ada	Pontotoc County	127	127	38,528	4
Miami	Ottawa County	3	3	30,438	0
Weatherford	Custer County	6	6	39,059	0
Altus	Jackson County	0	0	24,764	0
Elk City	Beckham County	55	55	22,159	1
Guymon	Texas County	36	36	20,322	0
Woodward	Woodward County	19	19	19,827	0

¹40 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 SO₂ 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 SO₂ 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 SO₂ 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 SO₂ 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 SO₂ monitor is required within that CBSA.

²Values truncated to whole tons or whole million persons-tons per year people.

³All population estimates based on the 2025 Census estimations found at <https://www.census.gov/data/tables/time-series/demo/popest/2020s-total-metro-and-micro-statistical-areas.html>

Appendix A: Further Comments

Monitoring of NAAQS Parameters:

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

Near-Road and PM_{2.5} 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 NO₂ network, there must be one microscale near-road NO₂ 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 NO₂ 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 1,069,273 based on the 2025 Census Data Estimates found on the US Census Bureau website, (<https://www.census.gov/data/tables/time-series/demo/popest/2020s-total-metro-and-micro-statistical-areas.html>).

As per 40 CFR Appendix D to Part 58 § 4.3.2(a), the Tulsa MSA will require a near-road NO₂ monitoring site, as the population has exceeded 1,000,000 persons. Oklahoma DEQ has placed a site building which will be the location for the Tulsa Near Road site. This building is awaiting power installation from the Electric Company. Once power has been provided, instruments can be installed and startup can proceed. Oklahoma DEQ anticipated the site to be operating by Summer 2026.

Per 40 CFR 58 Table D-5 of Appendix D, the Tulsa MSA has a population of >1,000,000 and an upcoming expected design value of ≥85%, therefore it may not meet the minimum monitoring requirement. DEQ anticipates the addition of a PM_{2.5} monitor at the planned Tulsa Near Road location to alleviate this deficit.

Photochemical Assessment Monitoring Station 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 1,069,273 based on the 2025 Census Data Estimates found on the US Census Bureau website, (<https://www.census.gov/data/tables/time-series/demo/popest/2020s-total-metro-and-micro-statistical-areas.html>).

As per 40 CFR Appendix D to Part 58 § 4.3.2(a), the Tulsa MSA will now require a Photochemical Assessment Monitoring Station (PAMS) monitoring site, as the population has exceeded 1,000,000 persons. Oklahoma DEQ has placed a new site building alongside Tulsa NCore site 40-143-1127 (Tulsa Central) which will provide additional space for PAMS equipment. A phased rollout of PAMS instrumentation is ongoing and anticipated to be completed by end of calendar year 2026.

Prevention of Significant Deterioration Air Monitoring:

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

Maintenance Plans for Discontinuation of SLAMS Monitors:

Oklahoma currently is in attainment with all NAAQS and is not under a State Implementation Plan (SIP). Oklahoma is currently not designated as non-attainment but is recording high values that could be potential violations of the NAAQS. These trends are being continually monitored by Oklahoma DEQ.

Division of MSA/CBSA Monitoring Responsibilities with other Agencies:

DEQ understands some of its monitoring area is shared with Tribal Nations and Arkansas Energy and Environment. DEQ has no standing agreements with Tribal Nations or Arkansas Energy and Environment for the division of monitoring responsibilities to fulfill monitoring requirements at this time. 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 Station, State Air Toxics Monitoring Network, and National Atmospheric Deposition Programs:

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. DEQ operates three air toxics sites, one National Air Toxics Trends Station (NATTS) in Tulsa (TMOK) and two non-NATTS sites, one in Oklahoma City (OCOK), and one in Tulsa (TOOK). A special purpose monitor is currently planned for Cushing, OK (CUOK) due to environmental complaints. Startup of CUOK will begin as soon as a certified instrument is received by Oklahoma DEQ. An additional monitor in Cushing (CUOK), is planned as a special project. The physical address and GPS coordinates have not yet been collected for this location.

TMOK is comparable to OCOK due to their siting locations in their respective cities. 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.

Additionally, DEQ operates four Mercury Deposition Network (MDN) sites, OK01, OK04, OK06, OK31 and one National Trends Network (NTN) site, OK01. See chart below for detailed location data.

Site Identifier	Address/Location	Latitude	Longitude	Pollutants Measured
40-119-0615 CUOK	N/A	N/A	N/A	Toxics
40-143-0235 TOOK	2443 S. Jackson Ave., Tulsa	36.126945	-95.998941	Toxics
40-109-1037 OCOK	2501 E. Memorial Rd., Oklahoma Christian University, OKC	35.614131	-97.475083	Toxics
40-143-1127 TMOK	3520 1/2 N. Peoria, North Tulsa- Fire Station #24, Tulsa	36.204902	-95.976537	Toxics
OK01	McGee Creek State Park	34.315439	-95.8894	Mercury NTN
OK04	Lake Murray State Park	34.103233	-97.070817	Mercury
OK06	Wichita Mountains Wildlife Refuge	34.73425	-98.709517	Mercury
OK31	Copan, Oklahoma	36.908115	-95.88235	Mercury

Lead (Pb) Monitoring:

Currently only one lead monitoring site location, with an associated collocated sampler, is operated at 117 Liberty St., Savanna Oklahoma, AQS Site # 40-121-0416 (Savanna).

40 CFR 58 Appendix D Section 4.5 states "At a minimum, there must be one source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source which emits 0.50 or more tons per year and from each airport which emits 1.0 or more tons per year based on either the most recent National Emission Inventory (<http://www.epa.gov/ttn/chief/eiinformation.html>) or other scientifically justifiable methods and data (such as improved emissions factors or site-specific data) taking into account logistics and the potential for population exposure". Please note, the quoted CFR language includes a link which is

no longer valid. The updated National Emission Inventory link is <https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>.

The 2020 National Emissions Inventory includes air emissions sources of both criteria and hazardous air pollutants with data available for many facilities and county totals. However, as this data is compiled on a triennial basis, DEQ has many datasets reflecting more up to date information. In all cases possible, the most recent site-specific data is utilized in making these determinations.

Oklahoma DEQ has identified two additional areas in the state to receive monitoring due to nearby lead sources. These sites will be in the areas of Sapulpa, OK and Madill, OK. A site location has been identified in Madill and Oklahoma DEQ will be seeking EPA Region 6 approval shortly. Site location scouting has begun for Sapulpa but no locations have been identified at this time.

Network expansion with low cost sensors:

Oklahoma DEQ has begun to utilize low cost sensors to help supplement and expand our network. For PM_{2.5}, DEQ is utilizing Purple Air monitors. These smaller, easily portable PM_{2.5} monitors could test potential siting areas for appreciable pollutant levels before establishing compliance or Special Purpose Monitoring sites. Monitoring of intrastate and interstate fire emissions could occur as fires develop, providing real-time data to the AQ health advisory program to the benefit of Oklahoma Citizens. Oklahoma DEQ has begun the expansion by placing several in the Oklahoma panhandle and far west of the state. This allows us to sample in areas where regulatory grade monitoring is less feasible for daily operation. DEQ staff would like to also use the siting of these devices as an opportunity to foster partnerships with tribal nations and local organizations.

For O₃, Oklahoma DEQ has begun the calibration process on several Clarity Node-S with Multi-Gas Module expansions. Once the colocation and calibration process is complete, we plan to move these sensors into the field. The first priority will be swapping our Ozone sites that are not used for NAAQS-comparison purposes. Oklahoma DEQ feels that greater good with less effort and fewer expended resources could be accomplished by transitioning all of these variable-location monitoring sites to low-cost sensor-based platforms that always remain open. Depending on how long the calibration process takes, Oklahoma DEQ hopes to have these Clarity Node-S instruments deployed by the end of the Summer 2026.

Review of Site Conditions:

The DEQ home office has completed renovation of a new laboratory space for use by monitoring staff. The new space includes storage, bench workspace for repairs, and equipment to perform in-house calibrations and maintenance.

Site 40-143-1127 (Tulsa Central) has received a complete interior renovation. This includes remodeling, door replacement, HVAC replacement, and paint. Buildings network wide are currently being investigated for potential repairs, renovations, and repainting.

Appendix B: NCore NOy Waiver Request and Data Analysis

The following waiver request and data analysis has been added to the 2026 ANP at the request of EPA. The waiver and data analysis is being requested for NOy monitoring at NCore site 40-143-1127 (Tulsa Central). If approved as described, Oklahoma DEQ understands that PAMS NOy monitoring is still required independent of the existence of a waiver for NCore NOy monitoring. The NCore NOy monitoring waiver is being requested in case PAMS requirements change at some point in the future allowing DEQ to close down this monitor, or if PAMS monitoring is relocated to a site that does not have a similar requirement, thus avoiding a requirement to operate multiple of this type of monitor.

Data Analysis

NOy, also known as total reactive nitrogen, is defined as NOx with the addition of a set of compounds collectively referred to as NOz. The analysis that follows shows that monitoring site 401-43-1127 in Tulsa measures very little, if any, difference between NOx and NOy, making NOy monitoring redundant and replaceable with NOx monitoring.

All data for this period and used in this analysis has been through all relevant QA and QC procedures required under Oklahoma DEQ and EPA guidelines and has subsequently been fully certified. NOx and NOy hourly averaged data for the years 2014 through 2024 are summarized in Figure 1 and Table 1 below. For this timeframe, the mean NOx value is 4% higher than the mean NOy value, (9.7 and 9.3 ppb, respectively). The 95th percentile values for NOx and NOy for this timeframe are 34.6 ppb and 33.5 ppb, respectively.

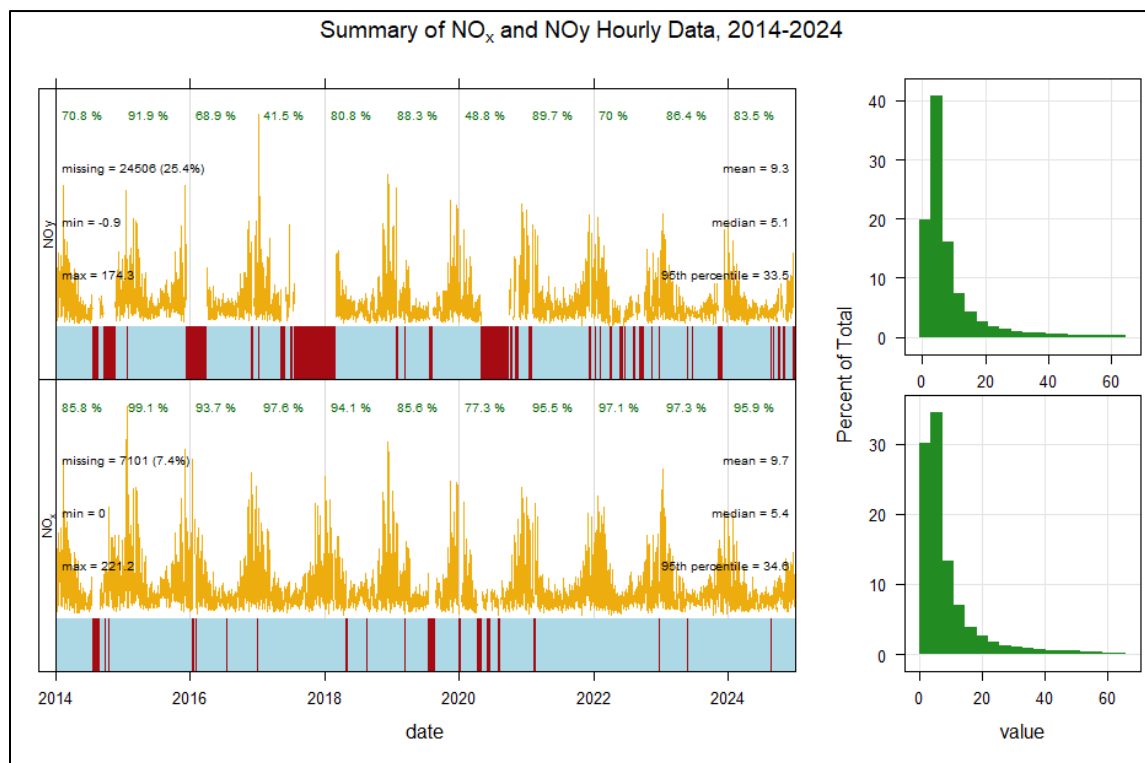


Figure 1 (generated with openair1)

2014-2024 Data		
	NO _x	NO _y
Mean (ppb)	9.7	9.3
Median (ppb)	5.4	5.1
95th Percentile (ppb)	34.6	33.5
Missing Data	7.4%	25.4%

Table 1

The annual means for both NO_x and NO_y along with the differences between those are presented in Figure 2 and Table 2. The NO_x annual mean is greater than the NO_y annual mean for 8 years of this time period, and the NO_y annual mean is greater for 3 of those years. There's a significant amount of interannual variability and no consistently higher level for NO_y that one would expect if there were a significant and persistent amount of NO_z being measured at the site. A constant positive number for the difference calculations would possibly indicate such a NO_z artifact, but the differences aren't consistent and are more often negative than positive with slight variations year to year.

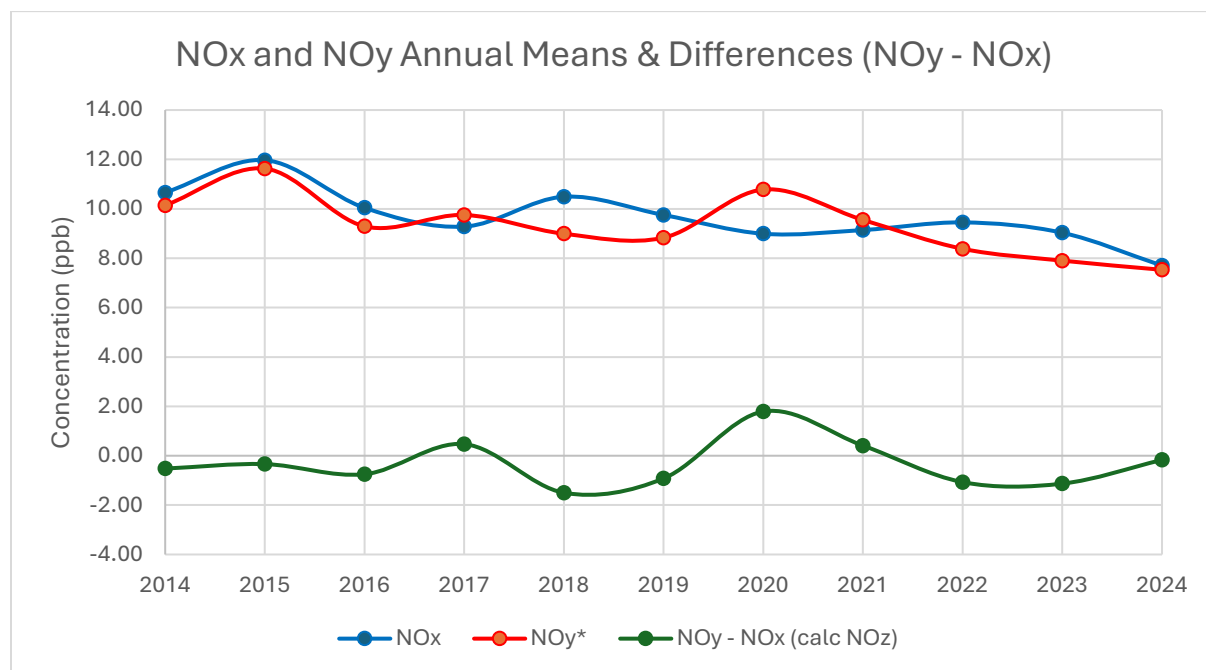


Figure 2

NO _x and NO _y Annual Means (ppb)			
Year	NO _x	NO _y	NO _y – NO _x (calc NO _z)
2024	7.7	7.5	-0.2
2023	9.0	7.9	-1.1
2022	9.5	*8.4	-1.1
2021	9.1	9.6	0.4
2020	9.0	*10.8	1.8
2019	9.8	8.8	-0.9
2018	10.5	9.0	-1.5
2017	9.3	*9.8	0.5
2016	10.0	*9.3	-0.8
2015	12.0	11.6	-0.3
2014	10.7	*10.1	-0.5
Mean	9.7	9.3	-0.3

Table 2 *Data doesn't meet AQS summary criteria

As both NO_x and NO_y have strong seasonal variability, monthly averages for both NO_x and NO_y are plotted in Figure 3 along with smoothed trend lines. Only months with data capture above 50% are plotted. Both NO_x and NO_y are highest in the winter months and lowest in the summer months, but both values are extremely similar, with NO_x reading slightly higher on average.

NO_x and NO_y Monthly Averages (w/ >50% Data Capture) with Smooth Lines 2014-2024

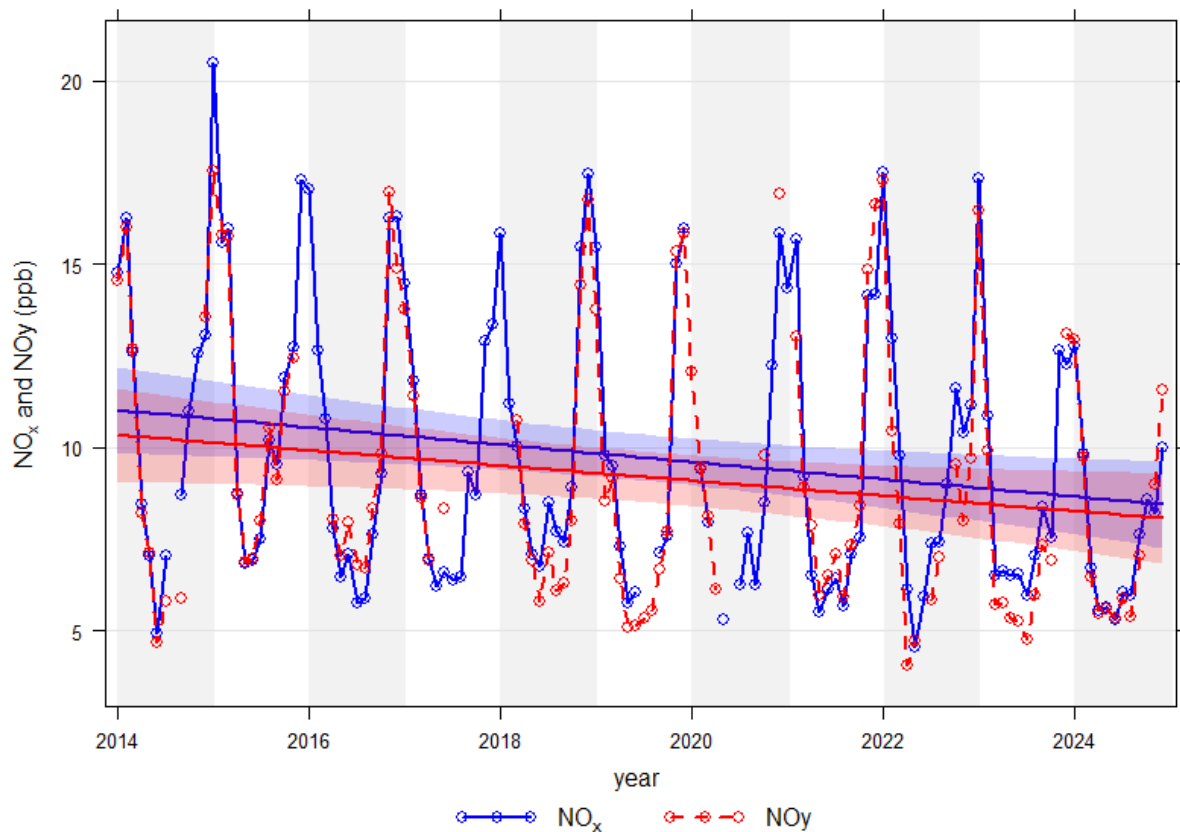


Figure 3 (generated with openair1)

Next, to see if NO_y might exist in any substantial amount at particular times, the 2014-2024 data were averaged by time of day, day of the week, and month. The results can be seen in Figure 4. A qualitative look at this data shows NO_y to not be substantially greater than NO_x at any time with the exception for the month of December, where average NO_y is very slightly elevated above NO_x (<1 ppb difference).

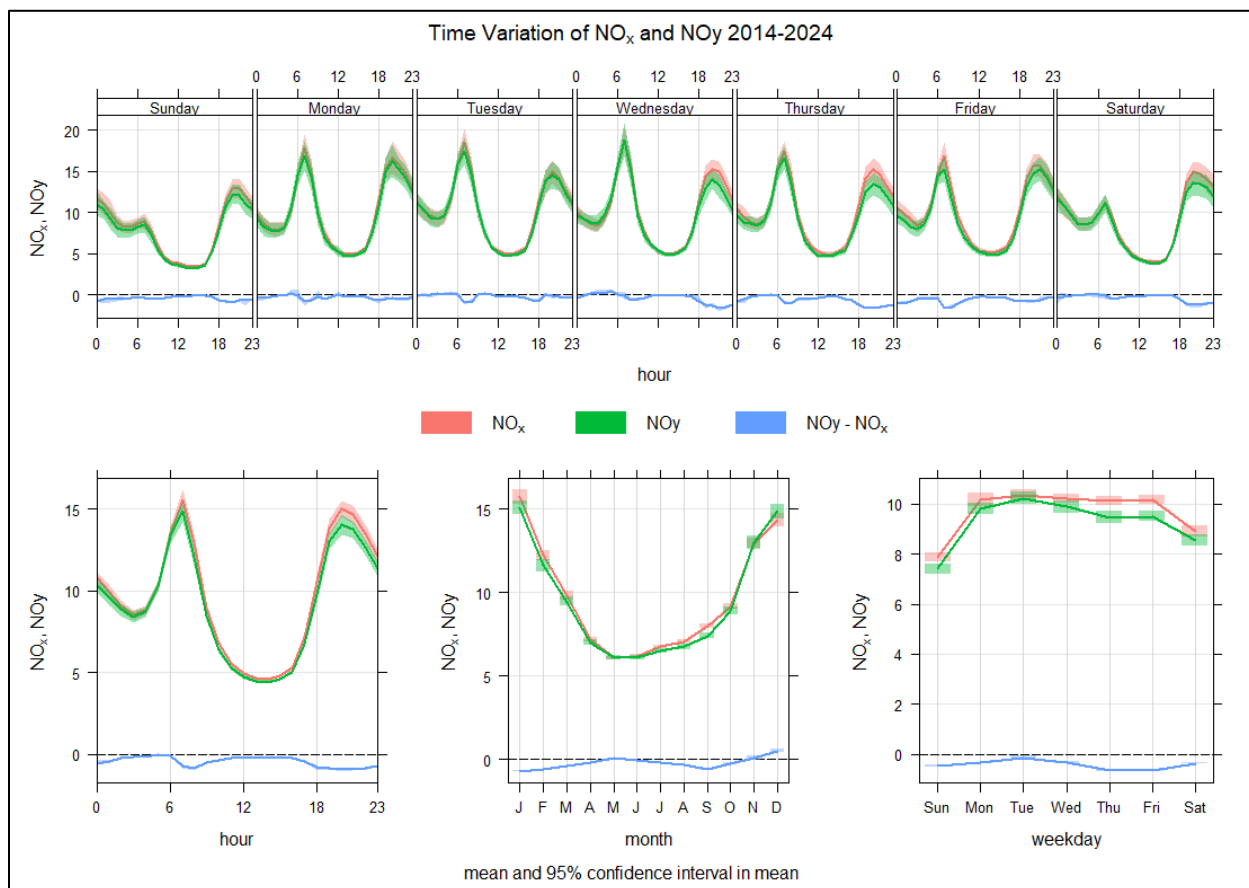


Figure 4 (generated with openair1)

Next, to see the relationship between NO_x and NO_y, hourly averaged values of both pollutants were plotted against each other in a series of regression plots. For each plot, NO_x is plotted on the x-axis and NO_y on the y-axis. When a linear relationship is assumed and a line of best fit is added to the data, the slopes, y-intercepts, and R^2 values can be calculated, with the general formula being $NO_y = NO_x * (m) + y$, with m being the slope. The data is categorized into colored hexbins to more easily show counts of values which are much more densely concentrated in the bottom left of the plots. Figure 5 shows all hourly values of NO_x and NO_y between 2014 and 2024 plotted. Figure 6 shows the hourly values broken down by season, and Figure 7 shows the hourly values broken down by year.

If there were a significant NO_z component in the NO_y data, the slope should be greater than 1 and the y-intercept should be positive. However, this is generally not the case. R^2 values are all close to 1, showing a high degree of correlation. Slopes are also all very close to 1, with a small yet inconsistent amount of annual variation. The y-intercepts are mostly very slightly negative. These values are summarized in Tables 3 and 4.

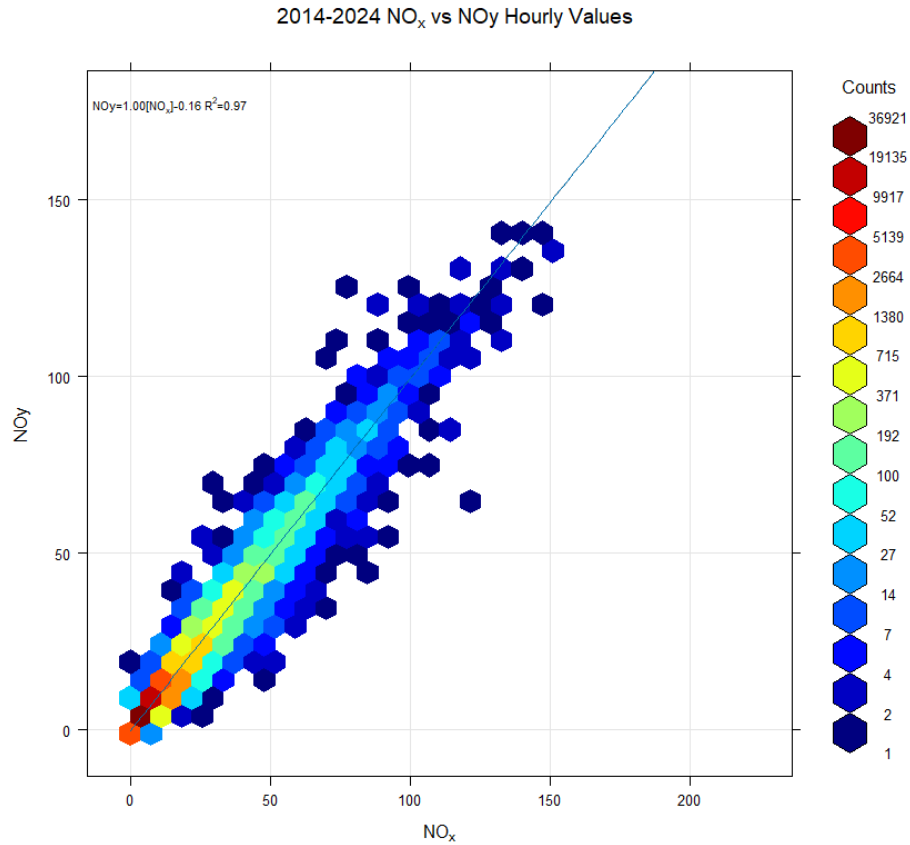


Figure 5 (generated with openair¹)

2014-2024 NO_x vs NO_y Hourly Values by Season

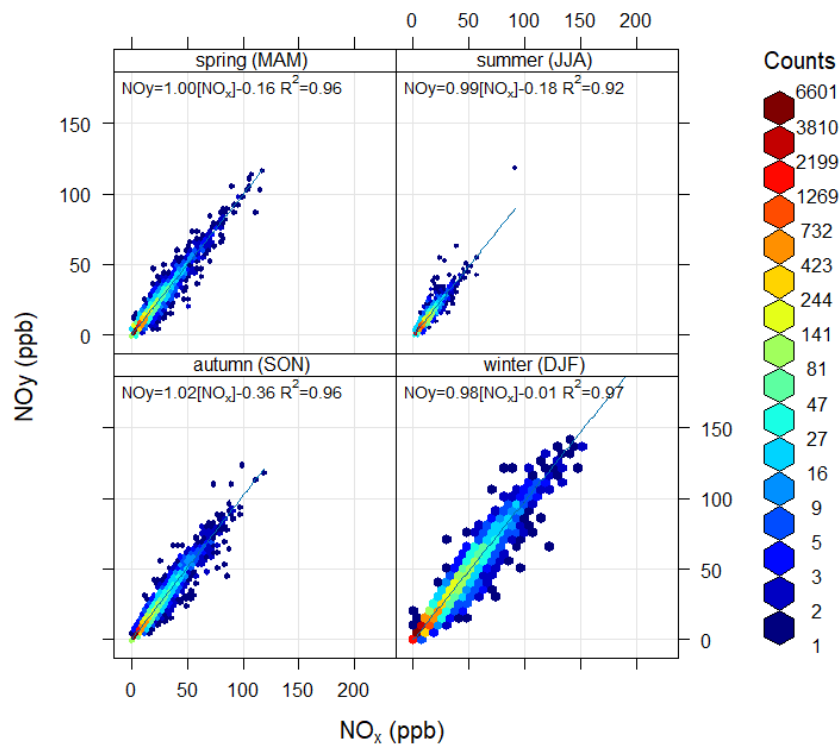
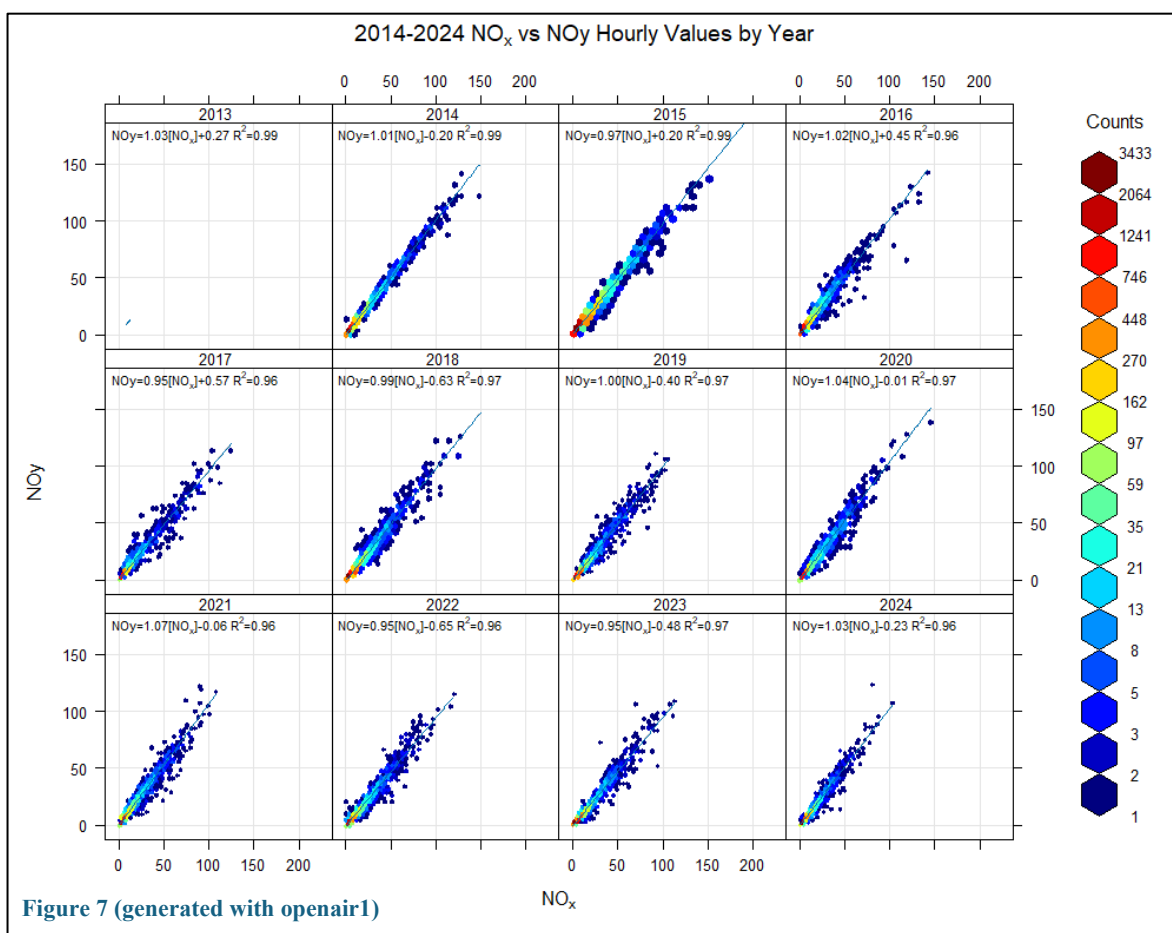


Figure 6 (generated with openair¹)



2014-2024 Annual NO _x vs NO _y Slopes, y-Intercepts, and R ² Values			
NO _y = (NO _x)*(m) + (y)			
	Slope (x)	y-Intercept	R ²
2014	1.01	-0.20	0.99
2015	0.97	0.20	0.99
2016	1.02	0.45	0.96
2017	0.95	0.57	0.96
2018	0.99	-0.63	0.97
2019	1.00	-0.40	0.97
2020	1.04	-0.01	0.97
2021	1.07	-0.06	0.96
2022	0.95	-0.65	0.96
2023	0.95	-0.48	0.97
2024	1.03	-0.23	0.96
Average	1.00	-0.13	0.97

Table 3

2014-2024 Seasonal NO _x vs NO _y Slopes, y-Intercepts, and R ² Values			
NO _y = (NO _x)*(m) + (y)			
	Slope (x)	y-Intercept	R ²
Spring (MAM)	1.00	-0.16	0.96
Summer (JJA)	0.99	-0.18	0.92
Autumn (SON)	1.02	-0.36	0.96
Winter (DJF)	0.98	-0.01	0.97

Table 4

Figure 8 shows a Bland-Altman analysis. Normally, a Bland-Altman statistical test compares two measurement methods of the same variable.² While NOx and NOy are two different variables, this test can still reveal a statistical difference between the NOx and NOy data sets indicating, instead of a measurement bias, the presence of additional chemical components (in this case the presence of NOz). For this test, annual means were used between 2014 and 2024. The NOx and NOy means for each year were then averaged and then plotted against the difference between the two means. The average of the difference in means was then calculated (which becomes the bias), and the limits of agreement were then calculated as the bias +/- 2 standard deviations of the differences. This data is summarized in Table 5.

If there were a NOz component in the data producing a NOy reading significantly greater than NOx, one would expect to see a consistent bias in the plotted data, but no such bias exists. In fact, the vast majority of the plotted points fall within the calculated limits of agreement, suggesting there's no systemic NOz component in the data.

NOx and NOy Annual Means, Differences, and Limits of Agreement for Bland-Altman Plot				
Year	NOx	NOy	NOx and NOy Mean	NOy - NOx (calc NOz)
2024	7.70	7.53	7.62	-0.17
2023	9.03	7.90	8.47	-1.13
2022	9.45	*8.38	8.92	-1.07
2021	9.14	9.55	9.35	0.41
2020	8.99	*10.78	9.89	1.79
2019	9.75	8.83	9.29	-0.92
2018	10.49	8.99	9.74	-1.50
2017	9.28	*9.75	9.52	0.47
2016	10.04	*9.29	9.67	-0.75
2015	11.97	11.63	11.80	-0.34
2014	10.66	*10.14	10.40	-0.52
Mean	9.68	9.34	9.51	-0.34
			Std Dev	0.94
Limits of Agreement			Bias + 2SD	2.22
			Bias - 2SD	-1.54

Table 5 *Data doesn't meet summary criteria

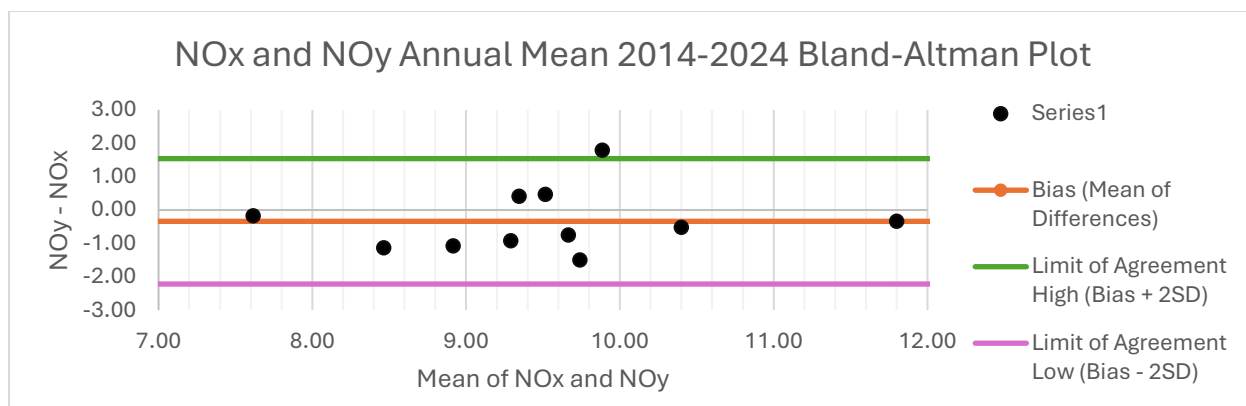


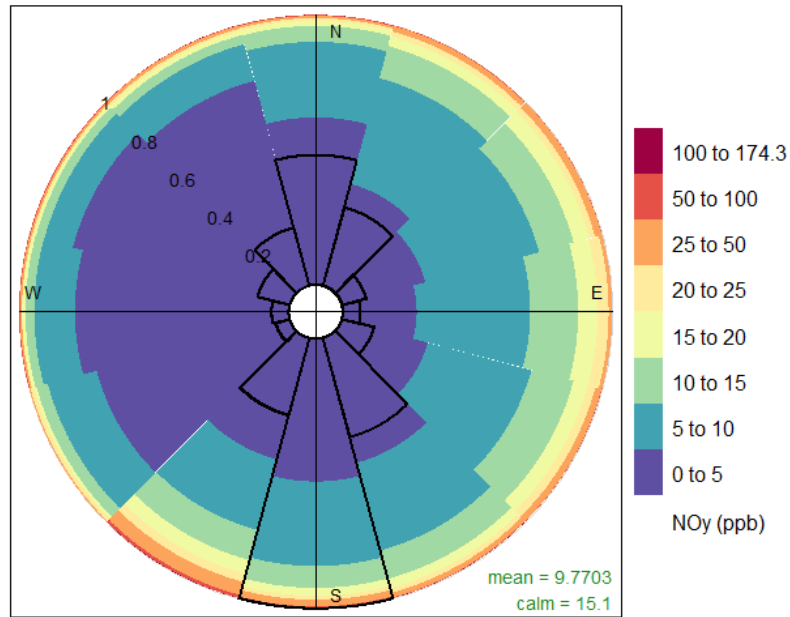
Figure 8

Meteorology and Emissions Data

Figure 9 shows a NOy pollution rose with wind data normalized by sector to more easily visualize NOy contributions from directions with less frequency. The most common wind direction at this site is southerly, with easterly and westerly wind directions the least common. Higher NOy concentrations don't seem to be strongly linked to any particular wind direction, with the possible small exception of south-southeasterly winds. Lower NOy concentrations are more strongly associated with westerly winds, but this is also an uncommon wind direction. The lack of a strong directional component to the NOy data could possibly indicate that NOy in Tulsa (which is dominated in Tulsa almost entirely by NOx as already demonstrated in this analysis) isn't associated with any sort of long-range transport originating from a particularly large source of NOy-forming compounds that could react and form NOy during transport, but instead as a result of local metro-wide nitrogen oxide emissions resulting in almost exclusively NOx formation

Figure 10 shows a pie chart of nitrogen oxide emissions in Tulsa county from 2020 (the most recent year available).³ Emissions in Tulsa county are dominated by fresh nitrogen emissions, particularly on-road mobile emissions and point emissions from sources such as natural gas fueled electrical generation. As evidenced by a wind rose from site 1127 (Figure 11), the local meteorology of the Tulsa region usually allows for rapid dispersal of these local nitrogen oxide emissions, potentially before any NOz compounds can be formed and measured.

Pollution Rose of NO_y Data, Normalized by Wind Sector



Normalised by wind sector

Figure 9 (including data from 2014-2024, generated with openair¹)

Tulsa County Nitrogen Oxide Emissions by Sector, Tons/Year (2020)³

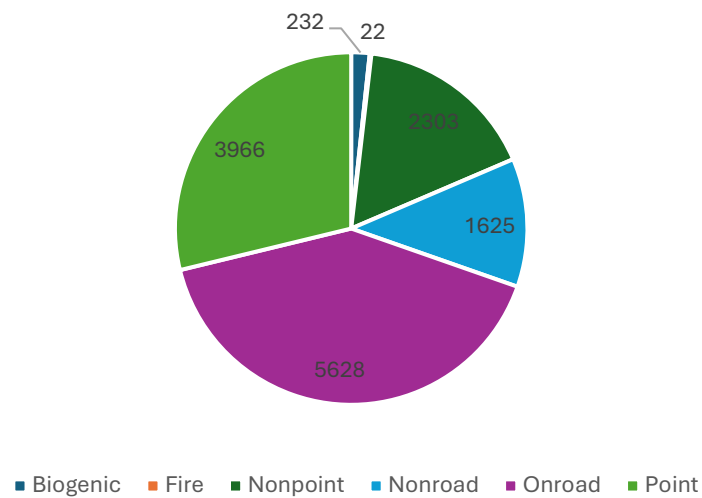
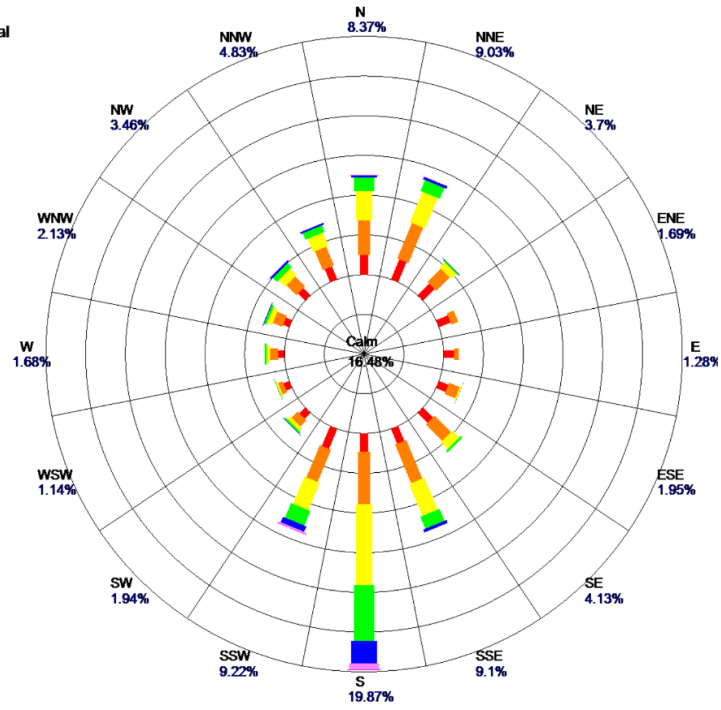


Figure 10

Site: 1127 - Tulsa Central
Parameter: wxWSPD
Units: MPH
Direction: FROM Origin



Period: 2019-01-01 00:00 - 2024-12-31 23:59

Figure 11

Summary

Oklahoma DEQ believes that the NO_x and NO_y data presented in this analysis definitively show that total reactive nitrogen (NO_y) levels as measured at Oklahoma DEQ's NCore site in Tulsa are not appreciably different from NO_x levels, and thus NO_y monitoring at this location is redundant and can be replaced with NO_x monitoring. Some key points are outlined below.

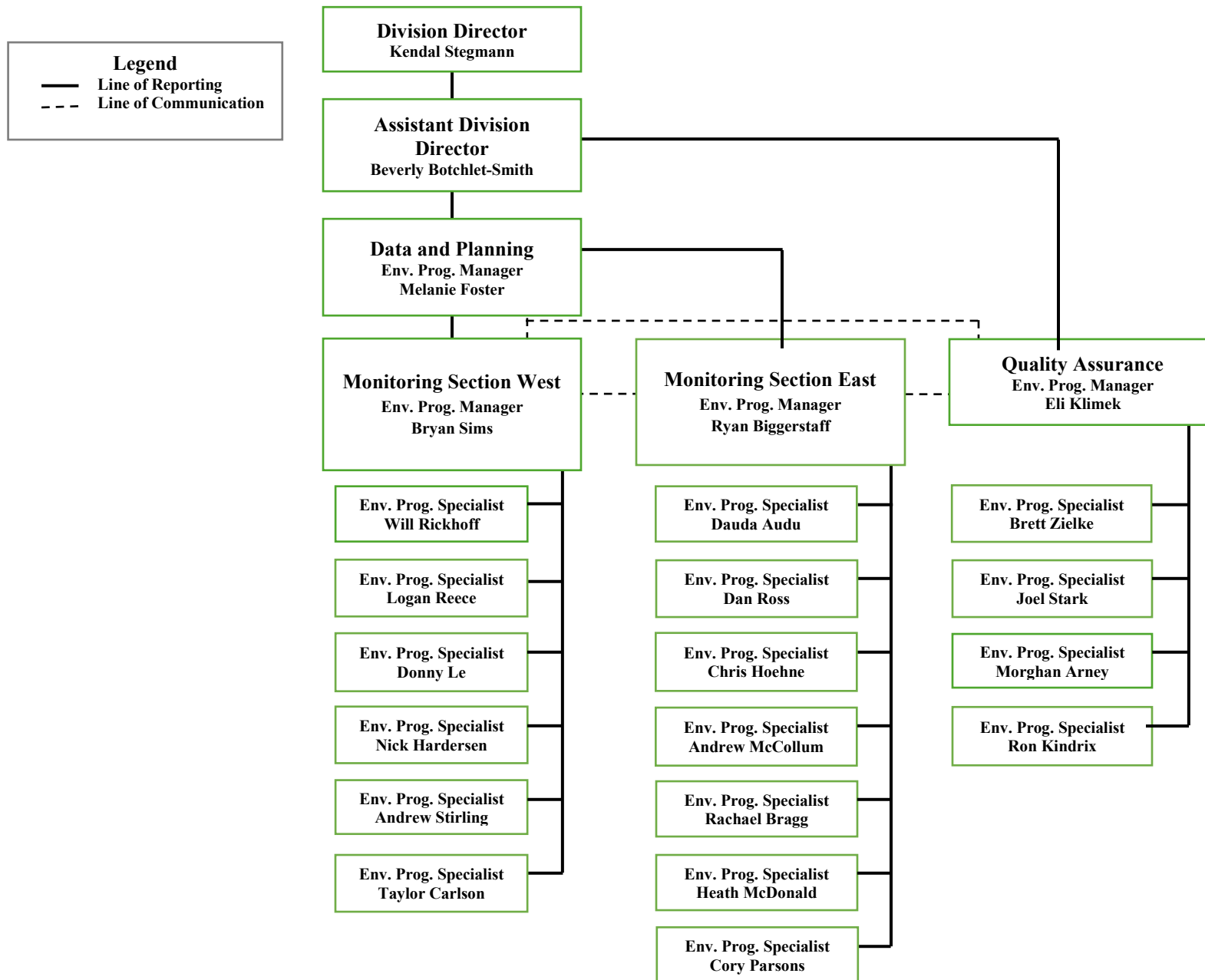
1. It should be noted that for much of the data, NO_x is greater than NO_y. This should technically not be possible, as NO_y is comprised of NO_x with the addition of NO_z, meaning NO_y should always be *at least* equal to the NO_x. In practice, at the Tulsa NCore site, NO_x and NO_y are measured by two separate instruments with two different methods. The two measurement methods could introduce a slight bias in the data. In addition, the NO_y inlet is situated at 10 meters above ground level as required, while the NO_x inlet is only about 4 meters above ground level. This height difference, while meant to capture more NO_z compounds which are theoretically present in higher concentration at 10 meters in height, could also potentially account for some of the differences in the NO_x and NO_y readings.
2. It should also be noted that for the period examined (2014 through 2024), despite 2014, 2016, 2017, 2020, and 2022 having NO_y datasets with overall annual capture rates of <75%, all data used for this analysis has been fully certified and represents a full comparison of the NO_x and NO_y.
3. NO_x and NO_y annual means are extremely similar on average during the study period, with NO_x reading 0.4ppb higher than NO_y on average. The time variation chart where both pollutants are broken down by day of the week, time of day, and month show extremely similar values as well.
4. The regression plots of NO_x versus NO_y (broken down by year and season) also show a high degree of similarity between the two pollutants. The R² values show a high degree of correlation. If the y-intercepts of these regression plots were consistently above 0, this could indicate the presence of additional NO_z compounds present at a constant amount, but this is not the case. The y-intercepts calculated for the annual plots show are very slightly negative since 2018, and are negative for the seasonal plots as well. A slope significantly greater than 1 could also indicate the presence of NO_z compounds at a variable rate, but the calculated slopes vary year to year, with the smallest annual slope being 0.95, the highest being 1.07, and the average for the whole data set being 1.00. The seasonally calculated slopes are also very close to 1, with the lowest being 0.98 in winter and the highest being 1.02 in fall.
5. The statistical Bland-Altman plot normally assesses agreement between two methods designed to measure the same variable, but in this analysis it was used to determine if there existed any significant difference between the two data sets which, rather than representing a potential bias in measurement methods, would represent the presence of real additional chemistry (in this case the presence of a NO_z component). With this statistical test, only one point falls outside of the limits of agreement. This indicates a practical agreement and a statistically insignificant difference between the NO_x and NO_y measurements at site 1127.

6. Emissions data from the most recent year available show nitrogen oxide emissions in the Tulsa area are dominated by fresh sources of primarily on-road mobile emissions and point sources. Furthermore, a NO_y pollution rose plotting wind and NO_y data show no significant directional contribution to NO_y data that might be a result of long-range transport, and taking into account the area's meteorology, it can be assumed local nitrogen oxide emissions which could have the potential to form NO_y are typically quickly dispersed.

References

1. Carslaw, D.C. and K. Ropkins, (2012). openair — an R package for air quality data analysis. *Environmental Modelling & Software*. Volume 27-28, pp. 52–61.
 2. Kalra, Aakshi. Decoding the Bland–Altman Plot: Basic Review. *Journal of the Practice of Cardiovascular Sciences* 3(1):p 36-38, Jan–Apr 2017. | DOI: 10.4103/jpcs.jpcs_11_17
- State Emissions Totals and Infographics: <https://oklahoma.gov/deq/divisions/air-quality/emissions-inventory/state-emissions-totals-infographics.html>

Appendix C: Monitoring and Quality Assurance Staffing



Appendix D: EPA Response to 2025 Combined 5 Year Network Assessment and Annual Network Plan



REGION 6

DALLAS, TX 75270

January 27, 2026

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

Dear Ms. Bradley:

Thank you for your correspondence to the U.S. Environmental Protection Agency from the Oklahoma Department of Environmental Quality submitting the Oklahoma 2025 Annual Monitoring Network Plan (2025 Plan) for ambient air. The EPA has completed its review of the 2025 Plan to ensure it meets the minimum requirements of 40 Code of Federal Regulations Part 58 and its appendices.

We appreciate your efforts in submitting a timely 2025 Plan, which we received on June 30, 2025. Also, we appreciate the efforts of the ODEQ to manage and maintain the ambient air monitoring network in Oklahoma.

The EPA has conducted its review of the 2025 Plan including proposed network modifications to ensure the air quality surveillance system continues to meet minimum applicable air monitoring requirements. The EPA is approving your 2025 plan as meeting the minimum requirements per 40 CFR Part 58 and Appendices, including Section 58.10 and Section 58.14; and the EPA is also approving the 2025 Plan consistent with EPA's approval of Oklahoma's request under section 10211(a) of SAFETEA to administer this program in certain areas of Indian country.

The EPA appreciates the discussion regarding establishing new near-road NO₂ and PAMS monitoring sites in the Tulsa area. Going forward, please keep us updated regarding plans for these monitoring sites. Also, the EPA acknowledges the update regarding community monitoring, including the ODEQ's non-NAAQS transport monitoring, and toxics monitoring, neither of which is specifically required by federal monitoring requirements in 40 CFR Part 58; rather, it is at the discretion of Oklahoma. Details regarding these requirements, and other

specifics from our review of the 2025 Plan, are enclosed. We are available to discuss our review with you if you have any questions.

We look forward to our continued partnership with the ODEQ on our common goal to establish and maintain an approvable and comprehensive monitoring. If you have any questions, please contact me at (214) 665-3150, or your staff may contact Air and Radiation Division, Air Monitoring & Grants Branch Manager, Jeffrey Robinson at (214) 665-6435 or at robinson.jeffrey@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "James McDonald". The script is cursive and fluid, with the first letters of the first and last names being capitalized and prominent.

James McDonald
Director
Air and Radiation Division

Enclosure: Technical Comments

Technical Comments 2025 Annual Monitoring Network Plan

The Oklahoma 2025 Annual Monitoring Network Plan (ANP) was received on June 28, 2025 (2025 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 2025 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 minimum monitoring requirements required under Part 58.

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. The State's request excluded certain areas of Indian country further described below. In addition, the State only sought approval to the extent that such approval was necessary for the State to administer a program in light of *Oklahoma Dept. of Environmental Quality v. EPA*, 740 F.3d 185 (D.C. Cir. 2014).¹²

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 58², 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.³ The approval also provided that future revisions or amendments to Oklahoma's approved

¹ In *ODEQ v. EPA*, the D.C. Circuit held that under the CAA, states have the authority to implement a SIP in non-reservation areas of Indian country in the state, unless there has been a demonstration of tribal jurisdiction. Under the D.C. Circuit's decision, the CAA does not provide authority to states to implement SIPs in Indian reservations.

² CFR Part 58.10.

³ The EPA approved the 2021, 2022, and 2023 Plans in accordance with EPA's October 1, 2020. SAFETEA approval. The EPA's approval of Plans prior to 2021 relating to Oklahoma's ambient air quality, including the 2020

environmental regulatory programs would extend to the covered areas of Indian country (without any further need for additional requests under SAFETEA).

As explained above, consistent with EPA’s SAFETEA approval, the EPA is approving Oklahoma’s 2025 Annual Monitoring Network Plan which will apply state-wide and including in areas of Indian country other than the excluded Indian country lands.¹

General Comments – Clean Air Act

We appreciate the ODEQ’s submittal of the 2025 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 minimum federal requirements defined in 40 CFR Part 58 and Appendices A through E, including the National Ambient Air Quality Standards (NAAQS) monitoring network.

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.

Community Monitoring Considerations

The EPA recognizes that the 2025 Plan meets the minimum federal regulatory requirements outlined at 40 CFR 58.10 and Appendices A through E. The EPA acknowledges the update regarding community monitoring provided in the 2025 Plan, including the ODEQ’s non-NAAQS transport monitoring, and toxics monitoring, neither of which is specifically required by federal monitoring requirements in 40 CFR Part 58; rather, it is at the discretion of Oklahoma. (See the 2024 Plan, Appendix C).

Ozone (O₃) Monitoring (40 CFR Part 58, Appendix D Section 4.1)

The ODEQ is meeting the minimum requirements for its ozone monitoring network design.

The EPA appreciates the updates on ozone Special Purpose Monitors (SPMs) (AQS IDs: 40-019-0297, 40-069-0324, 40-067-0671, 40-085-0300 and 40-075-0711). Additionally, the EPA acknowledges ODEQ’s efforts to supplement the O₃ monitoring network with non-regulatory, low-cost sensors.

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.

¹ We note that the approval is the subject of a pending challenge in federal court. (*Pawnee v. Regan*, No. 25-9548 (10th Cir.)).

We look 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).

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

The ODEQ is meeting the minimum requirements for its carbon monoxide (CO) monitoring network design. See the section below, *Near-Road (NO₂) Monitoring*, regarding near-road monitoring requirements for CO.

Nitrogen Dioxide (NO₂) Monitoring (40 CFR Part 58, Appendix D Section 4.3)

The ODEQ is meeting the minimum requirements for its nitrogen dioxide (NO₂) monitoring network design. See the section below, *Near-Road (NO₂) Monitoring*, regarding near-road monitoring requirements for NO₂.

Near-Road (NO₂) Monitoring (40 CFR 58 Appendix D Section 4.3.2)

The ODEQ is meeting the minimum requirements for its near-road NO₂ monitoring network design, pending the addition of a near-road NO₂ monitoring site in the Tulsa area. Near-road monitoring sites are required to measure nitrogen oxides (NO_x), including nitric oxide (NO) and NO₂. Monitors for CO and PM_{2.5} are also required to be collocated with a near-road NO₂ monitor in CBSAs with 1 million or more people. The EPA approved the ODEQ's monitoring site request via electronic letter on November 12th, 2024. We note that operation is expected to begin Summer 2025. Please notify the EPA once the site has been deployed.

Photochemical Assessment Monitoring Stations (PAMS) (40 CFR Part 58, Appendix D Section 5)

The ODEQ is meeting the minimum requirements for its PAMS monitoring network design, pending the addition of a PAMS monitoring site in the Tulsa area. PAMS sites are required to measure ozone precursors and meteorological measurements. The EPA thanks the ODEQ for including plans to establish a new PAMS monitoring site in Tulsa (with operation anticipated to begin around Summer 2025). We look forward to receiving information in the future from the ODEQ regarding the PAMS monitoring site; please provide the EPA with a site location once it has been identified.

The ODEQ is meeting the minimum requirements for its PAMS monitoring network design, pending the addition of a PAMS monitoring site in the Tulsa area. PAMS sites are required to measure O₃ precursors and meteorological measurements. The EPA thanks the ODEQ for including plans to establish a new PAMS monitoring site in Tulsa. We note that operation is expected to begin Summer 2025. Please notify the EPA once the site has been deployed.

Sulfur Dioxide (SO₂) Monitoring (40 CFR Part 58, Appendix D Section 4.4)

The ODEQ is meeting the minimum requirements for its SO₂ monitoring network design. The EPA acknowledges that no changes were proposed to the Oklahoma SO₂ network in the 2025 Plan.

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

The ODEQ is meeting the minimum network design requirements for ambient air quality monitoring for Pb.

EPA Region 6 received a request from the ODEQ on June 8, 2024, proposing to relocate the existing Pb monitoring site in Savanna (AQS ID: 40-121-0416). This request was approved and the Pb monitor was moved to the new approved location and began operating on 03/08/2025.

Particulate Matter (PM) Monitoring (40 CFR Part 58, Appendix D Section 4.6 and 4.7)

The ODEQ is meeting the minimum network design requirements for ambient air quality monitoring for particulate matter (PM).

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.

See the section above, *Near-Road (NO₂) Monitoring*, regarding near-road monitoring requirements for PM_{2.5}.

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 401431127).

For the PM_{2.5} monitors which the ODEQ operates using Federal Equivalent Method (FEM) number 636, collocation is met at the McAlester site (AQS ID 401210415).

For the PM_{2.5} monitors which the ODEQ operates using FEM number 638, collocation is met at the Oklahoma City North site (AQS ID 401091037).

Multiple PM Measurements from an individual monitor

The EPA appreciates the continued use of the T640X monitors to report both NAAQS and non-NAAQS measurements throughout ODEQ's monitoring network.

Particulate Matter of 10 Microns or Less (PM₁₀) (40 CFR Part 58, Appendix D Section 4.6)

For the 2025 plan, we note that monitoring requirements in Tulsa will change, as the most recent U.S. Census population estimate for the Tulsa MSA is over 1,000,000 or more persons. The establishment of a new PM₁₀ monitor will be required. We look forward to working with ODEQ on this as needed.

The plan to relocate the PM₁₀ monitor at the Tulsa Glenpool site (AQS ID 401430174) will be reviewed when specifics of the new location are provided.

PM₁₀ Quality Assurance Collocation

For the PM₁₀ Manual monitors which the ODEQ operates using Federal Reference Method (FRM) number 127, collocation is met at the Central Fire Station site (AQS ID 401090035).

Appendix E: Posting for Public Comment

2026 Annual Network Plan - May 22, 2026

Air Quality Division

AQD

Air Compliance & Enforcement ▼

Air Permits

Air Quality Funding Opportunities ▼

Ambient Air Monitoring ▼

Emissions Inventory ▼

Forms & Public Participation ▼

Lead-Based Paint ▼

Rules & Planning ▼

Contact Air Quality ▼

DEQ > Divisions > Air Quality



Annual Network Plan information ^

The [2026 Annual Network Plan](#) contains planned changes to the Oklahoma ambient air monitoring network and is now available for public review and comment through June 21, 2026.

