Oklahoma Department of Environmental Quality
Air Quality Division
Fiscal Year 2017
Air Monitoring Network Plan

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Introduction

This report is a review of the air monitoring network operated by the Oklahoma Department of Environmental Quality's Air Quality Division (AQD). It will be submitted by July 1, 2016 to the U.S. Environmental Protection Agency (EPA) and is a required annual report to provide the framework for establishing and maintaining an 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 40CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E.

Table 1 is a list of all currently existing AQD ambient air monitoring sites that the agency operates and maintains as of May 1, 2016. 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.

This network review is available for public comment at http://www.deq.state.ok.us/aqdnew/monitoring/index.htm for 30 days from the date of posting. It contains proposed changes to the Oklahoma air monitoring network for Fiscal Year 2017 (FY17). Please send comments pertaining to this document through postal service mail or through e-mail as listed below.

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Table 1. Air Monitoring Site Information:

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-027-0049	S.E. 19th St./Water Tower, Moore	35.320105	-97.484099	Ozone	U.V. Photo-metric	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				PM2.5	Low Volume FEM	SPM*	Continuous	AQI	Urban	No	OKC
40-019-0297	Memorial Dr. Healdton	34.24425	-97.46283	Ozone	U.V. Photo-metric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
				PM2.5	Low Volume FEM	SLAMS	Continuous	AQI	Regional	Yes	Not in MSA
40-069-0324	Tishomingo	34.19888	-96.67308	Ozone	U.V. Photo-metric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-031-0651	2111 NW 25th St Lawton	34.63298	-98.42879	Ozone	U.V. Photo-metric	SLAMS	Continuous	Population Exposure	Urban	Yes	Lawton
				PM2.5	Low Volume FEM	SPM*	Continuous	AQI	Urban	No	Lawton
40-043-0860	Municipal Airport, Seiling	36.158414	-98.931973	Ozone	U.V. Photo-metric	SLAMS	Continuous	Regional Background	Regional	Yes	Not in MSA
				PM2.5	Low Volume FEM	SPM*	Continuous	AQI	Regional	No	Not in MSA
40-033-0680	E South Boundary St & S 3rd St, Walters	34.346981	-98.307621	Ozone	U.V. Photo-metric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-071-0604	306 E Otoe, Ponca City	36.697186	-97.08135	SO2	Pulsed Fluorescence	SLAMS	Continuous	Population Exposure	Neighborhood	Yes	Not in MSA
				PM2.5	Low Volume FEM	SLAMS	Continuous	Population Exposure	Neighborhood	Yes	Not in MSA
40-087-1073	310 E. Burr Oak Rd., Goldsby	35.159649	-97.473794	Ozone	U.V. Photometric	SLAMS	Continuous	Upwind Background	Regional	Yes	OKC
40-101-0167	Water Treatment Plant, Muskogee	35.793134	-95.302235	SO2	Pulsed Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Not in MSA
				PM10	Low Volume FEM	SLAMS	Continuous	Source Oriented	Middle	Yes	Not in MSA

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-017-0101	12575 N.W. 10th, Yukon	35.479215	-97.751503	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				NO2	Chemiluminescence	SPM**	Continuous	Max. Precursor	Urban	No	OKC
40-109-0096	12880A N.E. 10th, Choctaw	35.477801	-97.303044	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
40-109-0033	N.E. 10th and Stonewall, OKC	35.477036	-97.494309	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				NO2	Chemiluminescence	SLAMS	Continuous	Population Exposure	Neighborhood	Yes	OKC
40-109-0035	N.W. 5th and Shartel, OKC	35.47292	-97.52709	PM2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	Population Exposure	Neighborhood	Yes	OKC
				PM10	Sequential FRM/ Micro-gravimetric Filter Weighing	SLAMS	(1 in 6) Collocated	Population Exposure	Neighborhood	Yes	OKC
				PM10-PM2.5	Low volume/ Subtraction method	SLAMS	(1 in 6)	Population Exposure	Neighborhood	Yes	OKC
40-109-0097	Will Rogers Park, Oklahoma City, OK 73112	35.50298	-97.57766	NO2	Chemiluminescence	SLAMS	Continuous	Source Oriented	Micro	Yes	OKC
				PM2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	Source Oriented	Micro	Yes	OKC
				CO	Gas Filter Correlation	SLAMS	Continuous	Source Oriented	Micro	Yes	OKC
				Black Carbon	Aerosol Light Absorption	SLAMS	Continuous	Source Oriented	Micro	No	OKC
40-109-1037	Okla. Christian Univ., OKC	35.614131	-97.475083	SO2	Pulsed Fluorescence	SLAMS	Continuous	General background	Urban	Yes	OKC
				Chemical Speciation	Low Volume/ Multiple by RTP	SPM	(1 in 6)	Population Exposure	Urban	No	OKC
				PM10	Sequential FRM/	SLAMS	(1 in 6)	Population Exposure	Urban	Yes	OKC

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
					Micro-gravimetric Filter Weighing						
				PM10	Low volume FEM	SLAMS	Continuous	AQI	Urban	Yes	OKC
				PM2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 6)	Population Exposure	Urban	Yes	OKC
				PM2.5	Low Volume FEM	SPM*	Continuous	AQI	Urban	No	OKC
				PM10-PM2.5	Low Volume/ Subtraction method	SLAMS	(1 in 3)	Population Exposure	Urban	No	OKC
				CO	Gas Filter Correlation	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				Ozone	U.V. Photometric	SLAMS	Continuous	Highest Conc.	Urban	Yes	OKC
40-121-0415	104 Airport Rd., McAlester	34.885610	-95.784375	Ozone	U.V. Photometric	SLAMS	Continuous	Regional Transport	Regional	Yes	Not in MSA
				PM2.5	Low-volume FEM	SLAMS Collocated	Continuous	AQI	Regional	Yes	Not in MSA
				PM2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	General Background	Regional	Yes	Not in MSA
40-039-0856	Weatherford	35.56028	-98.68349	PM10	Low Volume FEM	SPM*	Continuous	AQI	Regional	Yes	Not in MSA
40-143-1127	3520 1/2 N. Peoria, Tulsa	36.204902	-95.976537	Ozone	U.V. Photometric	NCore	Continuous	Max. downwind	Urban	Yes	Tulsa
				NO2	Chemiluminescence	NCore	Continuous	Max precursor emissions impact	Urban	Yes	Tulsa

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
				Trace level NOy	Chemiluminescence	NCore	Continuous	Max precursor emissions impact	Urban	No	Tulsa
				Trace level CO	Gas Filter Correlation	NCore	Continuous	Population Exposure	Urban	Yes	Tulsa
				Trace level SO2	Pulsed Fluorescence	NCore	Continuous	General background	Urban	Yes	Tulsa
				PM2.5	Sequential FRM/ Micro-gravimetric filter weighing	NCore	(1 in 3)	Max. Downwind	Urban	Yes	Tulsa
				PM2.5	Low Volume FEM	SPM*	Continuous Collocated	AQI	Urban	No	Tulsa
				PM10	Sequential FRM/ Gravimetric filter weighing	NCore	(1 in 3)	Population Exposure	Urban	Yes	Tulsa
				PM10-PM2.5	Low volume/ Subtraction method	NCore	(1 in 3)	Population Exposure	Urban	No	Tulsa
				Chemical Speciation	Low Volume Gravimetric/ Micro-gravimetric filter weighing/XRF/	NCore/ Spec. Trends	(1 in 3)	Population Exposure	Urban	No	Tulsa
				Lead	Hi Volume TSP/ Hot Plate Acid Extraction	NCore	(1 in 6) Collocated	Population Exposure	Urban	Yes	Tulsa
40-143-1110	445 S Jamestown Ave, Tulsa	36.154384	-95.93795	PM10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	Population exposure	Neighborhood	Yes	Tulsa
40-113-0226	****1521 S. Lombard Skiatook	36.35586	-96.01243	Ozone	U.V. Photometric	SLAMS	Continuous	Extreme Downwind	Urban	Yes	Tulsa

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-037-0144	City Water Plant, Mannford	36.105481	-96.361196	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa
40-143-0174	502 E. 144th Pl., Glenpool	35.953708	-96.004975	Ozone	U.V. Photometric	SLAMS	Continuous	Upwind Background	Urban	Yes	Tulsa
				PM2.5	Low volume FEM	SPM*	Continuous	Population Exposure	Urban	No	Tulsa
40-143-0178	Lynn Lane, Tulsa	36.133802	-95.764537	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa
40-143-0175	1710 W. Charles Page Blvd., Tulsa	36.149877	-96.011664	SO2	Pulsed Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Tulsa
40-143-0179	124 N. Riverside Dr., Tulsa	36.154830	-96.015844	SO2,	Pulsed Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Tulsa
				H2S	PF with Converter	SPM***	Continuous	Source Oriented	Neighborhood	No	Tulsa
40-143-0235	2443 S. Jackson Ave., Tulsa	36.126945	-95.998941	SO2	Pulsed Fluorescence	SLAMS	Continuous	Source Oriented	Middle	Yes	Tulsa
				H2S	PF with Converter	SPM***	Continuous	Source Oriented	Middle	No	Tulsa
40-037-0146	Sapulpa	36.013506	-96.098944	Lead	Hi-Volume	SLAMS	(1 in 6)	Source Oriented	Neighborhood	Yes	Tulsa
40-147-0217	Copan	36.908115	-95.882350	Ozone	U.V. Photometric	SPM	Continuous	Transport	Regional	No	Not in MSA
				PM2.5	Low volume FEM	SPM*	Continuous	Transport	Regional	No	Not in MSA

*$PM_{2.5}$ SPM monitors are used to support the state Health Advisory Program and will remain SPMs.
**The NO_x SPM located at Yukon (40-017-0101) is used for state purposes to monitor impacts of localized point and area sources and will remain an SPM.
***H_2S SPMs are used to monitor major sources in the Tulsa area in response to the state implemented H_2S ambient standard and will remain SPMs.
****40-113-0226 (Skiatook Osage County) replaces the 40-143-0137 (Skiatook Tulsa County), which was closed April 19, 2016.

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 (see photos located at http://www.deq.state.ok.us/AQDnew/monitoring/cpdata.htm by clicking on desired location of the site map).

Table 2. AQD Network Proposed Changes

Monitors Recommended to be Relocated:

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling Method/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-069-0324	Murray State College Tishomingo	34.19888	-96.67308	Ozone	U.V. Photo-metric	*SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-033-0680	E South Boundary St & S 3rd St, Walters	34.346981	-98.307621	Ozone	U.V. Photo-metric	*SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-043-0860*	Municipal Airport Seiling	36.158414	-98.931973	NO2	Chemiluminescence	*SPM	Continuous	Background	Regional	No	Not in MSA

*****The Seiling NO2 monitor was approved in September 15, 2015 by EPA region 6, as a state operated SPM. The purpose of the monitor was to collect NO2 background levels in an area of high oil and gas activity. It was determined after the 2015 ANR was submitted, that Bradley was a better location, and closer to a higher concentration of oil and gas activity, so the state opted to set up the NO2 sampler in that location instead of Seiling, Oklahoma. DEQ is requesting the de-commissioning of the Seiling monitor.

- **40-043-0860 has been relocated to the following site:**

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling Method/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-051-0065*	Fire Station Bradley	34.87696	-97.70748	NO2	Chemiluminescence	*SPM	Continuous	Background	Regional	No	Not in MSA

*****DEQ is requesting to have the Bradley NO2 added as a replacement for Seiling NO2. The new AQS number is 40-051-0065.

- **40-069-0324 will be relocated to the following site by March 1, 2017:**

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling Method/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-013-0380	Kiamichi Technology Center Durant	33.94537	-96.4057	Ozone	U.V. Photo-metric	*SPM	Continuous	Regional Transport	Regional	No	Not in MSA

- **40-033-0680 will be relocated to the following site by March 1, 2017:**

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling Method/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-067-0671	Waurika Lake Office	34.226639	-98.035444	Ozone	U.V. Photo-metric	*SPM	Continuous	Regional Transport	Regional	No	Not in MSA

*****The Oklahoma DEQ has addressed these "Red River" SPM sites along with the other "Red River" site, Healdton, with Region 6 in previous years. The Oklahoma DEQ will be adding Copan to these discussions. One of the primary purposes of these sites is to monitor interstate transport of O_3 and $PM_{2.5}$. Plans to continue alternating of sites every two years will continue for the near future.

Monitors Recommended to be Removed and Discontinued:

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling Method/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-143-1127*	3520 1/2 N. Peoria, Tulsa	36.204902	-95.976537	Lead	Hi Volume TSP/ Hot Plate Acid Extraction	NCore	(1 in 6) Collocated	Population Exposure	Urban	Yes	Tulsa
N/A**	Tulsa Near Road	N/A	N/A	N/A	N/A	N/A	N/A	Source Oriented	Micro	Yes	Tulsa

* Based upon recent rule changes to Appendix D Section 4.5 (b) and (c) of 40 CFR Part 58, and after three consecutive years of data capture meeting requirements found in 58.14 (c), DEQ is requesting to discontinue the lead monitor at Tulsa NCore.

** EPA's current regulatory requirements include the establishment of an NO2 near-road site in CBSAs of populations between 500,000 and 1,000,000 by January 1, 2017. The Tulsa CBSA falls into this population range as of the Census Bureau's 2014 estimates. Based on the latest

information and guidance provided by the EPA, DEQ understands that this requirement is under reconsideration. In fact, the EPA has published the abstract to a proposal that would remove this NO2 monitoring requirement (also known as Phase 3 of the near-road network) from Appendix D of 40 CFR Part 58 http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201510&RIN=2060-AS71.
Accordingly, and with the concurrence of EPA Region 6, DEQ has placed a hold on the planning activities for this site. It is DEQ's understanding that the EPA plans to complete the associated final rule before the January 1, 2017 deadline for Phase 3 operations. DEQ will continue to follow this issue and adjust plans as further information becomes available from EPA.

Monitors Recommended to be Added:

AQS Site ID #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling Method/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
YTBD	YTBD*	YTBD	YTBD	$PM_{2.5}$	Low volume FEM	SPM	Continuous Collocated	YTBD	YTBD	YTBD	YTBD
YTBD	Oxbow Calcining Kremlin**	YTBD	YTBD	SO_2	Pulsed Fluorescence	SLAMS	Continuous	Source Oriented	YTBD	Yes	Not in MSA
YTBD	GRDA/Mid MidAmerica Industrial Park Pryor**	YTBD	YTBD	SO_2	Pulsed Fluorescence	SLAMS	Continuous	Source Oriented	YTBD	Yes	Tulsa
YTBD	OG&E Muskogee**	YTBD	YTBD	SO_2	Pulsed Fluorescence	SLAMS	Continuous	Source Oriented	YTBD	Yes	Not in MSA

*Based upon Appendix A 3.2.3.2 of 40 CFR Part 58, collocation of a $PM_{2.5}$ continuous monitor becomes a requirement once the monitoring agency has ten running $PM_{2.5}$ monitors. DEQ has just reached its threshold of ten monitors and is now in communication with Region 6 about the necessity of a collocated $PM_{2.5}$ continuous monitor within the state.
**By July 1, 2016, each air agency is required to identify, for each source with 2,000 tpy or greater of SO_2 emissions, the approach (ambient monitoring or air quality modeling) it will use to characterize air quality. DEQ is choosing to monitor the above sites.