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State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL COMPLIANCE

July 1, 2015

Mr. Mark Hansen
Acting Associate Director for Air Programs
USEPA Region 6, 6PD
1445 Ross Avenue
Dallas Texas 75202-2733

RE: Louisiana 2015 Ambient Air Five-Year Network Assessment

Dear Mr. Hansen:

Attached is the 2015 Louisiana Department of Environmental Quality's Five-Year Network Assessment. The U.S. Environmental Protection Agency (EPA) finalized an amendment to the ambient air monitoring regulations on October 17, 2006. As part of this amendment, the EPA added a requirement for state, or where applicable local, monitoring agencies to conduct a network assessments once every five years [40 CFR 58.10(d)].

If you have any questions please do not hesitate to contact me at 225-219-3550 or Bob Bailey at 225-219-3991.

Sincerely,

Evita N. Lagard

Evita N. Lagard, Administrator
Assessment Division

jsz

Enclosure: 2015 Louisiana Five Year Network Assessment

Five-Year Network Assessment of Louisiana's Ambient Air Monitoring Network

Louisiana Department of Environmental Quality
Office of Environmental Compliance
Assessment Division

July 1, 2015

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INTRODUCTION

This report provides an assessment of the existing monitoring network, proposed changes, and future needs in the Louisiana Department of Environmental Quality's (LDEQ) ambient air quality network that will continue to meet the data requirements necessary for air quality management, meet the monitoring objectives, and to adjust for resource and financial constraints. The assessment incorporates: 1) current monitoring regulatory requirements, 2) newly proposed air monitoring regulations, and 3) requirements under both State Implementation and Maintenance Plans. This assessment focuses on National Ambient Air Quality Standard (NAAQS) pollutants that exceed or approach any standard in populated areas. The recently consolidated network reduces the monitoring of selected pollutants that clearly meet the standard, consolidates monitoring of different pollutants in a region at fewer sites, and eliminates redundant monitors measuring the same air mass.

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, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. LDEQ'S network meets or exceeds current monitoring regulatory requirements outlined in 40 CFR, part 58, Appendix D for the numbers and types of air monitors in each region of the state and will meet the minimum requirements in EPA's proposed air network regulations. Refer to Table 3 for a detailed description of monitors required by current regulations and Table 4 for a current list of monitors in LDEQ's network. In addition, the network provides a foundation for the future that will be effective in providing information to develop air pollution control strategies, inform the public on air quality conditions, meet the monitoring objectives, and address the needs of vulnerable and susceptible populations.

The ability of the network to provide air pollution data to the general public in a timely manner and not only meet the regulatory requirements, but also meet monitoring objectives identified in 40 CFR Part 58, Appendix D is represented in the fact that near-real time criteria pollutant data is released to the public through a variety of media. For example, LDEQ reports both the forecasts and current Air Quality Index (AQI) information for ozone and PM2.5 and current AQI levels for sulfur dioxide in required areas on our public web pages, as well as current air data for other criteria pollutants monitored. The forecast is also broadcast on several local news stations during summer months when ozone levels are typically elevated. The EnviroFlash system is available to citizens to sign up for email alerts regarding AQI forecasts and can be personalized to the individual receiving the information. Air quality data and forecasts are also sent to EPA's AirNow system, which disseminates the information on a national level. LDEQ responds to all requests for data from the public in a timely fashion, as well as having historical data sets available for download on the Department's public website. In addition, LDEQ provides air quality data to the Louisiana Department of Health and Hospitals for its participation in the Centers for Disease Control and Prevention's (CDC) National Environmental Public Health Tracking Network, providing health, environmental hazard, population and exposure information and data.

LDEQ's air quality forecasts and data can be found at the links below:

AQI Forecasts:
http://www.deq.louisiana.gov/portal/DIVISIONS/AirPermitsEngineeringandPlanning/NationalAmbientAirQualityStandards/Ozone/DailyOzoneandPM25Forecast.aspx
Current AQI and criteria pollutant data:
http://airquality.deq.louisiana.gov/
Air quality data sets:
http://www.deq.louisiana.gov/portal/DIVISIONS/Assessment/AirFieldServices/AmbientAirMonitoringProgram/AmbientAirMonitoringDataandReports.aspx
EnviroFlash:
http://www.deq.louisiana.gov/portal/DIVISIONS/Assessment/AirFieldServices/EnviroFlash.aspx

AIR QUALITY OVERVIEW

The national primary ambient air quality standards define levels of air quality that are necessary, with an adequate margin of safety, to protect human health. There are six common pollutants that are referred to as the criteria pollutants. For each the State and EPA track the concentration in the ambient air. The LDEQ ambient air quality network provides these measurements to ensure the environment and public health is protected.

This air quality review provides an overview of current air quality conditions of each criteria pollutant. This provides a perspective on the pollutants of greatest concern and the regions of the state with the most risk. The table below lists the criteria pollutants and current standards. A discussion of current air quality conditions follows.

Table 1. Criteria Pollutant Standards

	Primary Standards		Secondary Standards	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	9 ppm	8-hour (not to be exceeded more than once per year)	None	
	35 ppm	1-hour (not to be exceeded more than once per year)		
Lead	0.15 µg/m^3	Rolling 3-Month Average (Not to be exceeded)	Same as Primary	
Nitrogen Dioxide	100 ppb	1-hour (98^{th} percentile of 1-hour daily max conc. averaged over 3 years)	None	
	53 ppb	Annual	Same as Primary	
Particulate Matter (PM_{10})	150 µg/m^3	24-hour	Same as Primary	
Particulate Matter ($PM_{2.5}$)	12.0 µg/m^3	Annual (averaged over 3 years)	15.0 µg/m3	Annual (averaged over 3 years)
	35 µg/m^3	24-hour (98^{th} percentile, averaged over 3 years)	Same as Primary	
Ozone	0.075 ppm	8-hour (Annual fourth-highest daily max conc. averaged over 3 years)	Same as Primary	
Sulfur Dioxide	75 ppb	1-hour (99^{th} percentile of 1-hour daily max conc. averaged over 3 years)	0.5 ppm	3-hour (not to be exceeded more than once per year)

Ozone
Only five of the State's 64 parishes exceeded the 2008 ozone standard in the past and these form the Baton Rouge non-attainment area; however the state has received a clean data determination. LDEQ submitted its proposed 2008 Baton Rouge Nonattainment Area 8-hour Ozone National Ambient Air Quality Standard Redesignation Request and Maintenance Plan on June 18, 2015. Ozone concentrations statewide are close enough to the current standard and the currently proposed standard range to be of concern. Statewide ozone concentrations are within 15% of the eight-hour ozone standard and will require close monitoring for the foreseeable future.

Fine Particulate Matter 2.5
After ozone, fine particulate matter represents the second greatest air quality health concern for Louisiana. At this time concentrations of fine particulate matter currently meet the existing standard.

Particulate Matter 10
Louisiana has met the current PM_{10} standard for many years and had reduced the number of monitors in anticipation of the revocation of the standard. After the standard was retained, the number of PM_{10} monitors in the state was increased to meet the regulatory requirements.

Sulfur Dioxide
The state has one area that is not attaining the sulfur dioxide standard. The 75 ppb 1-hour standard is being exceeded in St. Bernard Parish. Monitoring data shows that the concentration of sulfur dioxide has decreased dramatically since the implementation of the 75 ppb hourly standard.

Oxides of Nitrogen
Oxides of nitrogen also clearly meet the standard. While not of direct concern, this pollutant is also important for the major role it plays in ozone formation.

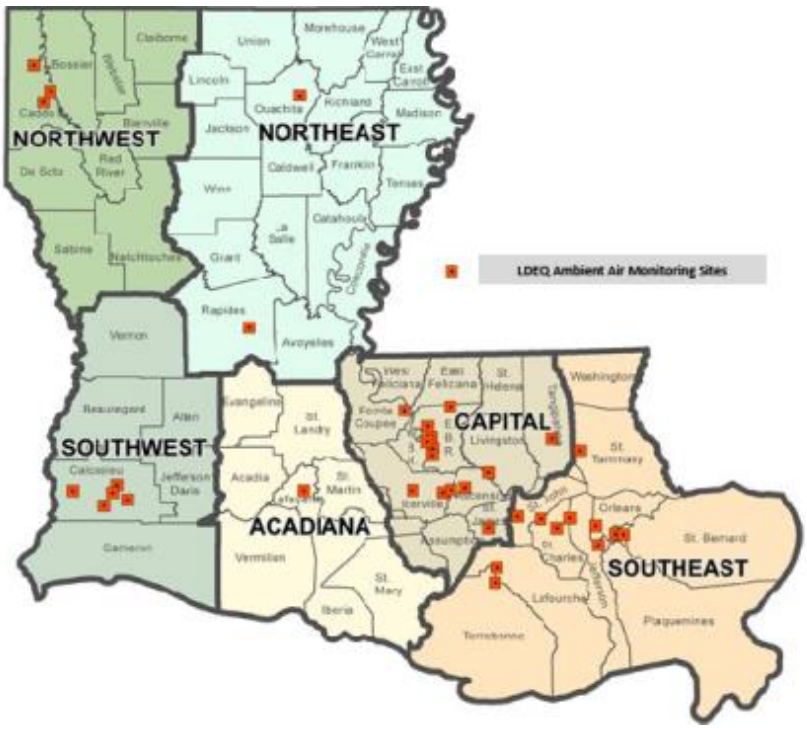
Lead
Lead concerns are directed toward individual point sources of lead emissions. Currently there are two facilities in Louisiana that require source-specific monitoring; Arcelor-Mittor which is located in LaPlace and Exide, located in Baton Rouge, which is currently being dismantled. Most of the waste has been removed off site, however, Exide's next step is to close and cap the site. It will be some time before there is a projected end date because Exide still has to submit a plan for LDEQ to review and approve. Monitoring results do not show any violations of the standard at these facilities.

Carbon Monoxide
Carbon monoxide levels have remained consistently below the standard in Louisiana. Currently carbon monoxide is being monitored at the NCORE station in Baton Rouge and the I-610 Near-Road site in New Orleans.

CURRENT AMBIENT MONITORING NETWORK

The following figure (Figure 1) provides a summarized view of the general size of the ambient monitoring network in Louisiana by current LDEQ Region designation.

Figure 1: LDEQ Ambient Air Monitoring Network Map with Regions



Looking at the Louisiana monitoring network from the perspective of current federal monitor classifications, the following table represents the monitor breakdown by each of the criteria pollutants and the photochemical volatile organic compounds (VOCs) at PAMS sites

Table 2. Current Monitor Breakdown by Pollutant

	CO	NO_X	O_3	SO_2 ALL TYPES	$PM_{2.5}$ ALL TYPES	PM_{10}	$PM_{10-2.5}$	VOCs	LEAD
TOTAL	**2**	**9**	**22**	**6**	**26**	**5**	**1**	**4**	**3**

ASSESSMENT PROCESS

The development of this assessment report included four steps.

A. The review of current federal regulations, Louisiana Implementation Plan and Maintenance Plans.
B. The review of proposed revisions to current NAAQS.
C. Determine if there are monitors that are well below their applicable NAAQS or redundant.
D. Determine if there are additional monitors that may be needed.

Based on the review of air quality conditions across the state, ozone, sulfur dioxide, and fine particulate matter are the primary air quality concerns for Louisiana. The focus of the monitoring network reflects these concerns now and into the future. Monitoring needs for an ozone control strategy go beyond just ozone and include precursors such as hydrocarbons and oxides of nitrogen. Particulate pollution solutions must have speciation information on the particulate as well as time series data provided from continuous monitors.

The focus of the redesigned network will be on the pollutants of concern: ozone, the precursors of ozone, sulfur dioxide, and fine particulate matter. The final network design must be useful for air quality management planning and be protective of human health. In the long run, the network must be able to accommodate changes in population, emission levels, and resources.

CURRENT AND PROPOSED MONITORING REQUIREMENTS

The first step in the process was to establish what is required of the state in terms of monitoring. Monitoring requirements are contained in federal regulations, State Implementation Plans and State Maintenance Plans. Of these, federal regulations and the State Implementation Plan for Baton Rouge are probably the least flexible and are used to tabulate the list of required monitors (Table 3). The State Maintenance Plan commitments are flexible and monitoring requirements can be modified with EPA regional approval (Table 4).

The monitoring requirements for the NAAQS pollutants are contained in CFR 40, Parts 53 to 59. These regulations describe monitoring objectives and general criteria to be applied in establishing State and Local Air Monitoring Stations (SLAMS), Photochemical Assessment Monitoring Stations (PAMS), and NCORE Stations.

SLAMS criteria for number of sites are based on Metropolitan Statistical Area (MSA) population. The primary objective of the SLAMS network is to monitor areas where the pollution concentrations and the population exposure are expected to be the highest. These sites are considered by EPA to be long term monitoring sites to support national air quality assessments and trends. Changes in this network are usually difficult to obtain and require EPA Administrator approval. Table 3 includes a summary of monitors required by current and proposed regulations. MSA population determines the number of monitors required.

In 1993, EPA promulgated requirements for states to establish PAMS in certain ozone non-attainment areas. These monitoring requirements are specifically outlined in the current regulations. Four PAMS are required for the Baton Rouge area based on the ozone nonattainment classification.

Special Purpose Monitoring Stations (SPMS) provide for special studies needed by the state and local agencies to support their SIPs and other air program activities. The SPMS are not permanently established, and thus, can be easily adjusted to accommodate changing needs and priorities. The SPMS are used to supplement the fixed monitoring network as circumstances require and resources permit. The data from SPMS must meet all requirements of 40 CFR 58.11, 40 CFR 58.12 and 40 CFR 58 Appendix A if a Federal Reference Method or Federal Equivalent Method is utilized.

The Baton Rouge State Implementation Plan (SIP) includes monitoring requirements; however, these monitoring requirements are not stated in the plan but are implied. Maintenance Plans include specific monitoring commitments made by the State. The State may elect to change the maintenance plans with concurrence with EPA. These changes must go through the administrative procedures process. Because the State has the ability to modify the monitoring requirements contained in the Maintenance Plans, these requirements are not considered as mandatory. However, some of the monitoring commitments may remain in the revised Maintenance Plans because of other requirements, future requirements or if the state feels it is prudent to maintain these sites. In short, they were not considered as mandatory in this network assessment.

A new monitoring site is being added in the Lafayette MSA to monitor ozone due to a revised definition of the Lafayette MSA. This revision added three parishes and an estimated population increase which projects the population of the Lafayette MSA to be over 350,000. An additional ozone monitoring site is now required in the Lafayette MSA by the existing ozone monitoring regulations found at 40 CFR Part 58 Appendix D Section 4.1 and Table D-2. LDEQ is currently in the process of setting up the new Lafayette area ozone monitoring site.

AMBIENT MONITORING RELATED TO THE PROPOSED OZONE STANDARDS

The current proposal addresses certain monitoring issues; proposed revisions to the length of the ozone monitoring season will not affect Louisiana's current monitoring network.

The proposed rule discusses new PAMS requirements for measuring and reporting hourly speciated VOC data using an auto gas chromatograph (GC). LDEQ currently uses 3-hour canister sampling for the measurement of speciated VOC data. LDEQ has previously conducted a trial Auto GC program by contract and found that retention-time shifts made it difficult for instant identification of chemical peaks, thus requiring further analysis. This was contradictory to the purpose for installing the GC's, which was to enable close to real-time data reporting. If EPA

is not going to provide the funding or training for this analysis, then states should be allowed the flexibility to continue using canisters instead of Auto GC. While EPA has proposed to implement these changes prior to its completion, the research has not provided the necessary answers as to whether or not the Auto GC will be able to quantify three possible new PAMS compounds, namely carbon tetrachloride, ethanol and tetrachloroethylene. These compounds are potential additions to the priority list and are currently quantified using T0-15. Rulemaking should be delayed until further research is completed on this matter. For these reasons, LDEQ prefers EPA to allow for alternatives, without administrator approval, in lieu of the strict one hour requirements whereby, canister sampling could be retained based on each monitoring agency's evaluation of programmatic needs as well as their own logistical and technical capabilities.

LDEQ is also concerned that EPA feels that the need for carbonyl data outweighs the concerns over the uncertainty of the data. Louisiana is an area of high humidity, a main cause for uncertainty in the current method for carbonyl. LDEQ believes that the research being conducted for improvements to the method should be completed before the requirement for carbonyl sampling is finalized.

The proposed rule requires that for new areas designated nonattainment following promulgation, the proposed PAMS requirements should be incorporated into the next annual monitoring network plan following promulgation of the proposed changes (due July 1, 2018, based on current schedules) and to comply with proposed PAMS requirements by the following PAMS season (due June 1, 2019, based on new schedules). LDEQ believes the plan changes and implementation should be extended to allow states adequate time to make the necessary changes. Based on the 2012 and 2014 design values, at 70 ppb LDEQ would have one additional nonattainment area; at 65 ppb LDEQ would have five additional nonattainment areas.

While LDEQ agrees with the concept of using the existing NCore sites for PAMS, it is important to note that not all the existing NCore sites may have adequate available space to accommodate the expanded requirements. If current ambient monitoring sites are required to have similar equipment and resources as the current PAMS sites, LDEQ does not currently have the budget level to install or maintain additional equipment. Also, should the proposed changes to PAMS requirements for nitrogen dioxides and carbonyls be implemented, new equipment would need to be purchased and additional manpower would be needed.

The monetary and workforce resources necessary to accommodate the proposed enhanced requirements exceed the current budget authority. The time needed to implement these requirements, which may include legislative and regulatory components, as well as the Louisiana budget process, may prohibit adherence to this schedule. State purchasing and contract requirements must also be followed for any equipment purchases or the leasing of additional space or locations for monitors. If the rule is finalized as proposed, EPA should grant additional time for states to navigate the legislative, regulatory and budget requirements necessary to comply with these monitoring requirements.

Table 3. Monitors Required By Current or Proposed Regulation

MSA/POP	O_3	NO_X Incl. NOy	CO Incl.Trace Level	SO_2 Incl.Trace Level	$PM_{2.5}$ All Types	PM_{10}	$PM_{10-2.5}$	PAM	Lead
Alexandria 154,872	-	-	-	-	-	-	-	-	-
Baton Rouge 825,478	**6**	**6**	**1**	**2**	**4**	**1-2**	**1**	**4**	**1**
Hammond 127,049	-	-	-	-	**1**	-	-	-	-
Houma/Thibodaux 211,049	**1**	-	-	-	-	-	-	-	-
Lafayette 484,974	**2**	-	-	-	**2**	**1-2**	-	-	-
Lake Charles 203,883	**1**	**1**	-	**1**	-	-	-	-	-
Monroe 178,864	-	-	-	-	-	-	-	-	-
New Orleans 1,251,849	**2**	**2**	-	**1**	**4**	**2-4**	-	-	**1**
Shreveport 445,142	**2**	-	-	**1**	**3**	**0-1**	-	-	-
Total Required Monitors	**14**	**9**	**1**	**5**	**14**	**4-9**	**1**	**4**	**2**

*This does not include monitors to fulfill co-location requirements and monitors specific to NCORE

Table 4. NAAQS Monitors in 2015 Network

MSA/POP	O_3	NO_X	CO	SO_2	$PM_{2.5}$	PM_{10}	$PM_{10-2.5}$	PAM	Lead
Alexandria 154,872	-	-	-	-	**1**	-	-	-	-
Baton Rouge 825,478	**9**	**8**	**1**	**2**	**7**	**1**	**1**	**4**	**2**
Hammond 127,049	-	-	-	-	**1**	-	-	-	-
Houma/Thibodaux 211,049	**1**	-	-	-	**2**	-	-	-	-
Lafayette 484,974	**1**	-	-	-	**2**	**1**	-	-	-
Lake Charles 203,883	**2**	**1**	-	**1**	**2**	-	-	-	-
Monroe 178,864	**1**	-	-	-	**1**	-	-	-	
New Orleans 1,251,849	**5**	**2**	**1**	**2**	**8**	**2**	-	-	**1**
Shreveport 445,142	**2**	-	-	**1**	**3**	**1**	-	-	-
Total Monitors in Network	**21**	**11**	**2**	**6**	**27**	**5**	**1**	**4**	**3**

*Tables 3 and 4: This does not include monitors to fulfill co-location requirements and monitors specific to NCORE
MSA sources: [1]Metropolitan Statistical Area, July 1, 2014, United States Census Bureau
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk
http://www.census.gov/popest/data/metro/totals/2014/

RECENT REDUCTION AND ELIMINATION OF MONITORS

This portion of the assessment deals with elimination of criteria pollutant monitors. LDEQ recently worked with Region 6 EPA during the 2014 Louisiana Network Assessment to remove redundant and unnecessary monitors from the network. The removal of those monitors is discussed in the following paragraphs and detailed in Table 5.

The proposed monitoring regulations stress that any SO_2, CO, PM_{10} or NO_x monitor which has shown attainment during the previous 5 years, that has a probability of less than 10 percent of exceeding 80 percent of NAAQS during the next 3 years based on the levels, trends and the variability observed in the past may be removed from the statewide network. Although this is the case for some monitors, the SO_2, CO, and PM_{10} network in Louisiana provides a good overall picture of air quality in respect to these pollutants throughout the state and the new SO_2 1-hr standard will require monitoring for possible control strategies. Appendix C, Figures 4 and 5 show population served by both SO2 monitors in the New Orleans area.

The most needed pollutant for reduction and reallocation of monitors in the past has been ozone. Many ozone monitors in the Baton Rouge and New Orleans MSAs were originally sited in order to study transport. Due to the wording of the federal regulations these monitors, in the past, could not be removed although many of them are redundant and provide the same information as other nearby monitors. LDEQ recently requested and was granted approval to remove two ozone monitors in the New Orleans area and one monitor in the Lake Charles area due to consistently lower readings than other monitors in the area and sufficient coverage by those other monitors. Refer to Table 5 for a list of these discontinued monitors along with details regarding their removal. Also, see Appendix B, Figures 2 and 3 for correlation matrices of ozone monitors in the Baton Rouge and New Orleans areas. Figure 3 clearly shows the redundancy of the monitors in the New Orleans area.

The PM2.5 FRM network in Louisiana was slightly redundant in the Baton Rouge and Lake Charles areas, so several monitors were removed as requested and later approved in the 2014 Louisiana Annual Network Assessment. Refer to Table 5 for details regarding these monitors. Additionally, per US EPA Region 6 approval on August 28, 2014, PM2.5 Federal Equivalent Method (FEM) beta-attenuation monitors 1020 (BAM) have been shut down at Port Allen, Alexandria (2) and Monroe air monitoring sites. The reasoning for this request stemmed from the fact that PM2.5 beta attenuation monitors did not correlate with Federal Reference Method monitors. The supporting data for this exclusion request is included in Appendix D. The parameter codes have been changed in AQS to 88502 in order to reflect these and other BAMs as not comparable to the NAAQS. The Department will keep these decommissioned monitors for possible future use. Additional continuous PM2.5 monitors in these and other areas remain because they support AQI reporting and forecasting. The following end dates have been entered into AQS:

- Port Allen - 1 monitor, AQS#22-121-0001, discontinued on September 30, 2014
- Alexandria - 2 monitors, AQS#22-079-0002, discontinued on October 2, 2014
- Monroe - 1 monitor, AQS#22-073-0004, discontinued on October 7, 2014

Table 5: Recent Changes to LDEQ Ambient Air Monitoring Network

MSA	Monitor	Site	AQS ID#	Date Discontinued	Reason Discontinued
New Orleans MSA	Ozone	New Orleans City Park	22-071-0012	1/21/15	Proximity to and consistently lower readings than Kenner site (AQS #22-051-1001) *
	Ozone	Hahnville	22-089-0003	1/22/15	
Baton Rouge MSA	Nitrogen Dioxide	LSU	22-033-0003	1/22/15	For 2013, the 1-hour DVs at the LSU and Carville sites were 50 ppb and 34 ppb, respectively and are 50% less than the NO_2 NAAQS.*
	Nitrogen Dioxide	Carville	22-047-0012	1/22/15	
	PM2.5 FRM	Bayou Plaquemine	22-047-0009	1/27/15	For 2013, the annual DV was 9.4 µg/m^3, 78% of the annual $PM_{2.5}$ NAAQS as well as historically low ambient conc. and close proximity to the $PM_{2.5}$ FRM at the Geismar site.*
Lafayette MSA	PM10 BAM	Lafayette USGS	22-055-0007	1/23/15	Collocation is not required for PM_{10} continuous monitoring per 40 CFR Part 58, Appendix A, 3.3.1.*
Lake Charles MSA	Ozone	Westlake	22-019-0008	1/22/15	Consistently lower readings than other area monitors and sufficient coverage by those monitors.*
	PM2.5 FRM	McNeese University	22-019-0010	1/23/15	For 2013, the annual DV was 8.4 µg/m^3, 70% of the annual PM2.5 NAAQS and historically low ambient concentrations.*

* Removal does not compromise data collection needed for implementation of NAAQS and the 40 CFR Part 58, Appendix D requirements continue to be met.

LDEQ is in the process of forming a stronger partnership with the Louisiana Department of Health and Hospitals in hopes to work more closely with their Environmental Health Tracking Program in order to address and consider high populations of susceptible individuals and possibly areas of environmental justice issues.

LDEQ remains open to new technologies in regards to air monitoring as they are proven to work, especially in our climate. New air monitoring equipment would allow Air Field Services to have more efficient units for data capture. It would also be an easier transition to upcoming advances in air technology that will be required for data capture. The majority of our current site equipment is over 15-20 years old. With the guidance of the vendors' service departments, we have been able to repair many air monitoring units in our lab to continue site operations. This has helped us to maintain the allowable budget as well as save time and money that would have

been spent sending the monitors to the vendors for repairs. However, many of these older models are becoming less and less reliable to ensure good data capture. This year the older models will become obsolete and parts will no longer be available as of August 1, 2015. Some of the parts are already becoming unavailable.

RECENTLY PROPOSED CHANGES (proposed in current annual network review)

EPA's Office of Air Quality Planning and Standards assessment of the chemical speciation network (CSN) found that the PM2.5 supplemental speciation at the Shreveport Airport site (AQS #22-015-0008) was among the low scoring sites in the CSN assessment and could be discontinued. LDEQ has requested in its 2015 Network Assessment to discontinue the supplemental speciation at the Shreveport Airport site. Due to the low rank of the site in the CSN assessment, there should be very little effect on data users as a result of the discontinuation of this site. The State requests guidance from US EPA Region 6 regarding specifics on logistics of moving this supplemental speciation site to the Westlake air monitoring site (AQS #22-019-0008) in the Lake Charles MSA as suggested by the Region in discussions during the 2014 Technical Systems Audit. It was advised by the Region that the Westlake site may be a better location due to industry in the Lake Charles area. If this move occurs, a PM2.5 FRM monitor will have to be placed at the site as well because EPA discontinued gravimetric analysis (i.e., total mass on the Teflon filter) at most CSN sites effective October 1, 2014.

SUMMARY

LDEQ operates a robust air monitoring network that:

- Meets and exceeds all regulatory requirements.
- Meets the monitoring objectives to:
    - Provide air pollution data to the general public in a timely manner.
    - Support compliance with ambient air quality standards and emissions strategy development.
    - Support for air pollution research studies.
- Considers high populations of vulnerable and susceptible individuals.
- Remains vigilant to the need to add or close sites while attempting to balance data needs and available resources.
- Considers the benefits to data users to proposed new sites and the possible detrimental effect on data users for any proposed discontinued sites.
- Considers whether new technologies are appropriate for incorporation into the ambient air monitoring network.

Appendices

Appendix A

2015 LOUISIANA CRITERIA POLLUTANT AMBIENT AIR MONITORING SITES

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 = 31.18 Long = -92.41	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	General Background	Regional	Yes	Alexandria
Baker LSP 22-033-0014	1400 West Irene Rd	Lat = 30.59 Long = -91.25	Lead	SLAMS	Gravimetric	Every 6th day	Source Oriented	Neighbor-hood	Yes	Baton Rouge
Capitol 22-033-0009	1061-A Leesville Ave.	Lat = 30.46 Long = -91.18	PM2.5	SLAMS NCORE	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every day	High Pop. Density	Neighbor-hood	Yes	Baton Rouge
			PM2.5	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 12th day	High Pop. Density		Yes	
			PM2.5	SLAMS NCORE	Continuous BAM 1020 Meth. Code: 170	Continuous	High Pop. Density		Yes	
			PM10	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
			PM2.5	STN NCORE	Chemical Speciation SASS Teflon Gravimetric, Meth. Code 810 URG 3000N Meth. Code 839	24 hrs every 3rd day	High Pop. Density		No	
			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	

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 = 30.46 Long = -91.18	CO Trace-level	PAMS NCORE	Nondispersive Infrared	Continuous	High Pop. Density	Neighbor-hood	No	Baton Rouge
			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	
			Lead	SLAMS NCORE	Gravimetric	Every 6th day	High Pop. Density		Yes	
			PM Coarse	SLAMS NCORE	Continuous BAM 1020 Meth. Code: 185	Continuous	High Pop. Density		No	
LSU 22-033-0003	East End Aster Lane	Lat = 30.42 Long = -91.18	Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration	Middle	Yes	Baton Rouge
			VOC	SPMS	Trigger Canisters	25 min when triggered	High Concentration		No	

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
Bayou Plaquemine 22-047-0009	65180 Belleview Rd.	Lat = 30.22 Long = -91.32	Ozone	PAMS SLAMS	U.V. Absorption	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			NOx	PAMS SLAMS	Chemilumin-escence	Continuous	High Pop. Density		Yes	
			NOy Trace-level	PAMS SLAMS	Chemilumin-escence	Continuous	High Pop. Density		No	
			VOC	PAMS SLAMS	Canisters; Trigger Canisters	4 3-hr samples daily during ozone season and 8 3-hr samples every 6th day otherwise; also 24 hrs every 6th day; 25 min when triggered	Population Oriented		No	
Carlyss 22-019-0002	Hwy 27 & Hwy 108	Lat = 30.14 Long = -93.37	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Lake Charles
Carville 22-047-0012	Hwy 141	Lat = 30.22 Long = -91.13	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Regional	Yes	Baton Rouge
			VOC	SPMS	Trigger Canisters	25 min when triggered	Source Oriented	Neighbor-hood	No	

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
Convent 22-093-0002	St. James Courthouse Hwy 44 @ Canatella	Lat = 29.99 Long = -90.82	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	New Orleans
Dixie 22-017-0001	Haygood Rd.	Lat = 32.68 Long = -93.86	Ozone	SLAMS	U.V. Absorption	Continuous	High	Urban	Yes	Shreveport
Dutchtown 22-005-0004	11153 Kling Rd.	Lat = 30.2383 Long = -90.97	Ozone	PAMS SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Baton Rouge
			NOx	PAMS SLAMS	Chemilumin-escence	Continuous	General Background		Yes	
			VOC	PAMS SLAMS	Canisters; Trigger Canisters	4 3-hr cans every 3rd day ozone season and 8 3-hr cans every 6th day otherwise 25 min when triggered	Population Oriented		No	
French Settlement 22-063-0002	16627 Perrilloux Ln @ Hwy 16	Lat = 30.32 Long = -90.81	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			
			PM2.5	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	General Background		No*	
			VOC	SPMS	Canisters; Trigger Canisters	25 min when triggered	Population Oriented		No	

* PM2.5 Continuous monitor used for AQI reporting purposes only.

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
Garyville 22-095-0002	E. Azalea St.	Lat = 30.06 Long = -90.62	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Regional	Yes	New Orleans
Geismar 22-047-0005	Hwy 75	Lat = 30.24 Long = -91.06	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Baton Rouge
Hammond 22-105-0001	21549 Old Covington Hwy	Lat = 30.50 Long = -90.38	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Hammond
			PM2.5	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 12th day	High Pop. Density		Yes	
Houma 22-109-0001	4047 West Park Ave. at Hwy 24	Lat = 29.68 Long = -90.78	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Houma/ Thibodaux
Kenner 22-051-1001	100 West Temple Pl.	Lat = 30.04 Long = -90.27	NOx	SLAMS	Chemilumin-escence	Continuous	High Pop. Density Area-wide	Urban	Yes	New Orleans
			Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration		Yes	
			PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	Every 6th day	High Pop. Density		Yes	
			PM2.5	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	High Pop. Density		No*	

* PM2.5 Continuous monitor used for AQI reporting purposes only.

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
Lafayette USGS 22-055-0007	700 Cajundome	Lat = 30.2383 Long = -92.04	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Lafayette
			PM2.5	SPMS	Continuous BAM 1020 Meth. Code: 170	Continuous	High Pop. Density		No*	
			PM10	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
			Ozone	SLAMS	U.V. Absorption	Continuous	High Pop. Density		Yes	
New Ozone Site Lafayette MSA			Ozone							Lafayette
LaPlace 22-095-0003	115 Garden Grove	Lat = 30.04 Long = -90.46678	Lead	SLAMS	Gravimetric	Every 6th day	Source Oriented	Middle	Yes	New Orleans
			Lead	SLAMS	Gravimetric (Collocated)	Every 12th day			Yes	
Madisonville 22-103-0002	1421 Hwy 22 West	Lat = 30.43 Long = -90.20	Ozone	SLAMS	U.V. Absorption	Continuous	Source Oriented	Neighbor-hood	Yes	New Orleans
			PM2.5	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Source Oriented		No*	
Marrero 22-051-2001	Patriot & Allo St.	Lat = 29.88 Long = -90.09	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	New Orleans

* PM2.5 Continuous monitor used for AQI reporting purposes only.

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
Meraux 22-087-0004	4101 Mistrot Drive	Lat = 29.94 Long = -89.92	Ozone	SPMS	U.V. Absorption	Continuous	General Background	Urban	Yes	New Orleans
			SO2	SPMS	U.V. Fluorescence	Continuous	General Background		Yes	
			H2S	SPMS	U.V. Fluorescence	Continuous	General Background		No	
Monroe 22-073-0004	5296 Southwest Rd.	Lat = 32.51 Long = -92.05	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	General Background	Neighbor-hood	Yes	Monroe
			Ozone	SLAMS	U.V. Absorption	Continuous	General Background		Yes	
New Orleans City Park 22-071-0012	Florida & Orleans Ave.	Lat = 29.99 Long = -90.10	PM2.5	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	High Pop. Density	Neighbor-hood	No*	New Orleans
			PM10	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 = 29.99 Long = -90.12	NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration	Micro-scale	Yes	New Orleans
			CO	SLAMS	Gas Filter Correlation	Continuous	High Concentration			
			PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	High Concentration			
New Roads 22-077-0001	Hwy 415	Lat = 30.68 Long = -91.37	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Baton Rouge

* PM2.5 Continuous monitor used for AQI reporting purposes only.

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 22-121-0001	3758 Hwy 1	Lat = 30.50 Long = -91.21	SO2	SLAMS	U.V. Fluorescence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every day	High Concentration		Yes	
			Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration		Yes	
			NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration		Yes	
			VOC	SPMS	Trigger Canisters	25 min when triggered	Population Oriented		No	
Pride 22-033-0013	11245 Port Hudson Rd.	Lat = 30.70 Long = -91.05	NOx	PAMS SLAMS	Chemilumin-escence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			Ozone	PAMS SLAMS	U.V. Absorption	Continuous	High Concentration		Yes	
			VOC	PAMS SLAMS	Canister; Trigger Canisters	4 3-hr samples every 3rd day ozone season and 8 3-hr samples every 6th day otherwise, also 24 hrs every 6th day; 25 min when triggered	Population Oriented		No	

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
Shreveport Airport 22-015-0008	1425 Airport Dr.	Lat = 32.53 Long = -93.75	Ozone	SLAMS	U.V. Absorption	Continuous	High Pop. Density	Neighbor-hood	Yes	Shreveport
			PM2.5	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	General Background		No*	
			PM2.5	SPMS	Chemical Speciation SASS Teflon Gravimetric, Meth. Code 810	24 hrs every 6th day	General Background		No	
			PM10	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
			SO2	SLAMS	U.V. Fluorescence	Continuous	High Pop. Density		Yes	
Shreveport Calumet 22-017-0008	Midway St.	Lat = 32.47 Long = -93.79	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Shreveport
			PM2.5	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 12th day	High Pop. Density		Yes	
Thibodaux 22-057-0004	194 Thorough-bred Park	Lat = 29.76 Long = -90.77	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Houma/ Thibodaux
			PM2.5	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	General Background		No*	

* PM2.5 Continuous monitor used for AQI reporting purposes only.

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
Vinton 22-019-0009	2284 Paul Bellow Rd.	Lat = 30.2383 Long = -93.58	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	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 = 30.26 Long = -93.28	SO2	SLAMS	U.V. Fluorescence	Continuous	High Pop. Density	Neighbor-hood	Yes	Lake Charles
			PM2.5	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	High Pop. Density		No*	
			NOx	SLAMS RA40	Chemilumin-escence	Continuous	High Pop. Density RA40		Yes	
			VOC	SPMS	Canisters; Trigger Canisters	24 hrs every 6th day; 25 min when triggered	Population Oriented		No	

* PM2.5 Continuous monitor used for AQI reporting purposes only.

Special Purpose Monitors										
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 = 29.94 Long = -89.98	PM2.5	SLAMS	Sequential FRM R&P Partisol Plus Model 2025 Meth. Code: 118	24 hrs every 6th day	Source Oriented	Neighbor-hood	Yes	New Orleans
			PM2.5	SPMS	Continuous BAM 1020 Meth. Code: 170	Continuous	Source Oriented		No*	
			PM10	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	Source Oriented		Yes	
			SO_2	SLAMS	U. V. Fluorescence	Continuous	Source Oriented		Yes	
			H2S	SPMS	U.V. Fluorescence	Continuous	Source Oriented		No	
			VOC	SPMS	Trigger Canisters	25 min when triggered	Source Oriented		No	
Lake Charles Lighthouse Lane SPECIAL3	Lighthouse Lane & Bayou D'Inde Pass	Lat = 30.22 Long = -93.31	VOC	SPMS	Trigger Canisters	25 min when triggered	Population Oriented	Neighbor-hood	No	Lake Charles
Southern University 22-033-2002	Isabel Herson St.	Lat = 30.53 Long = -91.19	VOC	SPMS	Trigger Canisters	25 min when triggered	Source Oriented	Neighbor-hood	No	Baton Rouge

* PM2.5 Continuous monitor used for AQI reporting purposes only.

PAMS Sites

Site Name	Site Type	Pollutant	Sampling Frequency	Sampling Period
Capitol 22-033-0009	2	Speciated VOC	Eight 3-hr canisters daily (0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100 LST); One 24-hour canister every 6th day	May-September
		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
		PM10	Hourly	January-December
		Mixing Height	Hourly	January-December
		Lead	Every 6 Days	January-December
Site Name	Site Type	Pollutant	Sampling Frequency	Sampling Period
Bayou Plaquemine 22-047-0009	3/1	Speciated VOC	Four 3-hr canisters daily (i.e. 0300-0600, 0600-0900, 1500-1800, 1800-2100 LST) ; One 24-hour canister every 6th day	May-September
		TNMOC	Hourly	January-December
		NO_y	Hourly	January-December
		Ozone	Hourly	January-December
		Wind Speed*	Hourly	January-December
		Wind Direction*	Hourly	January-December
		Temperature	Hourly	January-December
		Relative Humidity	Hourly	January-December
		Barometric Pres.	Hourly	January-December
		Solar Radiation	Hourly	January-December
		NO, NO_2, NO_x	Hourly	January-December

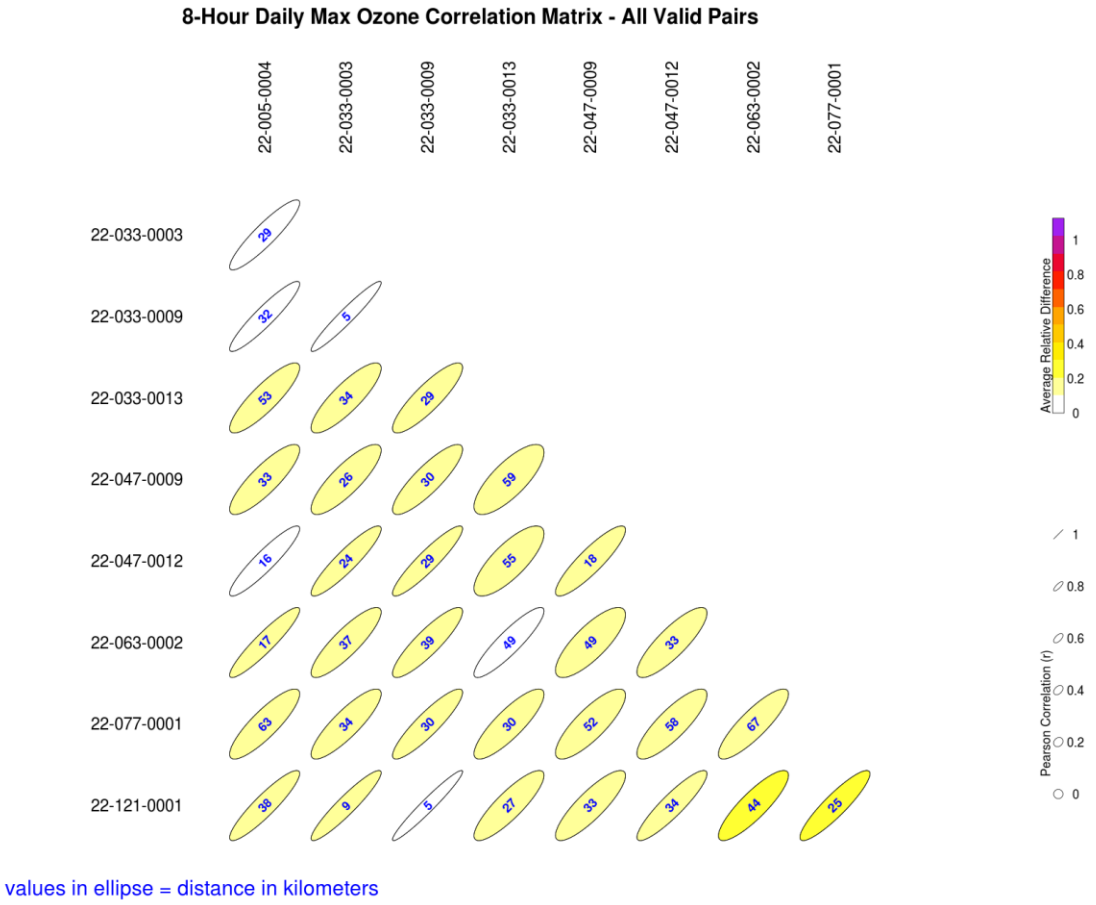
PAMS Sites (cont'd)

Site Name	Site Type	Pollutant	Sampling Frequency	Sampling Period
Pride 22-033-0013	1/3	Speciated VOC	Four 3-hr cans every 3 days (i.e. 0300-0600, 0600-0900, 1500-1800, 1800-2100 LST) ; One 24-hour canister every 6th day	May-September
		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
		Relative Humidity	Hourly	January-December
		Barometric Pres.	Hourly	January-December
		Solar Radiation	Hourly	January-December
Dutchtown 22-005-0004	1/3	Speciated VOC	Four 3-hr cans every 3 days (i.e. 0300-0600, 0600-0900, 1500-1800, 1800-2100 LST) ; One 24-hour canister every 6th day	May-September
		NO, NO_2, NO_x	Hourly	January-December
		Ozone	Hourly	January-December
		Wind Speed*	Hourly	January-December
		Wind Direction*	Hourly	January-December

Appendix B

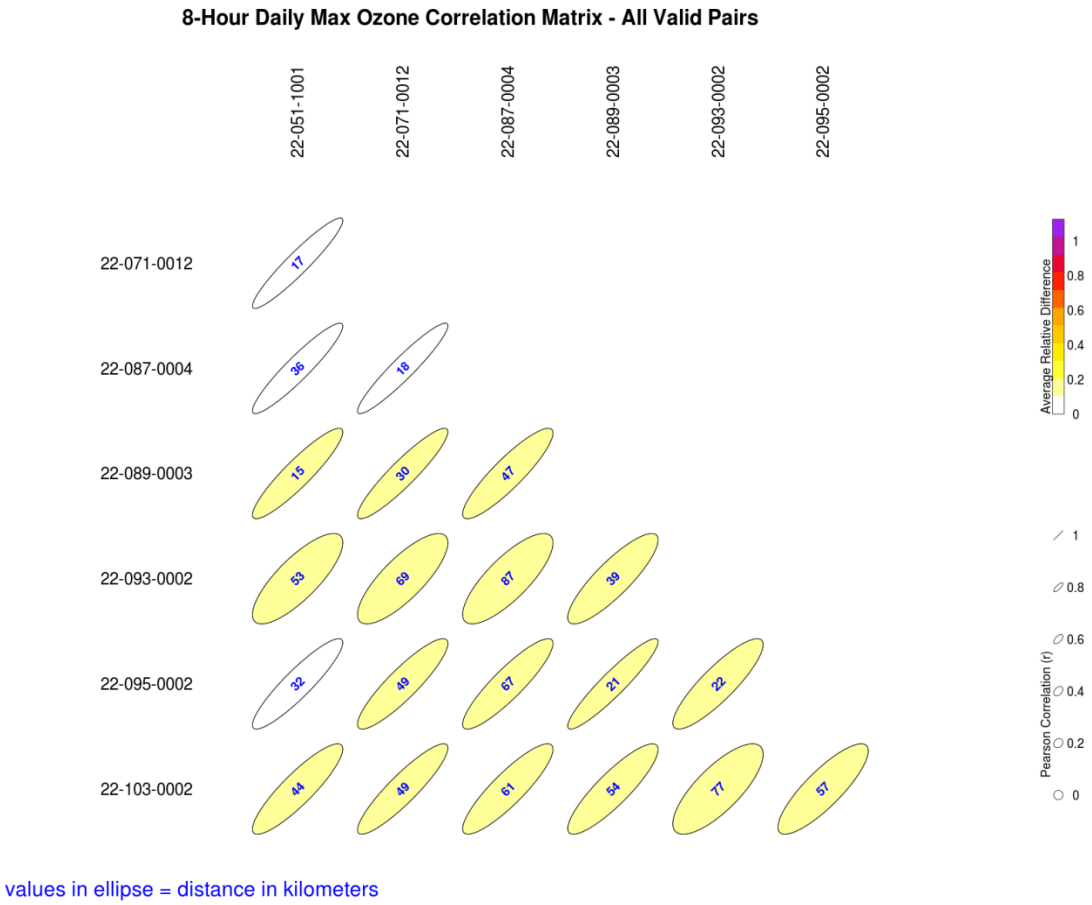
Correlation Matrix Tool Results

Figure 2: Correlation Matrix for Ozone sites in the Baton Rouge Area



22-005-0004 - Dutchtown
22-033-0003 – LSU
22-033-0009 – Capitol
22-033-0013 – Pride
22-047-0009 – Bayou Plaquemine
22-047-0012 – Carville
22-063-0002 – French Settlement
22-077-0001 – New Roads
22-121-0001 – Port Allen

Figure 3: Correlation Matrix for Ozone sites in the New Orleans Area



**Ozone Monitors at the following sites have been discontinued:*
#22-071-0012 - New Orleans City Park
#22-089-0003 - Hahnville

22-051-1001 – Kenner
22-071-0012 – New Orleans City Park
22-087-0004 – Meraux
22-089-0003 – Hahnville
22-093-0002 – Convent
22-095-0002 – Garyville
22-103-0002 – Madisonville

Appendix C

Area/Population Served Tool Results

Figure 4: Area/Population Served for Chalmette Vista (AQS# 22-087-0007) SO2

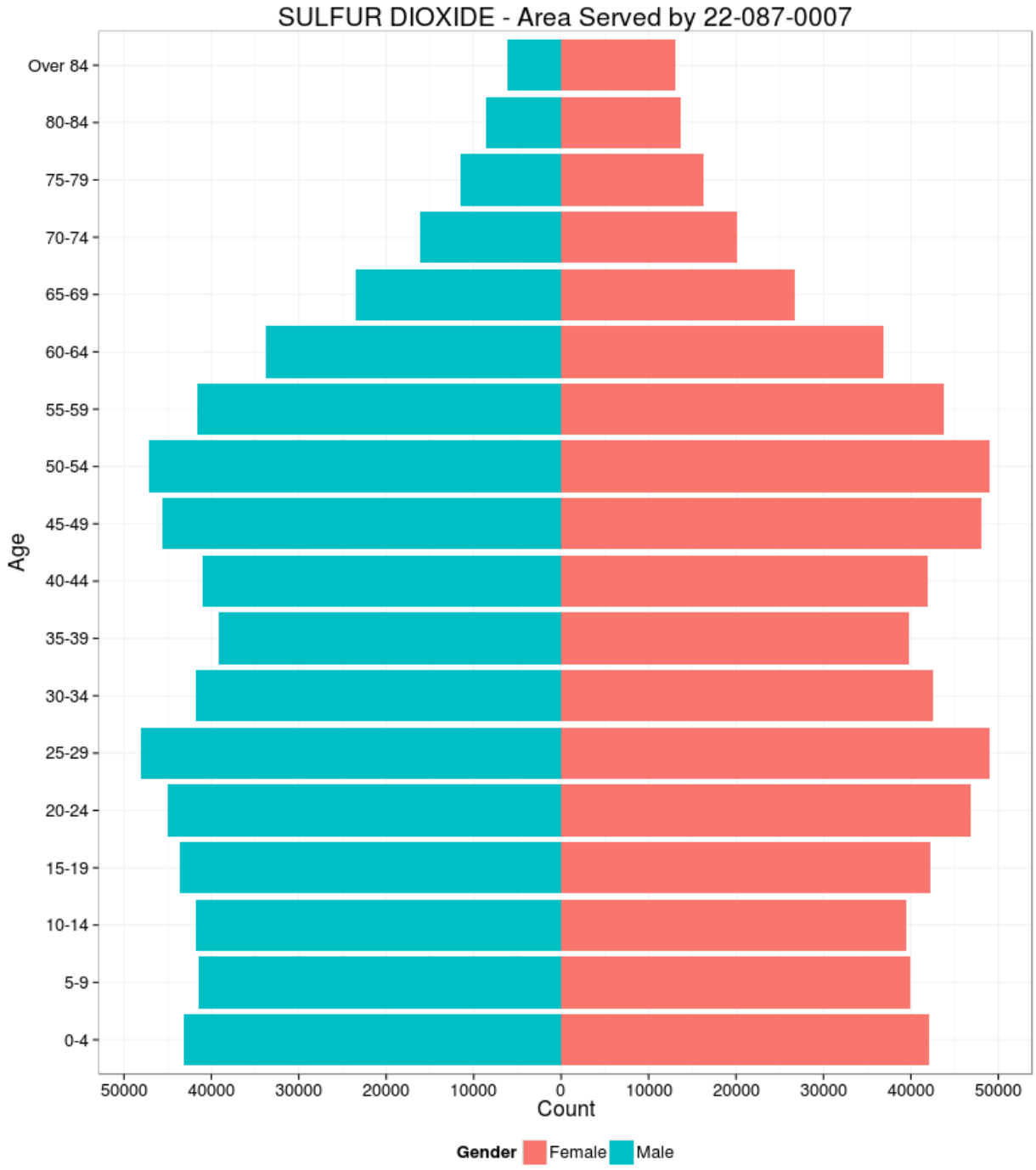
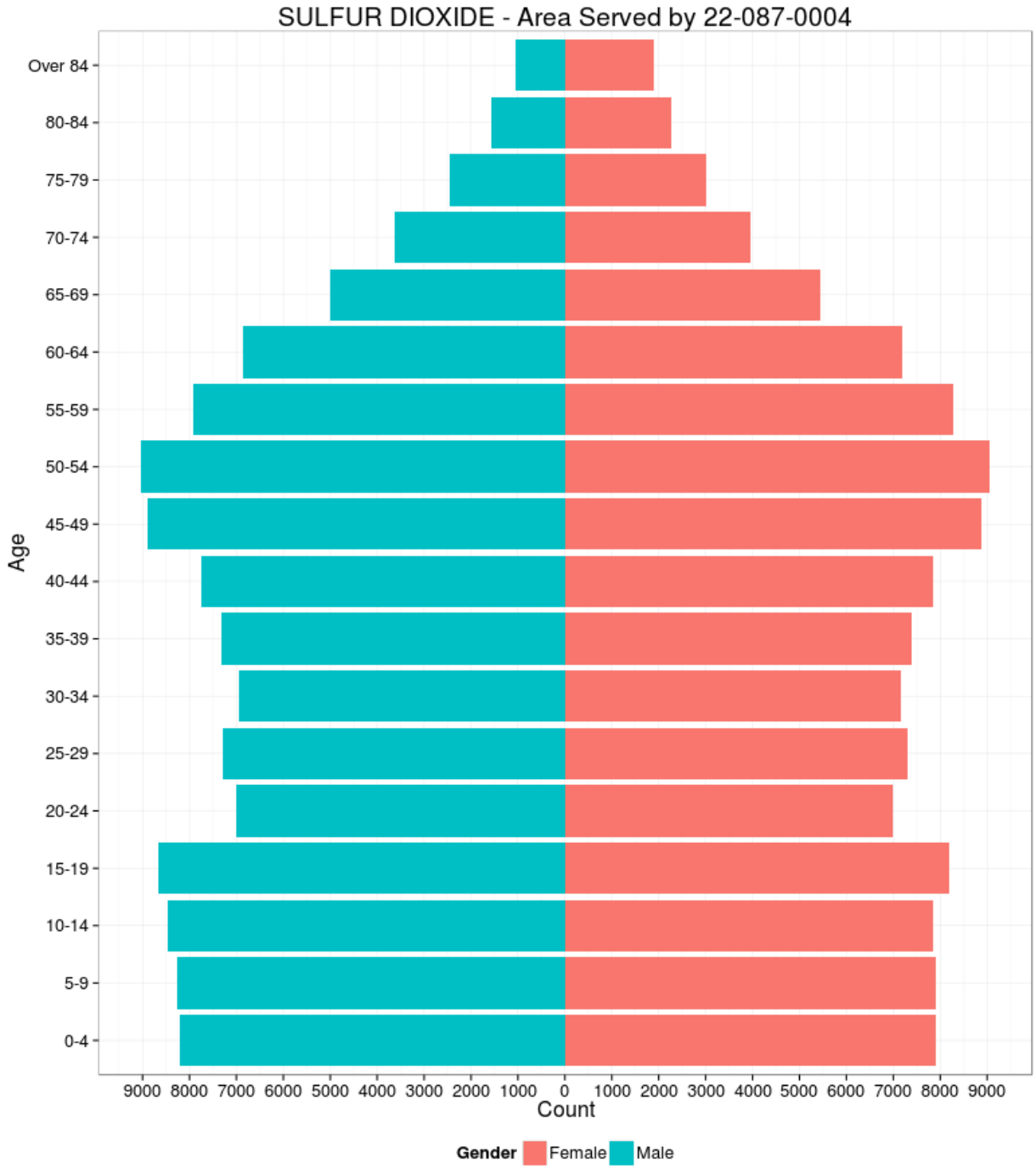


Figure 5: Area/Population Served for Meraux (AQS# 22-087-0004) SO2



Appendix D

Supporting Data for Removal of PM2.5 BAM Data from Comparison to NAAQS Standards

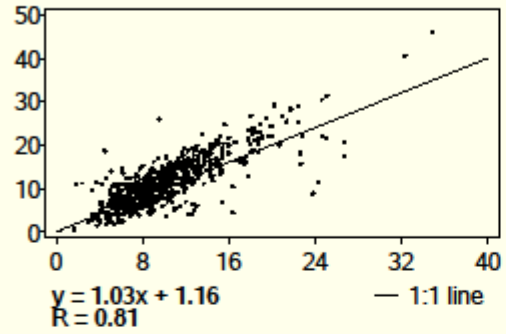
Capitol Site – AQS #22-033-0009

PM 2.5 Continuous Monitor Comparability Assessment

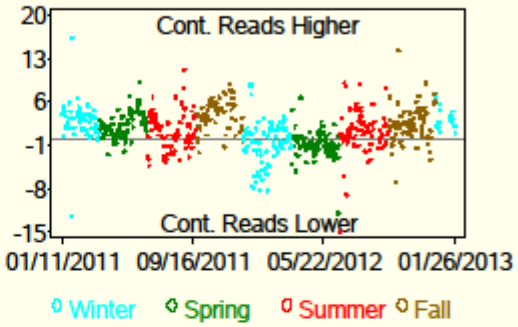
Site 22-033-0009: Baton Rouge, LA

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

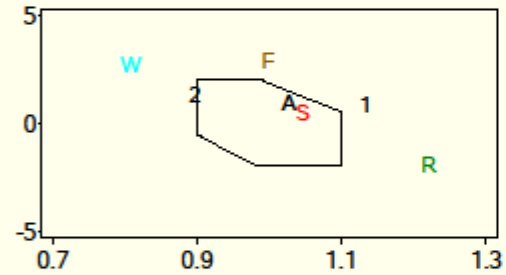
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



Cont. minus FRM PM 2.5 (µg/m³)

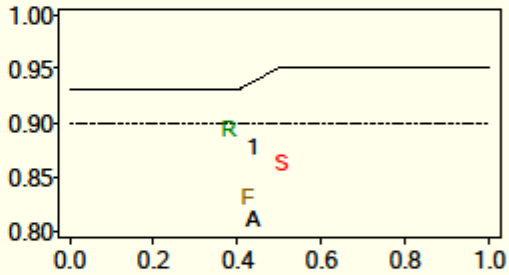


Additive (y) vs. Multiplicate (x) Bias



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**659**	**10.0**	**11.4**	**1.14**
Winter	172	8.9	10.1	1.13
Spring	177	10.6	11.2	1.06
Summer	161	10.7	11.8	1.10
Fall	149	9.7	12.7	1.31
2011	314	10.2	12.5	1.23
2012	335	9.8	10.3	1.05
2013	10	9.3	12.4	1.32

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m^3)	Bias
AllData	**659**	**16.9**	**641**	**17.3**
Winter	172	16.6	168	15.4
Spring	177	4.4	172	6.2
Summer	161	10.5	154	13.4
Fall	149	39.1	147	36.4
2011	314	24.1	308	25.7
2012	335	9.7	323	8.7
2013	10	33.7	10	33.7

Data Source: EPA AQS Data Mart

Generated on: May 22, 2013

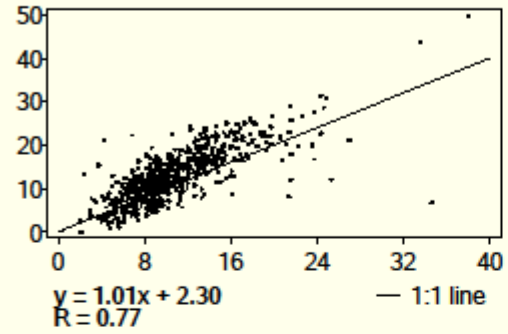
Port Allen Site – AQS #22-121-0001

PM 2.5 Continuous Monitor Comparability Assessment

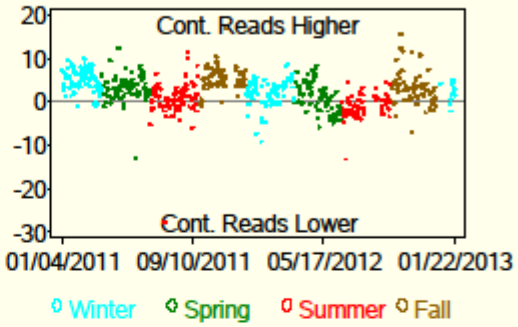
Site 22-121-0001: Baton Rouge, LA

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

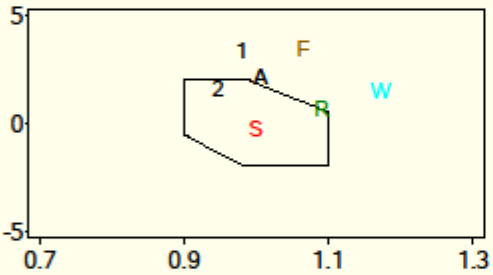
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



Cont. minus FRM PM 2.5 (µg/m³)

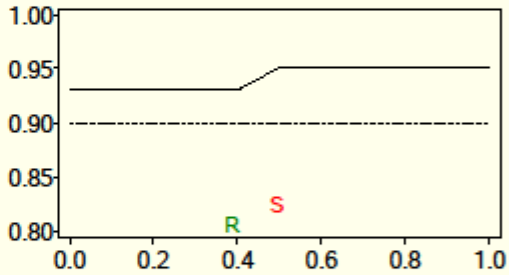


Additive (y) vs. Multiplicate (x) Bias



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**606**	**10.6**	**12.9**	**1.22**
Winter	158	9.2	12.4	1.35
Spring	164	11.2	13.1	1.16
Summer	137	11.7	11.6	1.00
Fall	147	10.3	14.6	1.41
2011	315	11.3	14.6	1.30
2012	281	10.0	11.2	1.13
2013	10	6.3	8.4	1.34

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m^3)	Bias
AllData	**606**	**25.2**	**592**	**26.2**
Winter	158	36.1	154	38.3
Spring	164	16.8	161	18.5
Summer	137	-2.6	132	-0.5
Fall	147	48.6	145	46.4
2011	315	33.4	314	33.7
2012	281	15.8	270	17.1
2013	10	28.4	8	44.3

Data Source: EPA AQS Data Mart

Generated on: May 22, 2013

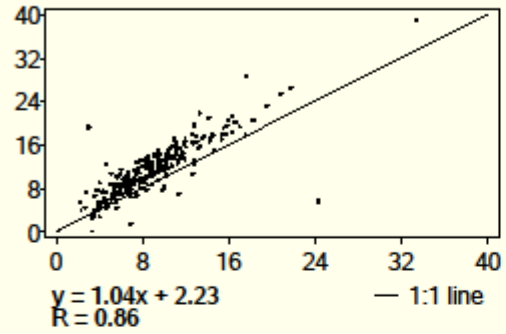
Lafayette USGS Site – AQS #22-055-0007

PM 2.5 Continuous Monitor Comparability Assessment

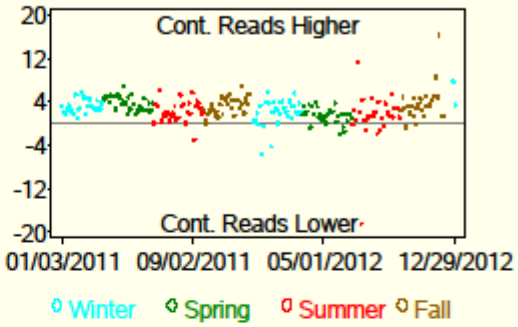
Site 22-055-0007: Lafayette, LA

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

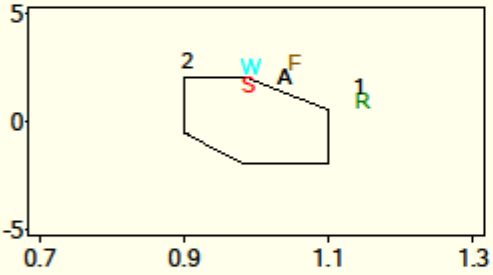
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



Cont. minus FRM PM 2.5 (µg/m³)

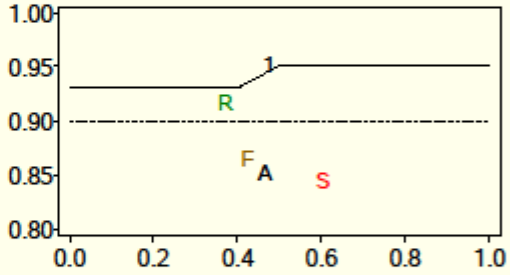


Additive (y) vs. Multiplicate (x) Bias



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	238	8.8	11.4	1.29
Winter	58	6.9	9.6	1.38
Spring	62	9.6	12.1	1.27
Summer	61	9.1	10.9	1.19
Fall	57	9.5	12.9	1.35
2011	122	8.9	11.9	1.34
2012	116	8.7	10.8	1.24
2013	0	.	.	.

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m^3)	Bias
AllData	238	34.1	230	34.3
Winter	58	40.5	57	42.6
Spring	62	29.2	61	28.5
Summer	61	22.7	58	23.4
Fall	57	45.2	54	43.9
2011	122	36.5	118	36.1
2012	116	31.7	112	32.5
2013	0	.	.	.

Data Source: EPA AQS Data Mart

Generated on: May 22, 2013

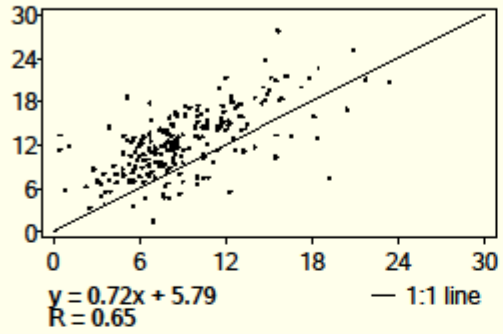
Monroe Airport Site – AQS #22-073-0004

PM 2.5 Continuous Monitor Comparability Assessment

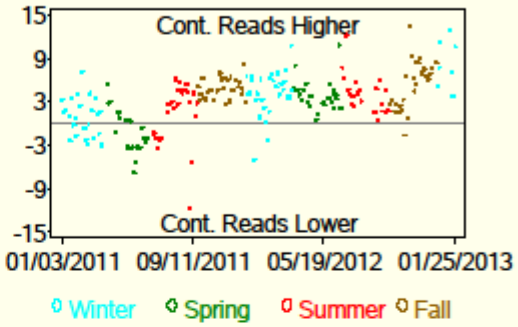
Site 22-073-0004: Monroe, LA

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

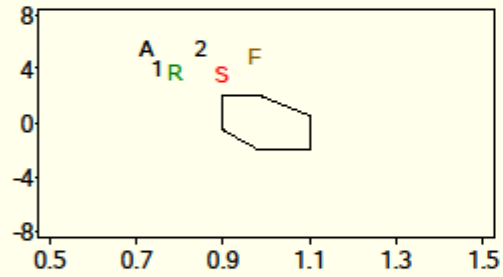
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



Cont. minus FRM PM 2.5 (µg/m³)

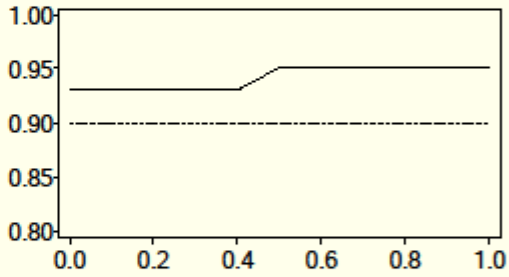


Additive (y) vs. Multiplicate (x) Bias



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	213	9.1	12.4	1.36
Winter	61	7.2	10.6	1.46
Spring	48	10.6	12.3	1.17
Summer	46	11.1	13.8	1.24
Fall	58	8.2	13.2	1.61
2011	103	9.7	11.5	1.19
2012	106	8.7	13.1	1.51
2013	4	4.6	13.1	2.87

Appendix A Statistics

Dataset	N Bias (all observations)		N Bias (only >= 3 ug/m^3)	
AllData	213	73.5	205	43.9
Winter	61	111	57	50.0
Spring	48	66.1	45	23.5
Summer	46	26.9	46	26.9
Fall	58	77.1	57	67.5
2011	103	32.7	100	27.9
2012	106	87.6	102	56.6
2013	4	752	3	143

Data Source: EPA AQS Data Mart

Generated on: May 22, 2013

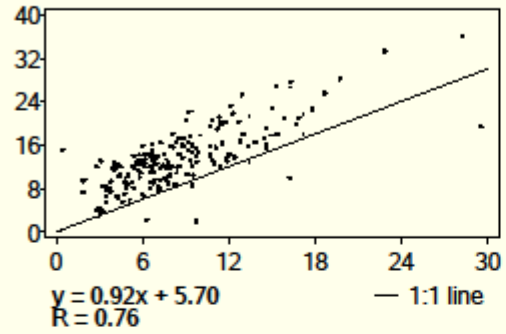
Alexandria 1 Site – AQS #22-079-0002

PM 2.5 Continuous Monitor Comparability Assessment

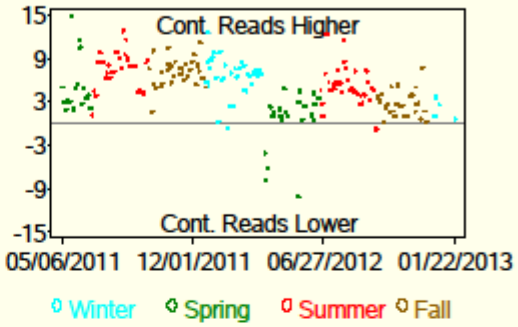
Site 22-079-0002: Alexandria, LA

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

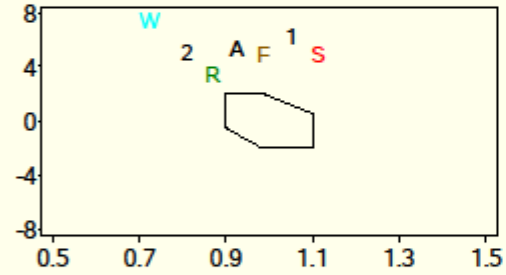
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



Cont. minus FRM PM 2.5 (µg/m³)

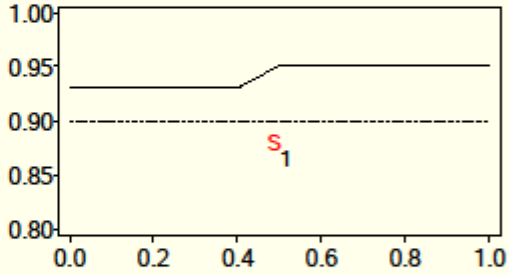


Additive (y) vs. Multiplicate (x) Bias



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**199**	**8.6**	**13.6**	**1.59**
Winter	37	5.8	11.9	2.04
Spring	42	10.1	12.5	1.24
Summer	61	9.4	15.7	1.67
Fall	59	8.3	13.4	1.61
2011	83	8.7	15.6	1.80
2012	115	8.5	12.2	1.44
2013	1	6.1	6.7	1.10

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m^3)	Bias
AllData	**199**	**89.1**	**190**	**70.8**
Winter	37	124	35	111
Spring	42	94.0	39	29.6
Summer	61	77.4	60	78.0
Fall	59	75.7	56	66.7
2011	83	127	80	90.8
2012	115	62.6	109	56.7
2013	1	9.8	1	9.8

Data Source: EPA AQS Data Mart

Generated on: May 22, 2013

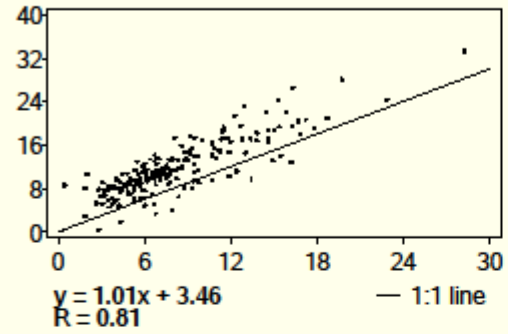
Alexandria 2 Site – AQS #22-079-0002

PM 2.5 Continuous Monitor Comparability Assessment

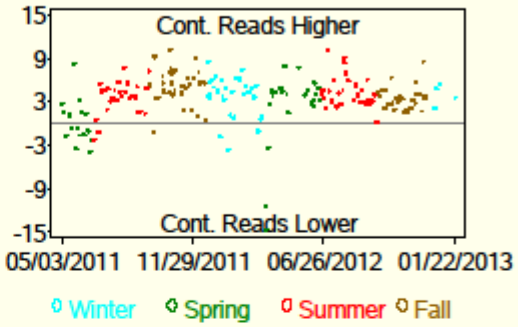
Site 22-079-0002: Alexandria, LA

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=4

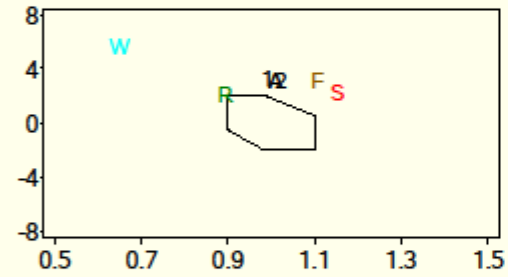
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



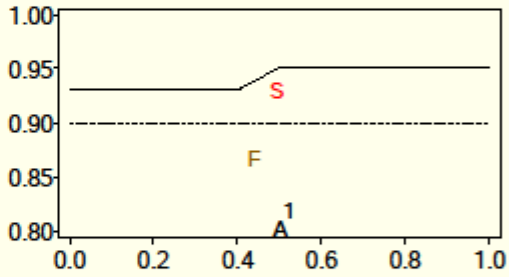
Cont. minus FRM PM 2.5 (µg/m³)



Additive (y) vs. Multiplicate (x) Bias



R (y) vs. FRM CCV (x)



Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**194**	**8.3**	**11.9**	**1.42**
Winter	37	5.8	9.7	1.67
Spring	40	9.2	10.6	1.15
Summer	59	9.4	13.4	1.42
Fall	58	8.2	12.6	1.53
2011	83	8.6	12.1	1.41
2012	110	8.2	11.7	1.43
2013	1	6.1	9.6	1.57

Appendix A Statistics

Dataset	N Bias (all observations)		N Bias (only >= 3 ug/m^3)	
AllData	**194**	**61.0**	**183**	**51.8**
Winter	37	82.8	35	73.2
Spring	40	59.6	35	30.1
Summer	59	46.1	58	48.3
Fall	58	63.3	55	55.8
2011	83	66.3	78	49.6
2012	110	57.1	104	53.5
2013	1	57.4	1	57.4

Data Source: EPA AQS Data Mart

Generated on: May 22, 2013

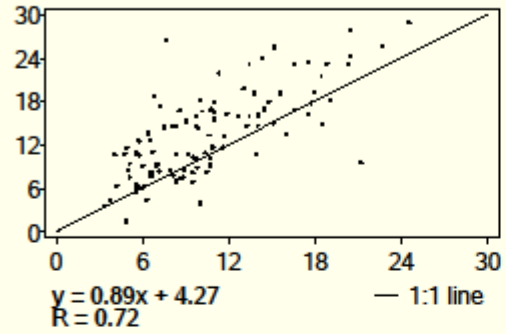
Chalmette Vista Site – AQS #22-087-0007

PM 2.5 Continuous Monitor Comparability Assessment

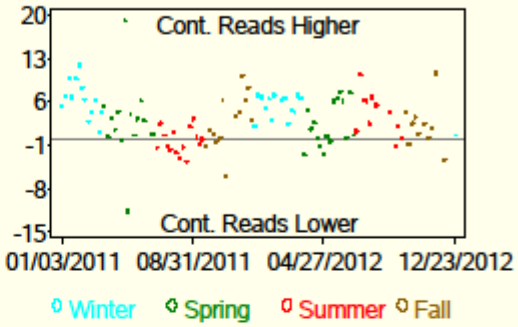
Site 22-087-0007: Chalmette, LA

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

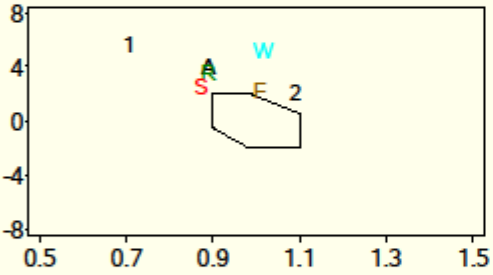
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



Cont. minus FRM PM 2.5 (µg/m³)

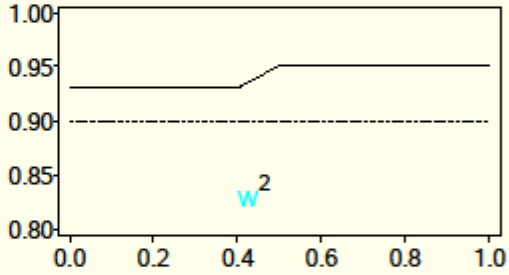


Additive (y) vs. Multiplicate (x) Bias



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 1=2011, 2=2012, 3=2013
W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**108**	**10.6**	**13.7**	**1.29**
Winter	28	9.1	14.8	1.63
Spring	31	12.8	15.3	1.19
Summer	26	10.3	11.8	1.14
Fall	23	9.8	12.3	1.26
2011	58	10.8	13.6	1.26
2012	50	10.4	13.8	1.33
2013	0	.	.	.

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m^3)	Bias
AllData	**108**	**36.9**	**107**	**37.9**
Winter	28	71.7	28	71.7
Spring	31	24.4	31	24.4
Summer	26	20.1	26	20.1
Fall	23	30.3	22	34.9
2011	58	36.4	58	36.4
2012	50	37.5	49	39.7
2013	0	.	.	.

Data Source: EPA AQS Data Mart

Generated on: May 22, 2013