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SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

July 1, 2021

Mr. David F. Garcia, P.E.
Director, Air and Radiation Division
USEPA Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

RE: Louisiana 2021 Annual Monitoring Network Plan

Dear Mr. Garcia:

Attached is the 2021 Louisiana Annual Monitoring Network Plan (AMNP), submitted per 40 CFR, Part 58, Subpart B. On April 30, 2021 the Louisiana Department of Environmental Quality (LDEQ) published a public notice that the 2021 AMNP was available for review and comments would be accepted until June 3, 2021. The responses are still under review and will be forwarded to you within the next two weeks.

If you have any questions please contact me at 225-219-3408 or Bob Bailey at 225-219-3991.

Sincerely,

Jason Meyers, Administrator
Air Planning and Assessment Division

Enclosures: 2021 Louisiana Annual Monitoring Network Plan

2021
Louisiana Annual Monitoring Network Plan

Louisiana Department of Environmental Quality
Office of Environmental Assessment
Air Planning and Assessment Division

April 14, 2021

The Louisiana Department of Environmental Quality (LDEQ) maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A and B, utilizes the methodology provided for each monitor in accordance with Appendix C, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Site conditions are monitored on a weekly basis as part of required site operations. Any situation that may cause the siting criteria listed in 40 CFR Part 58 Appendix E to be in question is investigated and a solution determined at that time. The Louisiana Annual Monitoring Network Plan that follows covers the fiscal year of July 2021 through June 2022 with knowledge gained as of April 2021.

LDEQ's Air Field Services section operates State and Local Ambient Monitoring Stations (SLAMS), Photochemical Assessment Monitoring Stations (PAMS), Speciation Trends Network (STN), Special Purpose Monitoring Stations (SPMS), and a National Core Network (NCore) Ambient Air Monitoring Station as a requirement of the Code of Federal Regulations (CFR), Title 40, Part 58. These stations measure ambient air concentrations of those pollutants for which standards have been established in 40 CFR Part 58. Data acquired from the stations is submitted into the EPA's Air Quality System (AQS) where it is compared to the National Ambient Air Quality Standards (NAAQS). Access to this information is available through EPA's website (www.epa.gov). Conformance of the network to 40 CFR 58 Appendix D (Network Design Criteria) and Appendix E (Probe and Path Siting Criteria) is determined using an Annual Review of the air quality surveillance system, as required for each state in 40 CFR 58.10. The review is also used to ensure that the network is continuing to meet the objectives of the air monitoring program. The three basic objectives of the air monitoring program follow:

1. Provide air pollution data to the general public in a timely manner. Data can be presented to the public in a number of different ways including through air quality maps, newspapers, internet sites, and as a part of weather forecasts and public advisories.
2. Support compliance with ambient air quality standards and emissions strategy development. Data from the monitors for National Ambient Air Quality Standards (NAAQS) pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data of various types can be used in the development of attainment and maintenance plans. Data can also be used to track trends to determine the impact of air pollution abatement control measures on improving air quality. In monitoring locations near major air pollution sources, source-oriented monitoring data can provide insight into how well industrial sources are controlling their pollutant emissions.
3. Support for air pollution research studies such as health effects assessments.

This review has several goals:

- Determine if the network requires any modifications to continue to meet its monitoring objective and data needs (through termination of existing stations, relocation of stations, or establishment of new stations); and

- Investigate ways to improve the network to ensure that it provides adequate, representative, and useful air quality data.

Monitoring Plans for July 2021-June 2022

Under EPA's NCore design guidelines, the state of Louisiana is required to operate one NCore level 2 site, which is the Capitol site (AQS# AQS # 220330009). The remaining sites in the state will all be PAMS, SLAMS, Speciation Trends Network (STN), or SPMs. Table B summarizes number and type of monitors located in each Metropolitan Statistical Area (MSA) population. Table C list specific information about analytes monitored at each site and the MSA covered by this location. Table D lists information regarding the PAMS network. The PAMS network plan exceeds the monitoring requirements with the air monitoring stations at Capitol (AQS# 22-033-0009) and Dutchtown (AQS# 22-005-0004) as PAMS sites.

The Population Weighted Emissions Index (PWEI) is currently used to determine the number of Core Based Statistical Area (CBSA) SO_2 monitors and can be found in Table E. Per CFR 40, Part 58, Appendix D, Section 4.4.2, The PWEI is calculated by multiplying the population of each CBSA, using the most current census data or estimates, and the total amount of SO_2 in tons per year emitted within the CBSA area, using an aggregate of the most recent parish level emissions data available in the National Emissions Inventory for each parish in each CBSA. The resulting product shall be divided by one million, providing a PWEI value, the units of which are million persons-tons per year. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000, but less than 1,000,000, a minimum of two SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO_2 monitor is required within that CBSA.

For this network plan, the most recent (2017) parish level emissions data from the National Emissions Inventory was used and can be found at the following web address: https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data.

Regarding requested clarification on LDEQ's continued use of the exclusion of $PM_{2.5}$ data from NAAQS comparison that was granted by the EPA Region 6 for sites using BAM 1020 continuous monitors: LDEQ operates seventeen filter-based NAAQS comparable Federal Reference Method (FRM) Partisol Plus 2025i Sequential Ambient Particulate Samplers as the primary source for $PM_{2.5}$ data. Continuous monitoring for $PM_{2.5}$ has proven to be problematic due to the high humidity found in Louisiana. LDEQ operates two sites using a BAM 1020 and seven sites using a TEOM 1400a that are non-NAAQS comparable. The BAM 1020 operates under the afore mentioned exclusion. Ever since LDEQ installed the first TEOMs for continuous $PM_{2.5}$ monitoring in 2000, it has been necessary to operate them without the Filter Dynamics Measurement System (FDMS) that makes it non-FEM/non-FRM and, therefore, non-NAAQs comparable. These monitors are approved to operate in this manner in support of Air Quality Index (AQI) forecasting and reporting. This allows

LDEQ to provide localized $PM_{2.5}$ data that is updated hourly to the department's website. LDEQ plans to continue these services and has begun the process of field-testing the Teledyne T640 as a possible replacement for continuous $PM_{2.5}$ monitoring.

System Modifications

In August 2015, EPA issued the final data requirements rule (DRR) for the SO_2 NAAQS. Five new SO_2 monitors began operation January 1, 2017 as a result of this rule. The rule further allowed for the discontinuance of operations if the following criteria were met:

- Have produced a design value less than 50 percent of the 2010 SO_2 NAAQS from data collected in its first 3-year period of operation.
- Are not located in areas designated as nonattainment of the 2010 SO_2 NAAQS.
- Are not used to satisfy other ambient SO_2 minimum monitoring requirements listed in 40 CFR Part 58, appendix D, section 4.4.
- Are not otherwise required as part of a SIP, permit, attainment plan or maintenance plan.

Four of the five monitors meet these criteria having produced the Design Values found in Table A and seen in Chart 1.

EPA granted approval to terminate operation of the following four SO_2 monitors in a letter dated October 22, 2020:

- Addis (AQS# 22-121-0002) - Terminated 1/8/2021
- Gramercy (AQS# 22-093-0003) - Terminated 1/12/2021
- North Baton Rouge (AQS# 22-033-0015) - Terminated 1/12/2021
- South Calcasieu (AQS# 22-019-0011) - Terminated 1/19/2021

Chart 1: SO_2 2017-2019 Design Values

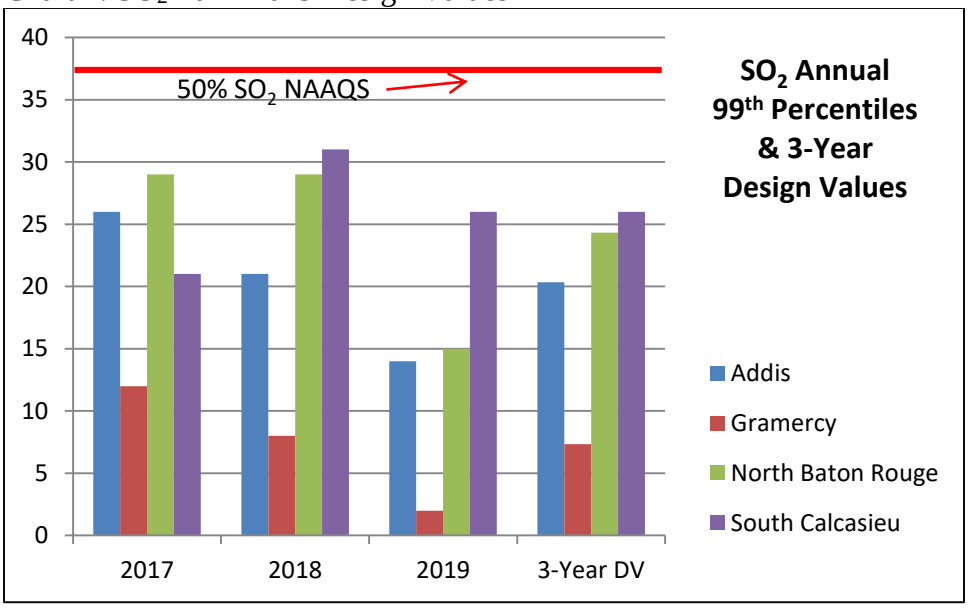

Table A: SO_2 2017-2019 Design Values

Site	Annual 99th Percentile			**3-Year Design Value**	**50% SO_2 NAAQS**
	2017	2018	2019		
Addis 22-121-0002	26	21	14	**20**	**37.5**
Gramercy 22-093-0003	12	8	2	**7**	
North Baton Rouge 22-033-0015	29	29	15	**24**	
South Calcasieu 22-019-0011	21	31	26	**26**	

Additional Information

LDEQ plans to continue monitoring at the following sites due to situations in which the operation of these sites is above and beyond federal regulatory requirements due to the reasons discussed in each:

- Baker Lead (Pb) site (AQS # 22-033-0014) will continue operation until the demolition and remediation activities at the nearby Exide recycle site are completed and LDEQ will keep EPA informed of the status. Any future request for a system modification under 40 CFR 58.14 will be submitted to the Region along with the appropriate technical analysis for any future planned discontinuation of the monitor.
- Continue to operate the Vinton (AQS #22-019-0009) $PM_{2.5}$ FRM to characterize regional transport.
- Continue to operate $PM_{2.5}$ FRM at Alexandria (AQS #22-079-0002) for regional background.
- Continue to operate the ozone monitor at the Monroe site (AQS #22-073-0004) to maintain ozone monitoring coverage for the Northeast regional area.
- Continue to operate the $PM_{2.5}$ FRM monitor at Geismar (AQS # 22-047-0009) due to the proximity of industry in the area to provide oversight of ambient air conditions in this industrial area.
- Continue to operate the $PM_{2.5}$ FRM monitors at Hammond (AQS #22-105-0001), Lafayette USGS (AQS # 22-055-0007), and Monroe (AQS # 22-073-0004) to provide oversight of ambient air conditions in these areas.
- Continue to operate the PM_{10} monitor at Lafayette USGS (AQS # 22-055-0007) due to high population density since this area is close to the next bracket in 40 CFR 58, App D, Table D-4 and could result in a higher PM_{10} monitor regulatory minimum once the 2020 census is released.
- Continue to operate the PM_{10} monitor at Shreveport Airport (AQS # 22-015-0008) due to high population density since this area is close to the next bracket in 40 CFR

58, App D, Table D-4 and could result in a higher PM_{10} monitor regulatory minimum once the 2020 census is released.

Ambient air monitoring site pictures can be found in Appendix A or at https://www.deq.louisiana.gov/page/air-monitoring-sites by clicking on the desired location on the site map.

In the event of projected budget cuts for fiscal year 2021/2022, LDEQ and EPA will work closely to minimize the impact of the cuts and to ensure continued public health.

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Table B: Type and Number of Monitors per Metropolitan Statistical Area (MSA)

MSA/CSA Population[1]	MSA	Number of Monitors Currently Required	Number of Existing Monitors	Proposed Network
1,000,000-4,000,000	***New Orleans*** *(population est. 1,270,530)*			
	Ozone	2	5	5
	Nitrogen Oxides	2	2	2
	Sulfur Dioxide	3	3	3
	Carbon Monoxide	1	1	1
	$PM_{2.5}$	2	4	4
	$PM_{2.5}$ Continuous	1	4	4
	PM_{10}	2-4	2	2
	Lead	2	2	2
350,000-1,000,000	***Baton Rouge*** *(population est. 854,884)*			
	Ozone	6	9	9
	Nitrogen Oxides	4	6	6
	Trace Level reactive Nitrogen Oxides; NOy	2	2	2
	Sulfur Dioxide	1	1	1
	Trace Level Sulfur Dioxide	1	1	1
	$PM_{2.5}$	1	4	4
	$PM_{2.5}$ Continuous	1	2	2
	$PM_{2.5}$ Speciation – *URG and SASS*	2	2	2
	PM_{10}	1-2	1	1
	PM Coarse	1	1	1
	Lead	1	1	1
	Trace Level Carbon Monoxide	1	1	1
	PAMS	0	2	2

[1]Metropolitan Statistical Area, July 1, 2019, United States Census Bureau
https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-metro-and-micro-statistical-areas.html
NOTE: The LDEQ $PM_{2.5}$ network operates continuous monitors while reporting them as non-NAAQS data while operating under a FEM method due to exclusion of the comparison of the data from $PM_{2.5}$ continuous BAM monitors to the NAAQS standards granted by EPA, Region 6 in a letter dated March 27, 2014. The BAM 1020 $PM_{2.5}$ at AQS#22-033-0009 is the only one comparable to the NAAQS.

Table B: (cont.)

MSA/CSA Population[1]	MSA	Number of Monitors Currently Required	Number of Existing Monitors	Proposed Network
350,000-1,000,000	***Shreveport*** *(population est. 394,706)*			
	Ozone	2	2	2
	Sulfur Dioxide	1	1	1
	$PM_{2.5}$	0	2	2
	$PM_{2.5}$ Continuous	1	1	1
	PM_{10}	0-1	1	1
350,000-1,000,000	***Lafayette*** *(population est. 489,207)*			
	Ozone	2	2	2
	$PM_{2.5}$	0	1	1
	$PM_{2.5}$ Continuous	0	1	1
	PM_{10}	0-1	1	1
50,000-350,000	***Lake Charles*** *(population est. 210,409)*			
	Ozone	1	2	2
	Nitrogen Oxides	1	1	1
	Sulfur Dioxide	1	1	1
	$PM_{2.5}$	0	1	1
	$PM_{2.5}$ Continuous	0	1	1
50,000-350,000	***Alexandria*** *(population est. 152,037)*			
	$PM_{2.5}$	0	1	1
50,000-350,000	***Monroe*** *(population est. 200,261)*			
	Ozone	0	1	1
	$PM_{2.5}$	0	1	1
50,000-350,000	***Houma / Thibodaux*** *(population est. 208,075)*			
	Ozone	1	1	1
	$PM_{2.5}$	0	1	1
	$PM_{2.5}$ continuous - *non-NAAQS*	0	1	1
50,000-350,000	***Hammond*** *(population est. 134,758)*			
	$PM_{2.5}$ FRM - *NAAQS*	0	2	2

[1]Metropolitan Statistical Area, July 1, 2019, United States Census Bureau https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-metro-and-micro-statistical-areas.html
NOTE: The LDEQ $PM_{2.5}$ network operates continuous monitors while reporting them as non-NAAQS data while operating under a FEM method due to exclusion of the comparison of the data from $PM_{2.5}$ continuous BAM monitors to the NAAQS standards granted by EPA, Region 6 in a letter dated March 27, 2014. The BAM 1020 $PM_{2.5}$ at AQS#22-033-0009 is the only one comparable to the NAAQS.

Table C: Site Specific Monitor Information

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Alexandria 22-079-0002	8105 Tom Bowman Dr	Lat = 31.177660 Long = -92.410600	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	General Background	Regional	Yes	Alexandria
Baker LSP 22-033-0014	1400 West Irene Rd	Lat = 30.593966 Long = -91.251946	Lead	SLAMS	Gravimetric	Every 6th day	Source Oriented	Neighbor-hood	Yes	Baton Rouge
Bayou Plaquemine 22-047-0009	65180 Belleview Rd.	Lat = 30.221021 Long = -91.315297	Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			NOx	SLAMS	Chemilumin-escence	Continuous	High Pop. Density		Yes	
			NOy Trace-level	SLAMS	Chemilumin-escence	Continuous	High Pop. Density		No	
Capitol 22-033-0009	1061-A Leesville Ave.	Lat = 30.461981 Long = -91.179219	$PM_{2.5}$	SLAMS NCORE	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every day	High Pop. Density	Neighbor-hood	Yes	Baton Rouge
			$PM_{2.5}$	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 12th day	High Pop. Density		Yes	
			$PM_{2.5}$	SLAMS NCORE	*Continuous BAM 1020 Meth. Code: 170	Continuous	High Pop. Density		Yes	
			PM_{10}	SLAMS	*Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	

*There are two BAM 1020 monitors at the Capitol Site (AQS # 22-033-0009), one that collects $PM_{2.5}$ data and the other that collects PM_{10} data. The PM Coarse pollutant listed below is calculated using these two monitors.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Capitol (cont.)	1061-A Leesville Ave.	Lat = 30.461981 Long = -91.179219	$PM_{2.5}$	STN NCORE	Chemical Speciation SASS Teflon Gravimetric, Meth. Code 810 URG 3000N Meth. Code 839	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	No	Baton Rouge
			SO_2 Trace-level	SLAMS NCORE	U.V. Fluorescence	Continuous	High Pop. Density		Yes	
			Ozone	SLAMS NCORE	U.V. Absorption	Continuous	High Pop. Density		Yes	
			CO Trace-level	PAMS NCORE	Nondispersive Infrared	Continuous	High Pop. Density		No	
			NOx	SLAMS NCORE	Chemilumin-escence	Continuous	High Pop. Density RA40		Yes	
			NOy Trace-level	PAMS NCORE	Chemilumin-escence	Continuous	High Pop. Density		No	
			VOC	PAMS SLAMS	Canisters; Trigger Canisters	8 3-hr samples daily during ozone season and every 6th day otherwise, also 24 hrs every 6th day; 25 min when triggered	High Pop. Density		No	
			PM Coarse	SLAMS NCORE	*Continuous BAM 1020 Meth. Code: 185	Continuous	High Pop. Density		No	
Carlyss 22-019-0002	Hwy 27 & Hwy 108	Lat= 30.140031 Long = -93.368268	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Lake Charles
Carville 22-047-0012	5445 Point Clair Rd.	Lat= 30.203984 Long = -91.125925	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Regional	Yes	Baton Rouge

*There are two BAM 1020 monitors at the Capitol Site (AQS # 22-033-0009), one that collects $PM_{2.5}$ data and the other that collects PM_{10} data. The PM Coarse pollutant listed above is calculated using these two monitors.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Chalmette Vista 22-087-0007	24 E. Chalmette Circle	Lat = 29.943164 Long = -89.976250	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 6th day	Source Oriented	Neighborhood	Yes	New Orleans
			$PM_{2.5}$	SPMS	Continuous BAM 1020 Meth. Code: 170	Continuous	Source Oriented		No*	
			PM_{10}	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	Source Oriented		Yes	
			SO_2	SLAMS	U. V. Fluorescence	Continuous	Source Oriented		Yes	
			H_2S	SPMS	U.V. Fluorescence	Continuous	Source Oriented		No	
Convent 22-093-0002	St. James Courthouse Hwy 44 @ Canatella	Lat = 29.994729 Long = -90.817308	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighborhood	Yes	New Orleans
Dixie 22-017-0001	Haygood Rd.	Lat = 32.683197 Long = -93.861382	Ozone	SLAMS	U.V. Absorption	Continuous	High	Urban	Yes	Shreveport
Dutchtown 22-005-0004	11153 Kling Rd.	Lat = 30.229419 Long = -90.965517	Ozone	PAMS SLAMS	U.V. Absorption	Continuous	General Background	Neighborhood	Yes	Baton Rouge
			NOx	PAMS SLAMS	Chemilumin-escence	Continuous	General Background		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only due to exclusion of the comparison of the data from $PM_{2.5}$ continuous BAM monitors to the NAAQS standards granted by EPA, Region 6 in a letter dated March 27, 2014 (EDMS Document 12196118). The BAM 1020 PM2.5 at the Capitol Site (AQS#22-033-0009) is the only one comparable to the NAAQS.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Dutchtown (cont.)	11153 Kling Rd.	Lat = 30.229419 Long = -90.965517	VOC	PAMS SLAMS	Canisters; Trigger Canisters	4 3-hr cans every 3rd day ozone season and 8 3-hr cans every 6th day, 24 hour canister once every 6th day otherwise 25 min when triggered	Population Oriented	Neighbor-hood	Yes	Baton Rouge
French Settlement 22-063-0002	16627 Perrilloux Ln @ Hwy 16	Lat = 30.315175 Long = -90.811276	NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
							General Background			
			Ozone	SPMS	U.V. Absorption	Continuous	High Concentration		Yes	
							General Background			
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Population Exposure		No*	
Garyville 22-095-0002	152 Anthony F. Monica St.	Lat = 30.057276 Long = -90.619185	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Regional	Yes	New Orleans
Geismar 22-047-0005	Hwy 75	Lat = 30.218867 Long = -91.062438	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Baton Rouge

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Hammond 22-105-0001	21549 Old Covington Hwy	Lat = 30.503061 Long = -90.377118	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Hammond
			$PM_{2.5}$	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025 Meth. Code: 145	24 hrs every 12th day	High Pop. Density		Yes	
Houma 22-109-0001	4047 West Park Ave. @ Hwy 24	Lat = 29.679051 Long = -90.779626	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Houma/ Thibodaux
Kenner 22-051-1001	100 West Temple Pl.	Lat = 30.040998 Long = -90.272735	NOx	SLAMS	Chemilumin-escence	Continuous	High Pop. Density Area-wide	Urban	Yes	New Orleans
			Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration		Yes	
			$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	Every 6th day	High Pop. Density		Yes	
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	High Pop. Density		No*	
Lafayette USGS 22-055-0007	700 Cajundome Blvd.	Lat = 30.225877 Long = -92.042766	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Lafayette
			PM_{10}	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
			Ozone	SLAMS	U.V. Absorption	Continuous	High Pop. Density		Yes	
			$PM_{2.5}$	SPMS	Continuous BAM 1020 Meth. Code: 170	Continuous	High Pop. Density		No**	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

** $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only due to exclusion of the comparison of the data from $PM_{2.5}$ continuous BAM monitors to the NAAQS standards granted by EPA, Region 6 in a letter dated March 27, 2014 (EDMS Document 12196118). The BAM 1020 PM2.5 at the Capitol Site (AQS#22-033-0009) is the only one comparable to the NAAQS.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
LaPlace 22-095-0003	115 Garden Grove	Lat = 30.040961 Long = -90.466783	Lead	SLAMS	Gravimetric	Every 6th day	Source Oriented	Middle	Yes	New Orleans
			Lead	SLAMS	Gravimetric (Collocated)	Every 12th day			Yes	
LSU 22-033-0003	East End Aster Lane	Lat = 30.419805 Long = -91.182016	Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration	Middle	Yes	Baton Rouge
Madisonville 22-103-0002	1421 Hwy 22 West	Lat = 30.429381 Long = -90.199678	Ozone	SLAMS	U.V. Absorption	Continuous	Source Oriented	Neighbor-hood	Yes	New Orleans
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Source Oriented		No*	
Marrero 22-051-2001	328 Marrero Rd.	Lat= 29.900070 Long: -90.109750	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	New Orleans
Meraux 22-087-0004	4101 Mistrot Drive	Lat = 29.939614 Long = -89.923883	Ozone	SPMS	U.V. Absorption	Continuous	General Background	Urban	Yes	New Orleans
			SO_2	SPMS	U.V. Fluorescence	Continuous	General Background		Yes	
			H_2S	SPMS	U.V. Fluorescence	Continuous	General Background		No	
Monroe 22-073-0004	5296 Southwest Rd.	Lat = 32.509789 Long = -92.046050	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	Population Exposure	Neighbor-hood	Yes	Monroe
			Ozone	SLAMS	U.V. Absorption	Continuous	General Background		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
New Orleans City Park 22-071-0012	Florida & Orleans Ave.	Lat = 29.993278 Long = -90.101464	$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	High Pop. Density	Neighbor-hood	No*	New Orleans
			PM_{10}	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Denisty		Yes	
New Orleans Near-Road 22-071-0021	I610 at West End Blvd.	Lat = 29.996013 Long = -90.118190	NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration	Micro-scale	Yes	New Orleans
			CO	SLAMS	Gas Filter Correlation	Continuous	High Concentration			
			$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Concentration			
New Roads 22-077-0001	Hwy 415	Lat = 30.681718 Long = -91.366247	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Baton Rouge
Norco 22-089-0006	Field across from 35 Goodhope Road, Norco, LA	Lat= 29.997696 Long = -90.411095	SO_2	SLAMS	U.V. Fluorescence	Continuous	Source Oriented	Neighbor-hood	Yes	New Orleans
Port Allen 22-121-0001	1005 Northwest Drive	Lat = 30.500642 Long = -91.213556	SO_2	SLAMS	U.V. Fluorescence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every day	High Concentration		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Port Allen (cont.)	1005 Northwest Drive	Lat = 30.500642 Long = -91.213556	Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration		Yes	
Pride 22-033-0013	11245 Port Hudson Pride Rd.	Lat = 30.700895 Long = -91.056068	NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration		Yes	
Shreveport Airport 22-015-0008	1425 Airport Dr.	Lat = 32.536273 Long = -93.748940	Ozone	SLAMS	U.V. Absorption	Continuous	High Pop. Density	Neighbor-hood	Yes	Shreveport
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Population Exposure		No*	
			PM_{10}	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
			SO_2	SLAMS	U.V. Fluorescence	Continuous	High Pop. Density		Yes	
Shreveport Calumet 22-017-0008	Midway St.	Lat = 32.471494 Long = -93.795069	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Shreveport
			$PM_{2.5}$	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 12th day	High Pop. Density		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
St. Martinville 22-099-0001	1178 W.J. Bernard Road	Lat: 30.088872 Long = -91.869595	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Lafayette
Thibodaux 22-057-0004	194 Thorough-bred Park Dr.	Lat = 29.764425 Long = -90.765563	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Houma/ Thibodaux
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Population Exposure		No*	
Vinton 22-019-0009	2284 Paul Bellow Rd.	Lat = 30.227567 Long = -93.579778	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	Regional Transport	Neighbor-hood	Yes	Lake Charles
			Ozone	SPMS	U.V. Absorption	Continuous	General Background		Yes	
Westlake 22-019-0008	2646 John Stine Rd.	Lat = 30.262347 Long = -93.284906	SO_2	SLAMS	U.V. Fluorescence	Continuous	High Pop. Density	Neighbor-hood	Yes	Lake Charles
			NOx	SLAMS RA40	Chemilumin-escence	Continuous	High Pop. Density RA40		Yes	
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	High Pop. Density		No*	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table D: PAMS Network Plan

Site Name	Site Type	Pollutant	Sampling Frequency	Sampling Period
Capitol 22-033-0009	2	Speciated VOC	Eight 3-hr canisters (0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100 LST) daily; One 24-hour canister every 6th day	May-September
			Eight 3-hr canisters (0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100 LST) every 6th day; One 24-hour canister every 6th day	October - April
		TNMOC	Hourly	January-December
		NO, NO_2, NO_x	Hourly	January-December
		NOy	Hourly	January-December
		CO (ppb level)	Hourly	January-December
		Ozone	Hourly	January-December
		SO_2 (low level)	Hourly	January-December
		Wind Speed*	Hourly	January-December
		Wind Direction*	Hourly	January-December
		Temperature	Hourly	January-December
		Relative Humidity	Hourly	January-December
		UV Radiation	Hourly	January-December
		Barometric Pres.	Hourly	January-December
		Solar Radiation	Hourly	January-December
		Precipitation	Hourly	January-December
		PM_{10}	Hourly	January-December
		PMCoarse	Hourly	January-December
		$PM_{2.5}$	Hourly	January-December
		Mixing Height	Hourly	January-December
Site Name	Site Type	Pollutant	Sampling Frequency	Sampling Period
Dutchtown 22-005-0004	1/3	Speciated VOC	Four 3-hr canisters (i.e. 0300-0600, 0600-0900, 1500-1800, 1800-2100 LST) every 3rd day; One 24-hour canister every 6th day	May-September
			Eight 3-hr canisters (0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100 LST) every 6th day; One 24-hour canister every 6th day	October - April
		TNMOC	Hourly	January-December
		NO, NO_2, NO_x	Hourly	January-December
		Ozone	Hourly	January-December
		Wind Speed*	Hourly	January-December
		Wind Direction*	Hourly	January-December
		Temperature	Hourly	January-December

*Wind speed and direction reported to AQS as resultant wind speed and resultant wind direction

Site pictures can be found in Appendix A or at https://www.deq.louisiana.gov/page/air-monitoring-sites by clicking on the desired location on the site map.

Table E. Population Weighted Emissions Index for Sulfur Dioxide

AREA (Parishes)	CBSA Code 2019 (Core Based Statistical Area)	Population Est. July 1, 2019	SO2 emissions 2017 (tons)*	Population Weighted Emissions Index 2019	Required SO_2 Monitors	Existing SO_2 Monitors
Alexandria (Grant, Rapides)	10780	152,037	5,858.185	891	0	0
Baton Rouge (Ascension, Assumption, East Baton Rouge, East Feliciana, Iberville, Livingston, Point Coupee, St. Helena, West Baton Rouge, West Feliciana)	12940	854,884	41,718.48	35,664	1	2**
Bogalusa (Washington)	14220	46,194	590.8988	27	0	0
DeRidder (Beauregard)	19760	37,497	279.7176	10	0	0
Fort Polk (Vernon)	22860	47,429	381.1123	18	0	0
Hammond (Tangipahoa)	25220	134,758	118.9982	16	0	0
Houma / Thibodaux (Lafourche, Terrebonne)	26380	208,075	898.0969	187	0	0
Lafayette (Acadia, Iberia, Lafayette, St. Martin, Vermillion)	29180	489,207	1,832.704	897	0	0
Lake Charles (Calcasieu, Cameron)	29340	210,409	27,557.35	5,798	1	1
Minden (Webster)	33380	38,340	101.6032	4	0	0
Monroe (Ouachita, Union)	33740	200,261	1,057.66	212	0	0
Morgan City (St. Mary)	34020	49,348	20,856.36	1,029	0	0
Natchez MS-LA (Adam, Concordia)	35020	49,952	43.54943	2	0	0

Table E: (cont.)

AREA (Parishes)	CBSA Code 2019 (Core Based Statistical Area)	Population Est. July 1, 2019	SO2 emissions 2017 (tons)*	Population Weighted Emissions Index 2019	Required SO_2 Monitors	Existing SO_2 Monitors
Natchitoches (Natchitoches)	35060	38,158	521.1769	20	0	0
New Orleans / Metairie / Kenner (Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Tammany)	35380	1,270,530	18,119.87	23,022	1	3
Opelousas (St. Landry)	36660	82,124	180.2618	15	0	0
Ruston (Lincoln)	40820	46,742	247.0574	12	0	0
Shreveport / Bossier City (Bossier, Caddo, De Soto)	43340	394,706	12,411.08	4,899	0	1

*Source: National Emissions Inventory 2017 (https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data)
**One of the SO_2 samplers is trace-level at our N-Core site

Appendix A: LDEQ Ambient Air Monitoring Site Pictures

Alexandria AQS 22-079-0002

Baker AQS 22-033-0014

Bayou Plaquemine AQS 22-047-0009

Capitol AQS 22-033-0009

Carlyss AQS 22-019-0002

Carville AQS 22-047-0012

Appendix A: LDEQ Ambient Air Monitoring Site Pictures

Chalmette Vista AQS 22-087-0007

Convent AQS 22-093-0002

Dixie AQS 22-017-0001

Dutchtown AQS 22-005-0004

French Settlement AQS 22-063-0002

Garyville AQS 22-095-0002

Appendix A: LDEQ Ambient Air Monitoring Site Pictures

Geismar AQS 22-047-0005

Hammond AQS 22-105-0001

Houma AQS 22-109-0001

Kenner AQS 22-051-1001

Lafayette USGS AQS 22-055-0007

LaPlace AQS 22-095-0003

Appendix A: LDEQ Ambient Air Monitoring Site Pictures

LSU AQS 22-033-0003

Madisonville AQS 22-103-0002

Marrero AQS 22-051-2001

Meraux AQS 22-087-0004

Monroe AQS 22-073-0004

New Orleans City Park AQS 22-071-0021

Appendix A: LDEQ Ambient Air Monitoring Site Pictures

New Orleans Near-Road AQS 22-071-0021[1]

New Roads AQS 22-077-0001

Norco AQS 22-089-0006

Port Allen AQS 22-121-0001

Pride AQS 22-033-0013

Shreveport Airport AQS 22-015-0008

Appendix A: LDEQ Ambient Air Monitoring Site Pictures

Shreveport Calumet AQS 22-017-0008

St. Martinville AQS 22-099-0001

Thibodaux AQS 22-057-0004

Vinton AQS 22-019-0009

Westlake AQS 22-019-0008