

Texas Commission on Environmental Quality

# 2015 Annual Monitoring Network Plan

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# 2015 Annual Monitoring Network Plan

## *Introduction*

Under 40 Code of Federal Regulations (CFR) Part 58.10, states are required to submit an annual monitoring network plan to the United States (U.S.) Environmental Protection Agency (EPA) by July 1<sup>st</sup> of each year. This monitoring plan is required to provide the implementation and maintenance framework for an air quality surveillance system, known commonly as the ambient air quality monitoring network. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to the EPA. The plan and any comments received during the 30-day inspection period are forwarded to the EPA for final review and approval.

This document provides information on the Texas Commission on Environmental Quality (TCEQ) ambient air monitoring network established to meet the National Ambient Air Quality Standards (NAAQS) regulatory requirements and other monitors that support this effort. As described in 40 CFR 58 Appendix D, monitors are deployed to meet minimum design requirements for a variety of networks, including State or Local Air Monitoring Stations (SLAMS), Photochemical Assessment Monitoring Stations (PAMS), Speciation Trends Network (STN), National Core Multipollutant Monitoring Stations (NCore), in addition to meeting grant deliverables for National Air Toxics Trends Stations (NATTS). A list of these monitors and their respective networks is located in Appendix A. Based on annual internal audits performed to date, sites are meeting the siting criteria required in 40 CFR Part 58 Appendix E.

Because SLAMS requirements are at least partially based on core based statistical areas (CBSAs) or metropolitan statistical areas (MSAs), a summary of MSAs, 2014 U.S. Census Bureau population estimates, and a summary count of required monitors is located in Appendix B. In Texas, the U.S. Census Bureau defines the CBSA and MSA as the same area and the terms are used interchangeably in this plan. This document presents the current Texas network, as well as recommended changes to the network from July 1, 2014, through December 31, 2016.

## *Regulatory Network Changes*

### **Nitrogen Dioxide (NO<sub>2</sub>)**

The TCEQ NO<sub>2</sub> network is designed to meet area-wide, Regional Administrator 40 (RA-40), and near-road monitoring requirements. Each requirement is discussed in more detail below. Appendix C includes a summary of all currently required NO<sub>2</sub> monitors.

### **Area-Wide Requirements**

Title 40 CFR Part 58, Appendix D, Section 4.3.3 requires one area-wide ambient air quality monitoring site in each CBSA with a population equal to or greater than 1,000,000 people. The requirements stipulate that the site must be located in the area with the highest expected NO<sub>2</sub> concentrations that are also representative of a neighborhood or larger (urban) spatial scale. Neighborhood scale monitoring is representative of air quality conditions in an area with dimensions between 0.5 and 4.0 kilometers, and urban scale monitoring is representative of air quality conditions in an

area with dimensions between 4 and 50 kilometers according to 40 CFR Part 58, Appendix D, Section 4.3.5(a).

Based on 2014 U.S. Census Bureau population estimates for Texas, area-wide neighborhood or urban scale NO<sub>2</sub> monitoring is required in the Dallas-Fort Worth-Arlington, Houston-The Woodlands-Sugar Land, San Antonio-New Braunfels, and Austin-Round Rock CBSAs. The following NO<sub>2</sub> monitors meet these area-wide requirements, as approved by the EPA in the TCEQ 2013 *Annual Monitoring Network Plan* response letter from EPA Region 6 dated May 28, 2014.

- Houston-The Woodlands-Sugar Land: Clinton (Air Quality System [AQS] 482011035)
- Dallas-Fort Worth-Arlington: Dallas Hinton (AQS 481130069)
- San Antonio-New Braunfels: San Antonio Northwest (AQS 480290032)
- Austin-Round Rock: Austin Northwest (AQS 484530014)

### **Regional Administrator Required Monitoring (RA-40)**

Title 40 CFR Part 58, Appendix D, Section 4.3.4 states that the EPA Regional Administrators will collaborate with the states to designate a minimum of 40 NO<sub>2</sub> monitoring stations nationwide that are sited in locations to protect susceptible and vulnerable populations. The following four NO<sub>2</sub> monitors meet this requirement, as approved in the TCEQ 2013 *Annual Monitoring Network Plan* response letter from EPA Region 6 dated May 28, 2014.

- El Paso: Ascarate Park SE (AQS 481410055)
- Houston: Clinton (AQS 482011035)
- Arlington: Arlington Municipal Airport (AQS 484393011)
- Nederland: Nederland High School (AQS 482451035)

### **Near-Road Monitoring Requirements**

#### *Federal Site Selection Requirements*

Title 40 CFR Part 58, Appendix D, Section 4.3.2 requires microscale near-road monitors for CBSAs with populations equal to or greater than 500,000 people. The requirements state that the monitoring location shall be selected by ranking major roadways by annual average daily traffic (AADT) counts and identifying a space that meets siting criteria (e.g., is away from obstructions or obstacles and will have an inlet probe height between two and seven meters) within 50 meters of the highest ranked road segments. The requirements also stipulate that sites must be deployed in areas of maximum expected hourly NO<sub>2</sub> concentrations near a major road with high AADT counts with consideration to fleet mix, roadway design, congestion patterns, terrain, and meteorology.

Deployment of required near-road monitors is scheduled to occur in three phases from 2014 to 2017, according to the final rule promulgated on March 7, 2013. The first phase of the rule required that one near-road site be deployed in CBSAs with populations equal to or greater than 1,000,000 people by January 1, 2014. The second phase required an additional near-road site by January 1, 2015, in CBSAs with equal to or greater than 2,500,000 people. The third phase requires a near-road site in any CBSA

with a population equal to or greater than 500,000 people and one or more road segments with AADT counts of 250,000 or greater by January 1, 2017.

### Changes to the Regulatory NO<sub>2</sub> Monitoring Network

In compliance with the near-road requirements, eight near-road NO<sub>2</sub> monitors are required in Texas. Table 1 details the six near-road sites that have been deployed in phases one and two, with phase two sites being deployed within the time frame of this network review. Proposed locations for the phase three near-road NO<sub>2</sub> monitors in the El Paso and McAllen-Edinburg-Mission CBSAs will be provided in the TCEQ's 2016 *Annual Monitoring Network Plan*.

**Table 1: Near-Road Site List**

AQS Number	Phase	Site Name	AADT Ranking	FE-AADT Ranking	Distance to Nearest Traffic Lane* (meters)	Sampling Probe Height** (meters)
481131067	1	Dallas LBJ Freeway	15	7	24	4
482011066	1	Houston Southwest Freeway	1	1	24	4
484531068	1	Austin North Interstate 35	7	10	27	4
480291069	1	San Antonio Interstate 35	21	3	20	4
484391053	2	Fort Worth California Parkway North	36	90	15	4
482011052	2	Houston North Loop	46	46	15	4

AQS - Air Quality System

AADT - annual average daily traffic

FE-AADT - fleet equivalent AADT

\*Distance is measured using mapping software and range finder equipment.

\*\*Meteorological parameters are measured at 10 meters above the ground.

### TCEQ Site Selection Process

The TCEQ focused on complying with the directly-applicable federal requirements listed in 40 CFR Part 58, Appendix D, Section 4.3.2 by primarily prioritizing potential sites based on AADT ranking. The TCEQ considered road segment fleet equivalent AADT (FE-AADT) rankings, but did not rely solely on FE-AADT in the prioritization of potential sites since FE-AADT is not a specific siting requirement under 40 CFR Part 58, Appendix D, Section 4.3.2. The TCEQ then collectively considered logistical constraints, such as space, power availability, terrain, highway grade, and long-term risk to continued viability of site use due to planned roadway construction projects. Failure to meet the criteria for any single parameter did not necessarily preclude the segment from consideration.

The TCEQ reevaluated each roadway segment and viability in phase two. Some sites that were considered viable in the TCEQ *2014 Annual Network Monitoring Plan* were subsequently considered not viable due to construction activities, unsuccessful property owner negotiation, or road segment reclassification. Appendix D of this plan details the specific considerations for each roadway segment's viability determination. The detailed site selection process is described in the TCEQ *2014 Annual Network Monitoring Plan*.

## **Sulfur Dioxide (SO<sub>2</sub>)**

Title 40 CFR Part 58, Appendix D, Section 4.4.2, requires states to establish an SO<sub>2</sub> monitoring network based on a calculated population weighted emissions index (PWEI). This index is calculated by multiplying the population of a CBSA with the emissions inventory (EI) data for counties within that CBSA. The calculated value is then divided by one million to obtain the PWEI value. The PWEI monitoring requirements are as follows: 1) one monitor in CBSAs with a PWEI value equal to or greater than 5,000, 2) two monitors in CBSAs with a PWEI value equal to or greater than 100,000, and 3) three monitors in CBSAs with a PWEI value equal to or greater than 1,000,000. As shown in Appendix E, the TCEQ used the 2014 U.S. Census Bureau population estimates and 2011 National Emissions Inventory data with 2013 TCEQ point source EI data to calculate the PWEI and determine the minimum monitoring requirements per CBSA. The PWEI analysis described in Appendix E confirms that the TCEQ is currently meeting SO<sub>2</sub> monitoring requirements.

## **Changes to the Regulatory SO<sub>2</sub> Monitoring Network**

No additional SO<sub>2</sub> monitors are required and no changes to the existing SO<sub>2</sub> monitoring network are recommended at this time.

On April 17, 2014, the EPA proposed the Data Requirements Rule to establish emission thresholds and deployment deadlines for source-oriented monitoring and/or modeling to characterize ambient air quality impacts from larger SO<sub>2</sub> sources. The TCEQ will further evaluate the need for SO<sub>2</sub> monitors once the final Data Requirements Rule is promulgated, both in terms of monitors required under the final rule and the potential reallocation of monitors in areas where monitors are no longer required.

## **Lead**

Title 40 CFR Part 58, Appendix D, Section 3.0 requires lead monitoring as part of the NCore network. In addition, 40 CFR Part 58, Appendix D, Section 4.5 requires a minimum of one source-oriented ambient air lead monitoring site to measure maximum concentrations near each facility that emits 0.50 tons per year (tpy) and each airport that emits 1.0 tpy or more of lead based on the most recent National Emission Inventory or other scientifically justifiable methods and data. The EPA may waive this requirement if documentation is included demonstrating that lead emissions from the source do not contribute to concentrations in excess of 50 percent (%) of the NAAQS of 0.15 micrograms per cubic meter (µg/m<sup>3</sup>).

Through existing ambient air monitors and lead waivers, the TCEQ is meeting all federal lead monitoring requirements. The lead samplers at Dallas Hinton (AQS 481130069), Houston Deer Park #2 (AQS 482011039), and Ascarate Park SE (AQS 481410055)

satisfy the requirement for monitoring at NCore sites in Texas. The TCEQ also reviewed 2013 point source EI data to evaluate sources that reported lead emissions of 0.50 tpy or more. Based on this review, three sources reported greater than 0.50 tpy of lead in 2013 as detailed in Table 2. Dal Tile, located in Dallas County, notified the TCEQ on March 23, 2015, that their 2013 lead emissions had been revised to 0.2975 tpy. Based on these revised estimate emissions, lead monitoring is not required near this facility.

**Table 2: 2013 Lead Point Source Emissions Inventory Data Greater Than 0.50 Tons Per Year**

Company	County	2013 Lead Emissions (tpy)	TCEQ Comments
United States Department of the Army, Fort Hood	Bell	0.74	Lead waiver approved on December 23, 2010. Lead waiver renewal will be submitted with the TCEQ five-year assessment.
Lower Colorado River Authority	Fayette	0.59	Lead waiver approved on May 28, 2014. Lead waiver renewal will be submitted with the TCEQ five-year assessment.
Conecsus LLC	Kaufman	2.42	Lead is currently monitored at the Terrell Temtex site.

tpy – tons per year

TCEQ – Texas Commission on Environmental Quality

LLC – limited liability company

### Collocation Requirements

Title 40 CFR Part 58, Appendix A, Section 3.3.4.3 requires a primary quality assurance organization to select 15% of the lead monitoring sites within its network for collocated sampling with at least one collocated lead site measuring the highest lead concentrations in the network. Based on the current network of 13 primary and 3 collocated lead samplers, the TCEQ is required to have 2 collocated lead samplers. The TCEQ has three collocated lead samplers; two are in Collin County at the Frisco Eubanks site (AQS 480850009) and the Frisco 7 site (AQS 480850007), and the third is in El Paso at the Ojo De Agua site (AQS 481411021). According to 2014 design values, the Frisco Eubanks site has the highest design value concentration (0.31 µg/m<sup>3</sup>) in the network and continues to satisfy the requirement for collocation at the highest concentration site. The TCEQ exceeds minimum lead collocation requirements through the operation of these three collocated lead samplers, and no changes in the number or location of these collocated samplers are recommended at this time.

### Changes to the Regulatory Lead Monitoring Network

The lead samplers at Skyline Park (AQS 481410058) and Houston East (AQS 482011034) were approved for decommission in the TCEQ 2013 Annual Monitoring Network Plan response letter from EPA Region 6 dated May 28, 2014. These samplers were not located near lead sources emitting greater than 0.50 tpy, and design values have remained well below 50% of the lead NAAQS of 0.15 µg/m<sup>3</sup>. These two lead samplers were decommissioned on December 31, 2014.

In addition, the TCEQ will request renewal of lead waivers for the Lower Colorado River Authority Fayette Power Plant in Fayette County and U.S. Department of the Army, Fort

Hood in Bell County in the 2015 TCEQ *Texas Five-Year Ambient Monitoring Network Assessment* as required by 40 CFR Part 58, Appendix D, Section 4.5(a)(ii). No additional changes to the existing lead monitoring network are recommended.

### **Ozone (O<sub>3</sub>)**

Title 40 CFR Part 58, Appendix D, Section 4.1 requires O<sub>3</sub> monitoring in MSAs with populations above 350,000 people. Monitors are also required in MSAs with lower populations if measured O<sub>3</sub> values within that MSA are within 85% of the NAAQS of 0.075 parts per million. In addition, 40 CFR Part 58, Appendix D, Section 3.0 requires O<sub>3</sub> monitoring at NCore sites. Additional monitoring in O<sub>3</sub> nonattainment areas is also required as a part of the PAMS program under 40 CFR Part 58, Appendix D, Section 5.0.

Based on 2014 population estimates and design values, O<sub>3</sub> monitoring is required in 15 CBSAs across the state, as detailed in Appendix F. In addition, O<sub>3</sub> is being monitored at all three NCore sites and additional PAMS sites in the Dallas-Fort Worth and Houston-Galveston-Brazoria nonattainment areas, as detailed in Appendix A.

### **Changes to the Regulatory O<sub>3</sub> Monitoring Network**

The TCEQ determined that no additional O<sub>3</sub> monitors are required. The TCEQ will reevaluate the network once the EPA finalizes its proposed ozone rule, as PAMS requirements and ozone nonattainment areas are likely to change.

### **Carbon Monoxide (CO)**

Title 40 CFR Part 58, Appendix D, Section 3.0 and Section 5.0 require high sensitivity CO monitors at NCore sites and at one Type 2 PAMS site per O<sub>3</sub> nonattainment area. Title 40 CFR Part 58, Appendix D, Section 4.2 also requires the deployment of CO monitors at near-road sites in CBSAs of greater than 1,000,000 people.

The TCEQ meets minimum requirements through the operation of seven CO monitors and five high sensitivity CO monitors throughout the state. The total number of required and current CO monitors in each CBSA is included in Appendix G.

### **Changes to the Regulatory CO Monitoring Network**

In compliance with near-road requirements in the Dallas-Fort Worth-Arlington and Houston-The Woodlands-Sugar Land CBSAs, the TCEQ deployed CO monitors at the Fort Worth California Parkway North (AQS 484391053) and Houston North Loop (AQS 482011052) sites in early 2015. Near-road CO monitors required for deployment in 2017 will be included in the TCEQ *2016 Annual Monitoring Network Plan*.

### **Particulate Matter of 10 Micrometers or Less (PM<sub>10</sub>)**

Title 40 CFR Part 58, Appendix D, Section 4.6 specifies PM<sub>10</sub> monitoring requirements in MSAs based on population and monitored design values, if available. In addition, 40 CFR Part 58, Appendix D, Section 3.0 requires PM<sub>10</sub> monitoring at NCore sites. After evaluating PM<sub>10</sub> monitoring requirements using the 2014 U.S. Census Bureau population estimates and measured PM<sub>10</sub> concentrations, the TCEQ determined that

minimum monitoring requirements are met or exceeded for all areas with the exception of the McAllen-Edinburg-Mission MSA.

### **Changes to the Regulatory PM<sub>10</sub> Monitoring Network**

The TCEQ recommends locating the required McAllen-Edinburg-Mission PM<sub>10</sub> sampler at the new Edinburg East Freddy Gonzalez Drive (AQS 482151046) site scheduled to be completed in Summer 2015. The number of required and current PM<sub>10</sub> samplers in each MSA is included in Appendix H, Table 1.

#### *Equipment Replacement*

During 2014, the TCEQ replaced aging PM<sub>10</sub> equipment at several sites to continue to meet data completeness requirements. The aging equipment models are no longer manufactured and are difficult to maintain due to the unavailability of replacement parts and technical support. The PM<sub>10</sub> equipment at the sites listed below was replaced with federal reference method (FRM) equipment with either method code 62 or method code 141.

- Austin Webberville Rd (AQS 484530021)
- Austin Audubon Society (AQS 484530020)
- Dona Park primary and collocated quality assurance (QA) samplers (AQS 483550034)
- Karnack (AQS 482030002)
- Socorro Hueco primary and collocated QA samplers (AQS 481410057)
- Laredo Vidaurri primary and collocated QA samplers (AQS 484790016)

All method code changes have been documented in AQS. A full list of method codes for all current samplers is included in Appendix H, Table 2.

### **Collocation Requirements**

Title 40 CFR Part 58, Appendix A, Section 3.3.1, requires a primary quality assurance organization to select 15% of the PM<sub>10</sub> monitoring sites within the network for collocated sampling. The selected sites should have an annual mean particulate matter concentration among the highest 25%, if practical. Based on the current network of 27 PM<sub>10</sub> samplers (including the pending Edinburg East Freddy Gonzalez Drive location), the TCEQ is required to have four collocated PM<sub>10</sub> samplers. The TCEQ has eight PM<sub>10</sub> collocated samplers at the sites listed below.

- Laredo Vidaurri (AQS 484790016)
- Ojo De Agua (AQS 481411021)
- Socorro Hueco (AQS 481410057)
- Texas City Fire Station (AQS 481670004)
- Clinton (AQS 482011035)
- Convention Center (AQS 481130050)
- Dona Park (AQS 483550034)
- Houston Deer Park #2 (AQS 482011039)

According to 2013 monitoring data, the Clinton (AQS 482011035), Socorro Hueco (AQS 481410057), Convention Center (AQS 481130050), and Laredo Vidaurri (484790016)

sites had annual mean concentrations among the highest 25% in the network and satisfied this collocation requirement. According to 2014 monitoring data, the Clinton (AQS 482011035), Socorro Hueco (AQS 481410057), and Convention Center (AQS 481130050) sites continue to have annual mean concentrations among the highest 25% in the network. The TCEQ will continue to evaluate the data to determine network efficacy for the collocated PM<sub>10</sub> samplers.

Additionally, the PM<sub>10</sub> collocated monitoring at Houston Deer Park #2 (AQS 482011039) supports collocation requirements for the NATTS program. Appendix H, Table 2 summarizes PM<sub>10</sub> collocation monitoring requirements. The TCEQ exceeds minimum PM<sub>10</sub> collocation requirements through the operation of these eight sites, and no changes in the number or location of these collocated samplers are recommended at this time.

The TCEQ recommended decommissioning the collocated PM<sub>10</sub> sampler at the Stage Coach (AQS 484393010) site in the TCEQ *2013 Annual Monitoring Network Plan*. The EPA approved this decommission in the response letter dated May 28, 2014. This sampler was decommissioned on September 30, 2014, with the end date updated in AQS.

### **Particulate Matter of 2.5 Micrometers or Less (PM<sub>2.5</sub>)**

Title 40 CFR Part 58, Appendix D, Section 4.7 requires PM<sub>2.5</sub> monitoring in MSAs with populations greater than 500,000 people and in MSAs with lower populations if measured PM<sub>2.5</sub> design values for an MSA are within 85% of the NAAQS of 12 µg/m<sup>3</sup>. Title 40 CFR Part 58.10 (8)(i) requires a minimum of one PM<sub>2.5</sub> sampler in each CBSA with a population equal to or greater than 2,500,000 people to be located at a near-road NO<sub>2</sub> monitoring station by January 1, 2015. In addition, 40 CFR Part 58, Appendix D, Section 3.0 requires PM<sub>2.5</sub> monitoring at NCore sites.

After evaluating PM<sub>2.5</sub> monitoring requirements using the 2014 U.S. Census Bureau population estimates and measured PM<sub>2.5</sub> concentrations, the TCEQ determined that minimum monitoring requirements are met or exceeded for all areas with the exception of the McAllen-Edinburg-Mission MSA and the Brownsville-Harlingen MSA. To meet these PM<sub>2.5</sub> monitoring requirements, the TCEQ plans to add a PM<sub>2.5</sub> FRM gravimetric sampler, with method code 145, at the Brownsville (AQS 480610006) site in the Brownsville-Harlingen MSA and at the new Edinburg East Freddy Gonzalez Drive (AQS 482151046) site in the McAllen-Edinburg-Mission MSA by Summer 2015. The TCEQ's assessment of PM<sub>2.5</sub> monitoring requirements and current samplers is included in Appendix I, Table 1.

### **Sampling Frequency**

At the EPA's request in the TCEQ *2014 Annual Monitoring Network Plan* response letter from EPA Region 6 dated January 14, 2015, the TCEQ will continue to operate the following PM<sub>2.5</sub> FRM gravimetric samplers on a one in three day schedule.

- Brownsville (AQS 480610006)
- Edinburg East Freddy Gonzalez Drive (AQS 482151046)
- Mission (AQS 482150043)

- Haws Athletic Center (AQS 484391006)
- Fort Worth California Parkway North (AQS 484391053)
- Houston North Loop (AQS 482011052)

### **Changes to the Regulatory PM<sub>2.5</sub> Monitoring Network**

Since July 1, 2014, the TCEQ has deployed two PM<sub>2.5</sub> FRM samplers and will deploy two more PM<sub>2.5</sub> FRM samplers to comply with federal monitoring requirements. The TCEQ deployed PM<sub>2.5</sub> FRM gravimetric samplers, operated on a one in three day schedule, at the Fort Worth California Parkway North (AQS 484391053) and the Houston North Loop (AQS 482011052) sites to meet the near-road requirement for Dallas-Fort Worth-Arlington and Houston-The Woodlands-Sugar Land MSAs.

Based on 2011-2013 design values, the TCEQ plans to add two PM<sub>2.5</sub> FRM gravimetric samplers to the existing network with method code 145 at the Brownsville (AQS 480610006) site in the Brownsville-Harlingen MSA and at the new Edinburg East Freddy Gonzalez Drive (AQS 482151046) site in the McAllen-Edinburg-Mission MSA by Summer 2015.

In January 2014, the PM<sub>2.5</sub> FRM gravimetric sampler at the Texarkana (AQS 480370004) site began sampling on a one in three day schedule to meet sampling frequency requirements. As discussed in the TCEQ *2014 Annual Monitoring Network Plan*, the TCEQ will continue PM<sub>2.5</sub> FRM gravimetric sampling on a one in three day schedule due to logistical limitations at the Texarkana (AQS 480370004) site that prevented the collocation of a continuous PM<sub>2.5</sub> monitor as required by 40 CFR Part 58, Appendix D, Section 4.7.2. Because the current PM<sub>2.5</sub> FRM gravimetric sampler is located on a roof, there is no space for the addition of the continuous monitor. The TCEQ is evaluating relocation sites within one mile of the current Texarkana (AQS 480370004) site that would accommodate both an FRM sampler and continuous monitor.

The TCEQ redesignated the PM<sub>2.5</sub> monitor associated with the Met One BAM-1020 PM Coarse system (method code 170) at the Houston Deer Park #2 site (AQS 482011039) as the secondary monitor and updated AQS in 2014.

### **Collocation Requirements**

As described above, the TCEQ will deploy four new PM<sub>2.5</sub> FRM gravimetric samplers, with method code 145, in 2015 at the Fort Worth California Parkway North (AQS 484391053), Houston North Loop (AQS 482011052), Edinburg East Freddy Gonzalez Drive (AQS 482151046), and Brownsville (AQS 480610006) sites. With the addition of these samplers, the TCEQ PM<sub>2.5</sub> FRM gravimetric network will increase to a total of 25 sites; therefore, a minimum of four collocated sites are needed to meet 40 CFR Part 58, Appendix A, Section 3.2.5 requirements. Appendix I, Table 2 shows the location and collection method codes for the PM<sub>2.5</sub> monitors in the TCEQ network. Notation is added to the sites with collocated pairs. The TCEQ recommends the addition of a collocated PM<sub>2.5</sub> FRM gravimetric sampler to the El Paso Chamizal (AQS 481410044) site. This site was chosen due to the lack of a collocated PM<sub>2.5</sub> sampler in the El Paso area. The El Paso

Chamizal (AQS 481410044) site also has an annual design value of 11.2 µg/m<sup>3</sup>, which is greater than 90% of the NAAQS.

### Volatile Organic Compounds (VOCs)

Title 40 CFR Part 58, Appendix D, Table D-6 requires speciated VOC monitoring at two sites per O<sub>3</sub> nonattainment area. Texas monitors ambient air VOC concentrations in two ways: discrete canister sampling and near-real-time automated gas chromatograph (autoGC) monitoring. The TCEQ has eight autoGCs and six canister samplers in the PAMS network that fulfill this requirement and an additional four canister samplers above minimum requirements to support the NATTS and special purpose monitoring. The canister samplers and autoGC monitors are listed in Table 3. No changes are recommended for the autoGC and canister networks.

**Table 3: Canister and AutoGC Site List**

AQS Number	TCEQ Region	Site Name	Sampler Type	AQS Network & Monitor Type
481130069	04-Dallas/Fort Worth	Dallas Hinton	Canister	PAMS
481130069	04-Dallas/Fort Worth	Dallas Hinton	AutoGC	PAMS
481210034	04-Dallas/Fort Worth	Denton Airport South	Canister	PAMS
481391044	04-Dallas/Fort Worth	Italy	Canister	PAMS
482511008	04-Dallas/Fort Worth	Johnson County Luisa	Canister	SPM
484391002	04-Dallas/Fort Worth	Fort Worth Northwest	Canister	PAMS
484391002	04-Dallas/Fort Worth	Fort Worth Northwest	AutoGC	PAMS
484393009	04-Dallas/Fort Worth	Grapevine Fairway	Canister	PAMS
482030002	05-Tyler	Karnack	Canister	SPM
481410044	06-El Paso	El Paso Chamizal	AutoGC	PAMS
482450009	10-Beaumont	Beaumont Downtown	AutoGC	PAMS
482451035	10-Beaumont	Nederland High School	AutoGC	PAMS
482010026	12-Houston	Channelview	AutoGC	PAMS
482011035	12-Houston	Clinton	AutoGC	PAMS
482011039	12-Houston	Houston Deer Park #2	Canister	NATTS/PAMS
482011039	12-Houston	Houston Deer Park #2	Canister	NATTS, QA Collocated
482011039	12-Houston	Houston Deer Park #2	AutoGC	PAMS
484790017	16-Laredo	Laredo Bridge	Canister	SPM

AQS – Air Quality System

AutoGC – automated gas chromatograph

PAMS – Photochemical Assessment Monitoring Stations

NATTS – National Air Toxics Trends Stations

SPM – special purpose monitor

QA – quality assurance

## Carbonyls

The TCEQ collects carbonyl samples in accordance with 40 CFR Part 58, Appendix D, Table D-6 in each O<sub>3</sub> nonattainment area. The TCEQ meets this requirement at the Dallas Hinton (AQS 481130069), Fort Worth Northwest (AQS 484391002), Ascarate Park SE (AQS 481410055), Clinton (AQS 482011035), and Houston Deer Park #2 (AQS 482011039) sites. In addition, the TCEQ has a carbonyl sampler at the Karnack (AQS 482030002) site in support of the NATTS program. No changes are recommended for the carbonyl network.

## Meteorology

Title 40 CFR Part 58, Appendix D, Table D-6 requires surface meteorology at all PAMS sites and upper air meteorology at one site per PAMS area. The TCEQ collects surface meteorology data at all PAMS sites and most network sites. Surface meteorology includes wind speed, wind direction, and outdoor temperature. The TCEQ operates radar profilers to fulfill the PAMS upper air meteorology requirements. Surface meteorology and upper air meteorology are included in the Appendix A site list. No changes are recommended for the meteorology network.

## Status of Previously Recommended Changes

- Reactive Oxides of Nitrogen (NO<sub>y</sub>) Decommission – The TCEQ recommended decommissioning the SETRPC 40 Sabine Pass (AQS 482450101) NO<sub>y</sub> monitor in the TCEQ *2014 Annual Monitoring Network Plan*. The Beaumont-Port Arthur area was redesignated as a maintenance area for the 1997 eight-hour ozone standard on October 20, 2010. As a result, this monitor is beyond minimum PAMS requirements and is no longer needed. The EPA approved this decommission in a letter dated January 29, 2015. This NO<sub>y</sub> monitor was decommissioned on December 31, 2014. This date has been updated in AQS.
- Lead Sampler Decommissions – The TCEQ recommended decommissioning the Skyline Park (AQS 481410058) and Houston East (AQS 482011034) lead samplers in the TCEQ *2013 Annual Monitoring Network Plan*. This was approved in the response letter from EPA Region 6 dated May 28, 2014. These lead samplers were decommissioned on December 31, 2014. This date has been updated in AQS.
- CO Monitor Decommissions – The TCEQ recommended decommissioning CO monitors operated beyond minimum requirements at the nine sites listed below in the TCEQ *2013 Annual Monitoring Network Plan*. Each monitor had maintained design values well below the 1-hour and 8-hour CO NAAQS. This proposal was approved in the response letter from EPA Region 6 dated May 28, 2014. Once deactivated, the end date for each monitor was added to AQS as detailed below.
  - El Paso UTEP (AQS 481410037) deactivated December 31, 2014
  - Skyline Park (AQS 481410058) deactivated December 31, 2014
  - Houston Aldine (AQS 482010024) deactivated June 30, 2014
  - Lang (AQS 482010047) deactivated December 31, 2014
  - Houston Texas Avenue (AQS 482010075) deactivated December 31, 2014
  - Park Place (AQS 482010416) deactivated December 31, 2014

- Fort Worth Northwest (AQS 484391002) deactivated October 31, 2014
  - Arlington Municipal Airport (AQS 484393011) deactivated June 30, 2014
  - Austin Northwest (AQS 484530014) deactivated June 30, 2014
- Speciated PM<sub>2.5</sub> Sampler Decommission – The TCEQ recommended decommissioning the PM<sub>2.5</sub> speciation monitoring at the Convention Center (AQS 481130050) site in the TCEQ *2014 Annual Monitoring Network Plan* because the Dallas Hinton NCore site is located within five miles of this site and provides similar speciation data. The EPA approved this network change in the TCEQ *2014 Annual Monitoring Network Plan* response letter from EPA Region 6 dated January 14, 2015. The PM<sub>2.5</sub> speciation monitoring at the Convention Center (AQS 481130050) site was decommissioned and updated in AQS on December 31, 2014. The TCEQ will continue PM<sub>2.5</sub> FRM gravimetric sampling at this site on a one in three day schedule.
  - Carbonyl Sampler Redesignation – Title 40 CFR Part 58, Appendix D, Table D-6 requires one carbonyl sampler at a PAMS Type 2 site per O<sub>3</sub> nonattainment area. The TCEQ meets this requirement for the Dallas-Fort Worth nonattainment area through the operation of the carbonyl sampler at the Dallas Hinton (AQS 481130069) site. As a result, the TCEQ recommended redesignating the Fort Worth Northwest (AQS 484391002) carbonyl sampler from PAMS to special purpose monitor (SPM) in the TCEQ *2014 Annual Monitoring Network Plan* because it was beyond minimum requirements. The EPA approved this redesignation in a letter dated January 29, 2015. The TCEQ updated the network designation to SPM in AQS with a start date of January 1, 2015.
  - Carbonyl Sampler Redesignation – Title 40 CFR Part 58, Appendix D, Table D-6 requires one carbonyl sampler at a PAMS Type 2 site per O<sub>3</sub> nonattainment area. Since the El Paso area was redesignated as a maintenance area for the 1997 eight-hour O<sub>3</sub> standard on March 16, 2009, the TCEQ recommended redesignating the Ascarate Park SE (AQS 481410055) carbonyl sampler from PAMS to SPM in the TCEQ *2014 Annual Monitoring Network Plan*. The EPA concurred with this redesignation in an approval letter dated January 29, 2015. The TCEQ updated the network designation to SPM for the carbonyl sampler and updated AQS with a start date of January 1, 2015.
  - Radar Profiler Redesignation – Title 40 CFR Part 58, Appendix D, Table D-6 requires one upper air meteorology monitor at one representative location within each PAMS area. Since the El Paso area was redesignated as a maintenance area for the 1997 eight-hour O<sub>3</sub> standard on March 16, 2009, the TCEQ recommended redesignating the El Paso UTEP (AQS 481410037) radar profiler monitor from PAMS to SPM in the TCEQ *2014 Annual Monitoring Network Plan*. The EPA concurred with this redesignation in an approval letter dated January 29, 2015. The TCEQ updated the network designation to SPM for the radar profiler and updated AQS with a start date of January 1, 2015.
  - Dew Point Monitor Redesignation – The TCEQ recommended redesignating all dew point monitors in the TCEQ network as SPM in the TCEQ *2013 Annual Monitoring*

*Network Plan.* These monitors were previously used to meet humidity reporting requirements for the PAMS network, but are now beyond minimum requirements. The TCEQ reports data measured by relative humidity sensors to meet this PAMS requirement. This redesignation was approved by the EPA in the TCEQ *2013 Annual Monitoring Network Plan* response letter dated May 28, 2014. The TCEQ updated the network designation to SPM for the dew point monitors and updated AQS with a start date of July 1, 2014.

## ***Conclusion***

After consideration of the federal regulations, 2014 U.S. Census Bureau population data, and 2014 design values, the TCEQ will meet or exceed all monitoring requirements with the above mentioned recommendations for the next calendar year. This network plan focuses on the current network and changes within this network from July 1, 2014, through December 31, 2016. A more in-depth review of the Texas monitoring network can be found in the *Texas Five-Year Ambient Monitoring Network Assessment*.

## ***Instructions for Comments***

Send comments pertaining to this document to the following contact:

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