

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AGENDA ITEM REQUEST

for Approval of the 2012 PM_{2.5} NAAQS Area Designation Recommendation
to the Governor

AGENDA REQUESTED: October 23, 2013

DATE OF REQUEST: October 4, 2013

**INDIVIDUAL TO CONTACT REGARDING CHANGES TO THIS
REQUEST, IF NEEDED:** Joyce Spencer-Nelson, (512) 239-5017

CAPTION: Docket No. 2013-1391-MIS. Consideration of the adoption of the designation recommendation for the 2012 primary annual fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS) for submittal to the governor for his consideration and transmittal to the United States Environmental Protection Agency (EPA). The EPA will consider the state recommendation in making final 2012 PM_{2.5} NAAQS designations and area boundary determinations.

The EPA revised the primary annual PM_{2.5} NAAQS on December 14, 2012 strengthening the standard from 15.0 micrograms per cubic meter (µg/m³) to 12.0 µg/m³. The EPA recommends that states identify violating areas using the most recent three years of certified air quality data (2010 through 2012) and submit a recommendation to the EPA no later than December 13, 2013. Staff recommends that all counties in the State of Texas with PM_{2.5} monitors meeting the revised NAAQS be designated attainment with all other counties of the state designated as unclassifiable/attainment. (Kristin Jacobsen, Alexis Lorick)

Steve Hagle, P.E.

Deputy Director

Kim Herndon for David Brymer

Division Director

Joyce Spencer-Nelson

Agenda Coordinator

Copy to CCC Secretary? NO X YES

Texas Commission on Environmental Quality

Interoffice Memorandum

To: Commissioners **Date:** October 4, 2013

Thru: Bridget C. Bohac, Chief Clerk
Zak Covar, Executive Director

From: Steve Hagle, P.E., Deputy Director
Office of Air

Docket No.: 2013-1391-MIS

Subject: Commission Approval for 2012 Primary Annual Fine Particulate Matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS) Designation Recommendation

2012 PM_{2.5} NAAQS Designation Recommendation

Background and reason(s) for the recommendation package:

On December 14, 2012, the United States Environmental Protection Agency (EPA) promulgated a revised primary annual NAAQS for PM_{2.5} of 12.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Section 107(d) of the Federal Clean Air Act (FCAA) requires state designation recommendations to the EPA within one year of NAAQS promulgation. By December 13, 2013, the governor of each state must recommend area designations under the 2012 primary annual PM_{2.5} standard for all areas of the state.

The final PM_{2.5} NAAQS rule conveys the EPA's intent for state recommendations to be based on 2010 through 2012 monitored data (78 FR 3250). Certified 2010 through 2012 monitoring data indicate that all monitors in the state meet the revised standard, with the exception of the Clinton Drive monitor in Harris County (EPA Site Number 482011035). A violation of the 2012 primary annual PM_{2.5} standard is an annual average monitored value greater than 12.0 $\mu\text{g}/\text{m}^3$ averaged over a rolling three-year period. The design value for the Clinton Drive monitor for 2010 through 2012 is 12.1 $\mu\text{g}/\text{m}^3$. However, this design value would meet the 2012 NAAQS if not for the inclusion of data from days during the 2010 through 2012 time period, which staff believes meet the qualifications for exclusion under the EPA's exceptional events rule.

The exceptional events rule allows for data to be flagged and, where appropriate, excluded from calculations used to determine an area's design value. Data flagged as "exceptional" must have been affected by an exceptional event. Exceptional events are unusual or naturally occurring events that affect air quality and are not reasonably controllable or preventable. An event may also be caused by human activity that is unlikely to recur at a particular location. Exceptional events require concurrence from the EPA. The EPA stated its intent to review exceptional events for full consideration in final designations in its guidance memo entitled *Initial Area Designations for the 2012 Revised Primary Annual Fine Particle National Ambient Air Quality Standards (April 16, 2013)*. TCEQ staff has reviewed data from the Clinton Drive monitor and flagged a total of seven days during the

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2010 through 2012 time period as exceptional events.¹ These flagged days include three African dust events in 2010, one Mexican/Central American smoke event in 2011 and three African dust events in 2012. A state that flagged data as being caused by an exceptional event, and also requests exclusion of the affected data, must submit a demonstration to the EPA to justify exclusion of the requested data. The final exceptional event demonstration package for the 2010 flags was submitted to the EPA on July 11, 2013. Exceptional event demonstration packages for the 2011 and 2012 flags will be submitted to the EPA prior to the submittal of the designation recommendation package.

With exceptional event concurrence from the EPA, the 2010 through 2012 design value for the Clinton Drive monitor meets the 2012 PM_{2.5} NAAQS, along with all other monitors in the State of Texas. This package serves as a recommendation to the governor that all counties in Texas with applicable PM_{2.5} monitor data be designated attainment, and all other counties be designated as unclassifiable/attainment, for the 2012 primary annual PM_{2.5} NAAQS.

Scope of the Recommendation Package:

The recommendation from the commission, along with supporting documentation, will be provided to the governor with information sufficient to recommend designations for all counties in Texas to the EPA.

A.) Summary of what the recommendation will do:

The TCEQ's recommendation to the governor is that all counties in Texas with applicable PM_{2.5} monitor data be designated attainment and all other counties be designated as unclassifiable/attainment for the 2012 primary annual PM_{2.5} NAAQS. The following attachments are provided in support of the TCEQ's recommendation:

- Attachment A: 2010 through 2012 Primary Annual PM_{2.5} Design Values for the State of Texas
- Attachment B: Exceptional Event Demonstrations for the Houston Clinton Drive Monitoring Site
- Attachment C: Houston PM_{2.5} Trends and Sources

B.) Scope required by federal regulations or state statutes:

Section 107(d) of the FCAA requires states to submit recommendations for initial area designations to the EPA not later than one year after the promulgation of a new or revised standard. If after consideration of the recommendations, the EPA intends to promulgate a designation that deviates from the state recommendation, the EPA must notify the state no later than 120 days prior to finalizing the modified designation and provide the state an opportunity to comment on the potential modification. The FCAA requires the EPA to complete the designation process within two years of the effective date of the standard unless the EPA finds that additional information is needed to make these decisions, with

¹ During 2010, TCEQ staff flagged June 9 and 10, and July 13th. During 2011, staff flagged May 20. During 2012, staff flagged July 2, 27, and 28th.

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an option for a one-year extension if the EPA has insufficient information to promulgate designations.

The EPA expects that state designation recommendations for nonattainment areas will be based on 2010 through 2012 certified monitoring data. Prior to the EPA's final designations by December 12, 2014, data from 2013 is required to be submitted and certified by the submitting agency. If available, the EPA's designations decisions will be based on certified air quality data from the years 2011 through 2013. States and tribes may update their recommendations when 2013 data becomes available (78 FR 3251).

These designation recommendations will be based only on data from existing federal reference method (FRM) monitors. The 2012 PM_{2.5} standard includes the addition of a near-road component to the PM_{2.5} monitoring network. The EPA requires near-roadway monitoring of PM_{2.5} at one location within each core based statistical area (CBSA) with a population of one million persons or greater. This requirement would result in the relocation of existing monitors, or the need for new monitors, to be collocated with near-road measurements of nitrogen dioxide (NO₂). A minimum of one near-road PM_{2.5} monitor in each CBSA with a population greater than or equal to 2.5 million must be operational by January 1, 2015. Near-road monitors in remaining CBSAs with populations greater than one million, but less than 2.5 million, must be operational by January 1, 2017. The timing for these monitoring changes would preclude the use of the collected data in initial area designations, and therefore, initial area designations would not take into account monitoring data from any newly established near-road monitoring sites.

C.) Additional staff recommendations that are not required by federal rule or state statute: None

Statutory authority:

The authority to propose and adopt the implementation plan and similar documents is derived from Texas Health and Safety Code, Texas Clean Air Act (TCAA), §382.002, which provides that the policy and purpose of the TCAA is to safeguard the state's air resources from pollution; TCAA, §382.011, which authorizes the commission to control the quality of the state's air; and §382.012, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air.

Effect on the:

A.) Regulated community: There is no known impact at this time. Certain industries would potentially be affected if they are located in an area that is designated nonattainment by the EPA. The complete impact of compliance with the 2012 PM_{2.5} standard is unknown until implementation guidance is available. The EPA is expected to issue the proposed implementation rule in December 2013 and the final implementation rule in December 2014.

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B.) Public: This recommendation has no immediate effect on the public.

C.) Agency programs: No initial impact is expected for the TCEQ with the recommendation that all counties of the state should be designated as attainment or attainment/unclassifiable for the 2012 PM_{2.5} NAAQS. Any final nonattainment designations made by the EPA would require the TCEQ to develop revisions to the state implementation plan (SIP) for all affected Texas counties for which additional staff time and resources would be needed.

Informational meetings:

Informational meetings were held in Houston on July 22, 2013 and in El Paso on September 17, 2013 to inform the public about the revised standard, provide both statewide and local monitoring data, and describe the designations process. No changes were made to the recommendation based on the discussions during the informational meetings. Attendees present at the meetings included representatives from the EPA, local governments, regional planning organizations, other state agencies, health organizations, various industries, and consultants.

Public comment:

The TCEQ did not solicit formal comments as the designation recommendation is not a SIP action and no rules are involved.

Potential controversial concerns and legislative interest:

Although no counties in Texas are currently designated nonattainment or in maintenance status for the primary annual PM_{2.5} standard, certified 2010 through 2012 monitoring data indicates a design value of 12.1 µg/m³ at the Clinton Drive monitor in Harris County. While this design value is above the revised PM_{2.5} NAAQS, concurrence from the EPA regarding exceptional events flagged by the TCEQ would result in a design value that meets the requirements for attainment under the revised standard (see Attachment B). Concurrence from the EPA must be obtained for one of the following five combinations of exceptional event days in order for the Clinton Drive monitor to attain the NAAQS:

- all seven days;
- all four days from 2010 through 2011;
- all four days from 2011 through 2012;
- the four highest days, or;
- all six African dust events, which are all the dates flagged in both 2010 and 2012.

The process to obtain EPA concurrence typically takes a substantial amount of time and, historically, EPA Region 6 has been reluctant to approve exceptional event days even when satellite and monitoring data support the identification of obvious impacts from African dust.

If the EPA instead proposes a nonattainment designation for the Houston area based on the Clinton Drive monitor design value, staff may need to quickly develop recommended

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nonattainment area boundaries for submittal to the EPA. The Clinton Drive monitor's location near various sources of dust gives it a unique PM_{2.5} source contribution, which may limit the available sources for effective control to those in relatively close proximity to the monitor. Residents or industries with operations in Harris County may be unsatisfied with a commission or state recommendation of nonattainment for the entirety of Harris County. Conversely, some entities or individuals may desire all of Harris County (or potentially an even greater area) to be designated nonattainment based on data from the Clinton Drive monitor.

In addition to concerns related to the Clinton Drive monitor in Harris County, there is potential for the Chamizal monitor located in El Paso County (EPA Site Number 481410044) to violate the 2012 NAAQS based on 2013 monitoring data. Certified 2010 through 2012 monitoring data indicate a design value of 10.7 µg/m³, but the 2013 annual PM_{2.5} average must be 12.25 µg/m³ or less to show compliance with the 2012 NAAQS. To date, 2013 monitoring data has included several dust storm days with high PM_{2.5} that could result in an annual average greater than 12.25 µg/m³.² As a result, there is potential for the 2011 through 2013 design value at the Chamizal monitor to exceed the revised NAAQS, and concurrence from the EPA regarding exceptional event days may be required in order to achieve an attainment designation. The TCEQ is currently preparing an exceptional events demonstration package for dust storm events that occurred in El Paso County during 2010, 2011, and 2012. The final demonstration package will be submitted to the EPA by December 12, 2013. However, the specific impact that exceptional event concurrence would have on the Chamizal monitor's 2011 through 2013 design value cannot be determined until 2013 monitoring data is finalized.

Finally, although initial area designations will be based only on data from existing FRM monitors, potential issues may arise with future designations related to the near-road monitoring requirements of the 2012 PM_{2.5} NAAQS and the subsequent potential for developing near-road nonattainment boundaries and controls for localized roadway emissions sources. Guidance is not currently available on how to approach implementation issues that could arise if relevant regulatory nonattainment requirements are triggered by near-roadway monitors.

Does this recommendation affect any current policies or require development of new policies?

No

What are the consequences if this recommendation does not go forward? Are there alternatives to the recommendation?

Not submitting a recommendation to the governor would leave the governor's office with insufficient information on which to base a recommendation to the EPA. Not submitting a

² TCEQ staff has tentatively proposed a total of seven exceptional event flags for the Chamizal monitor for the first two quarters of 2013 based on preliminary 2013 monitoring data.

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recommendation to the EPA would remove Texas' opportunity to provide input on the EPA's proposed designations.

Schedule and Constraints:

July 22, 2013:	Houston Public Informational Meeting
September 17, 2013:	El Paso Public Informational Meeting
October 23, 2013:	Commissioners' Agenda
November 1, 2013:	Recommendation to governor's office
December 13, 2013:	Recommendation due to the EPA
August 14, 2014:	EPA sends 120-day letter for designations
December 12, 2014:	Final PM _{2.5} area designations to be issued by the EPA

Agency contacts:

Kristin Jacobsen, Project Manager, 239-4907, Air Quality Division
Alexis Lorick, Staff Attorney, 239-0649

Attachments

Attachment A: 2010 through 2012 Primary Annual PM_{2.5} Design Values for the State of Texas

Attachment B: Exceptional Event Demonstrations for the Houston Clinton Drive Monitoring Site

Attachment C: Houston PM_{2.5} Trends and Sources

cc: Chief Clerk, 2 copies
Executive Director's Office
Anne Idsal
Curtis Seaton
Tucker Royall
Office of General Counsel
Kristin Jacobsen
Joyce Spencer-Nelson

The Honorable Rick Perry
Governor of Texas
State Capitol
P. O. Box 12428
Austin, TX 78711-2428

Dear Governor Perry:

The United States Environmental Protection Agency (EPA) revised the primary annual National Ambient Air Quality Standard (NAAQS) for fine particulate matter (PM_{2.5}) to 12.0 micrograms per cubic meter (µg/m³) on December 14, 2012. Section 107(d) of the Federal Clean Air Act requires the governor of each state to submit to the EPA a list of all areas with a designation recommendation of attainment, nonattainment, or unclassifiable, within one year of promulgation of a new or revised NAAQS. The Texas Commission on Environmental Quality (TCEQ) recommends that all counties in Texas with applicable PM_{2.5} monitoring data be designated attainment and all other counties be designated as unclassifiable/attainment. This recommendation is based on the three most recent years of quality-assured air data from the current federal reference monitoring network for the years 2010 through 2012, the demonstration of exceptional event days for exclusion, and historical PM_{2.5} monitoring trends (see Attachments A, B, and C).

Enclosed are a cover letter, resolution, and attachments containing the designation recommendation for your signature and submittal to the EPA by the December 13, 2013 deadline.

If I can be of any assistance, please contact me at 512-239-5510.

Sincerely,

Bryan W. Shaw, Ph.D
Chairman

Enclosures

cc: Mr. Nathaniel R. Hickman, Office of Budget, Planning and Policy, Office of the Governor
Mr. Zak Covar, Executive Director, TCEQ

Mr. Ron Curry
Regional Administrator
United States Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Dear Administrator Curry:

Pursuant to the requirements in Section 107(d) of the Federal Clean Air Act, enclosed is the recommendation for designation of areas in Texas with regard to the 2012 primary annual fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS) of 12.0 micrograms per cubic meter (µg/m³).

The Texas Commission on Environmental Quality (TCEQ) recommends that all counties in Texas with applicable PM_{2.5} monitoring data be designated attainment and all other counties be designated as unclassifiable/attainment. This recommendation is based on the three most recent years of quality-assured air data from the current federal reference monitoring network for the years 2010 through 2012, the demonstration of exceptional event days for exclusion, and historical PM_{2.5} monitoring trends (see Attachments A, B, and C).

Enclosed is a resolution with supporting data containing the 2012 primary annual PM_{2.5} NAAQS designation recommendation for the State of Texas.

If you have any questions or need additional information, please feel free to contact the TCEQ Chairman, Bryan W. Shaw, Ph.D., at 512-239-5510.

Sincerely,

Rick Perry
Governor

Enclosures

cc: Bryan W. Shaw, Ph.D., Chairman, TCEQ

ATTACHMENT A

2010 THROUGH 2012 PRIMARY ANNUAL PM_{2.5} DESIGN VALUES FOR THE STATE OF TEXAS

The Texas Commission on Environmental Quality (TCEQ) has calculated the primary annual fine particulate matter (PM_{2.5}) design values for Texas counties, as presented in the table below, in support of the State's designation recommendation for the 2012 primary annual PM_{2.5} National Ambient Air Quality Standard (NAAQS). The design values were calculated with certified 2010 through 2012 data, excluding data from the Clinton Drive monitor in Harris County that were influenced by exceptional events. The TCEQ has submitted exceptional events demonstrations to the United States Environmental Protection Agency (EPA) for 2010, 2011, and 2012 for the Houston Clinton Drive monitor in accordance with the deadlines established in the 2012 PM_{2.5} NAAQS final rule. See *Attachment B: Exceptional Event Demonstrations for the Houston Clinton Drive Monitoring Site* for further information regarding the TCEQ's exceptional event demonstration submittals.

Design Values by County for Primary Annual PM_{2.5}

County	2010-2012 Design Value ($\mu\text{g}/\text{m}^3$)
Travis	10.2
Nueces	10.4
Dallas	10.8
Ellis	10.0
Tarrant	10.7
El Paso	10.8
Harris	12.0
Hidalgo	10.3
Bexar	9.0
Bowie	11.1
Harrison	10.9

Source: The EPA Air Quality System database (<http://www.epa.gov/ttn/airs/airsaqs>)

ATTACHMENT B

EXCEPTIONAL EVENT DEMONSTRATIONS FOR THE HOUSTON CLINTON DRIVE MONITORING SITE

INTRODUCTION

Exceptional events are unusual or naturally occurring events that affect air quality and are not reasonably controllable or preventable. An event may also be caused by human activity that is unlikely to recur at a particular location. Under Federal Clean Air Act (FCAA), §319, states are responsible for both identifying air quality monitoring data affected by an exceptional event and requesting that the United States Environmental Protection Agency (EPA) exclude the data from consideration when determining whether an area is in attainment or nonattainment of a National Ambient Air Quality Standard (NAAQS). The EPA has promulgated an exceptional events rule, 40 Code of Federal Regulations (CFR) §50.14, and guidance to implement the requirements of the FCAA regarding exceptional events. States are required to identify air quality monitoring data potentially affected by exceptional events by “flagging” the air quality monitoring data submitted into the EPA air quality system (AQS) database. A state that flagged data as being caused by an exceptional event, and also requests exclusion of the affected data, must submit a demonstration to the EPA to justify exclusion of the requested data. If the EPA concurs with the submitted demonstration, the flagged data will not be eligible for consideration when making attainment or nonattainment determinations.

The EPA indicated its intent to review exceptional events for full consideration in final designations for the 2012 fine particulate matter (PM_{2.5}) NAAQS in its guidance memo entitled *Initial Area Designations for the 2012 Revised Primary Annual Fine Particle National Ambient Air Quality Standards* (April 16, 2013).

EXCEPTIONAL EVENTS DEMONSTRATION SUBMITTALS

The Texas Commission on Environmental Quality (TCEQ) proposed exceptional event flags for PM_{2.5} data collected at the Clinton Drive monitor in Harris County (EPA Site Number 482011035) for 2010, 2011 and 2012 for the following dates:

- June 9, June 10, and July 13, 2010 (African Dust Events)
- May 20, 2011 (Mexican/Central American Smoke Event)
- July 2, July 27, and July 28, 2012 (African Dust Events)

The TCEQ submitted exceptional event demonstration packages for 2010, 2011, and 2012 to provide detailed evidence to support concurrence by the EPA for the PM_{2.5} exceptional event flags as listed above.

SUMMARY OF APPROACH

The TCEQ used several methods for developing demonstrations that, giving consideration to all required factors, on balance indicate that the high PM_{2.5} measurements in question qualify as exceptional events. The TCEQ identified five different factors that could provide meaningful evidence for evaluation of whether the flagged air monitoring data qualify for exclusion as being influenced by exceptional events. PM_{2.5} concentrations from three Houston Federal Reference

Method (FRM) monitors were evaluated for a period of over 10 years to adequately establish historical trends in the data. In addition, the TCEQ evaluated PM_{2.5} speciation data from these monitors to identify African dust and Mexican/Central American smoke contributions. Satellite imagery from the National Aeronautic and Space Administration and National Oceanic and Atmospheric Administration was used to track the movement of African dust and Mexican/Central American smoke and corroborated with aerosol modeling. Finally, the TCEQ analyzed Houston area PM_{2.5} data to estimate contribution from long-range transport (incoming background levels) and contribution from local sources during the events as well as for the non-event baseline incoming background levels for use in the “but for” analyses. The “but for” analyses are used to demonstrate that there would have been no exceedance or violation of the NAAQS but for the exceptional event.

SUMMARY OF FINDINGS

The information provided in the TCEQ’s exceptional event demonstration packages supports the conclusion that the high PM_{2.5} measurements at the Clinton Drive monitor in Houston, on the seven dates flagged during 2010, 2011, and 2012 qualify as exceptional events. The measured PM_{2.5} concentrations on the six flagged dates in 2010 and 2012 were not reasonably preventable, were clearly due to African dust events, were in excess of normal historical fluctuations, and would not have occurred but for the African dust events. The measured PM_{2.5} concentrations on the flagged date of May 20, 2011 were not reasonably controllable or preventable, were clearly due to a Mexican/Central American smoke event, were in excess of normal historical fluctuations, and would not have occurred but for the smoke event. The TCEQ requests the EPA’s concurrence on these exceptional events and to have these days removed from consideration when making initial designations for the 2012 primary annual PM_{2.5} NAAQS.

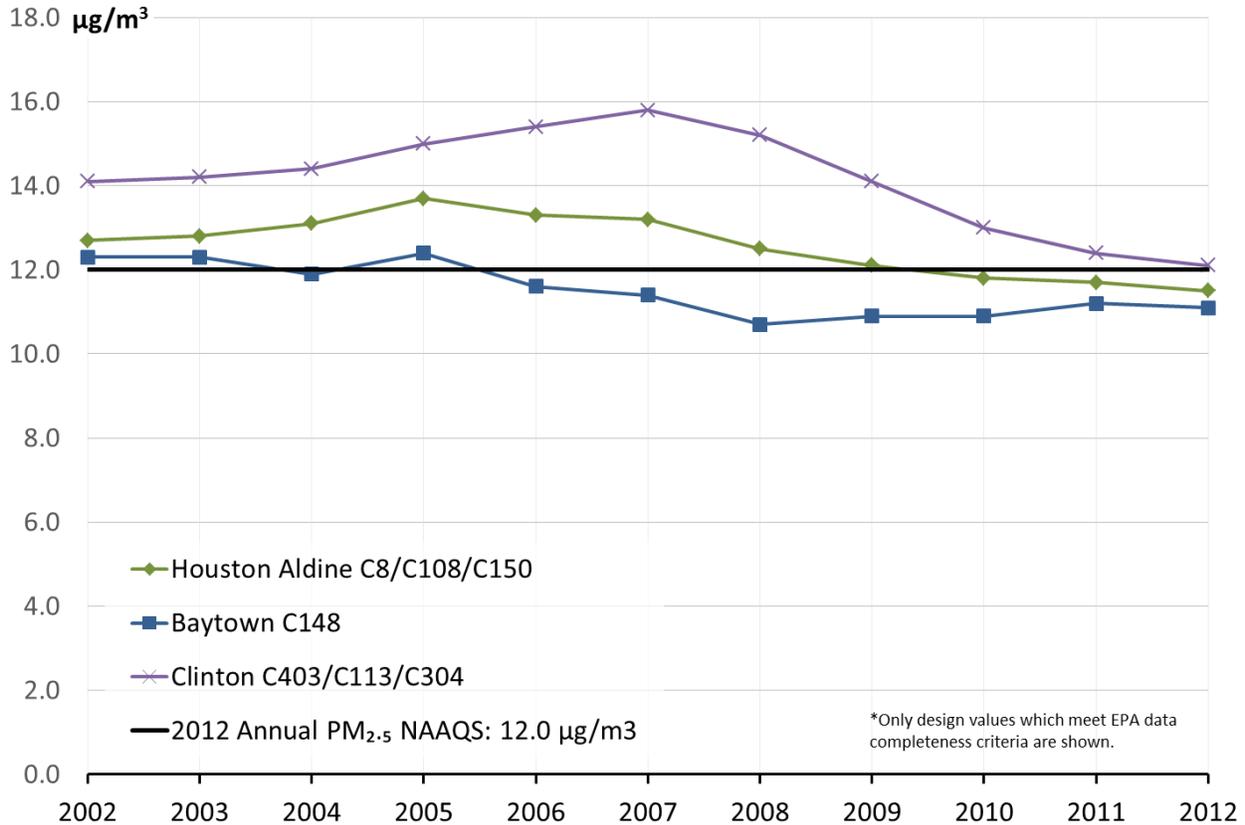
ATTACHMENT C

HOUSTON PM_{2.5} TRENDS AND SOURCES

PM_{2.5} AIR QUALITY TRENDS

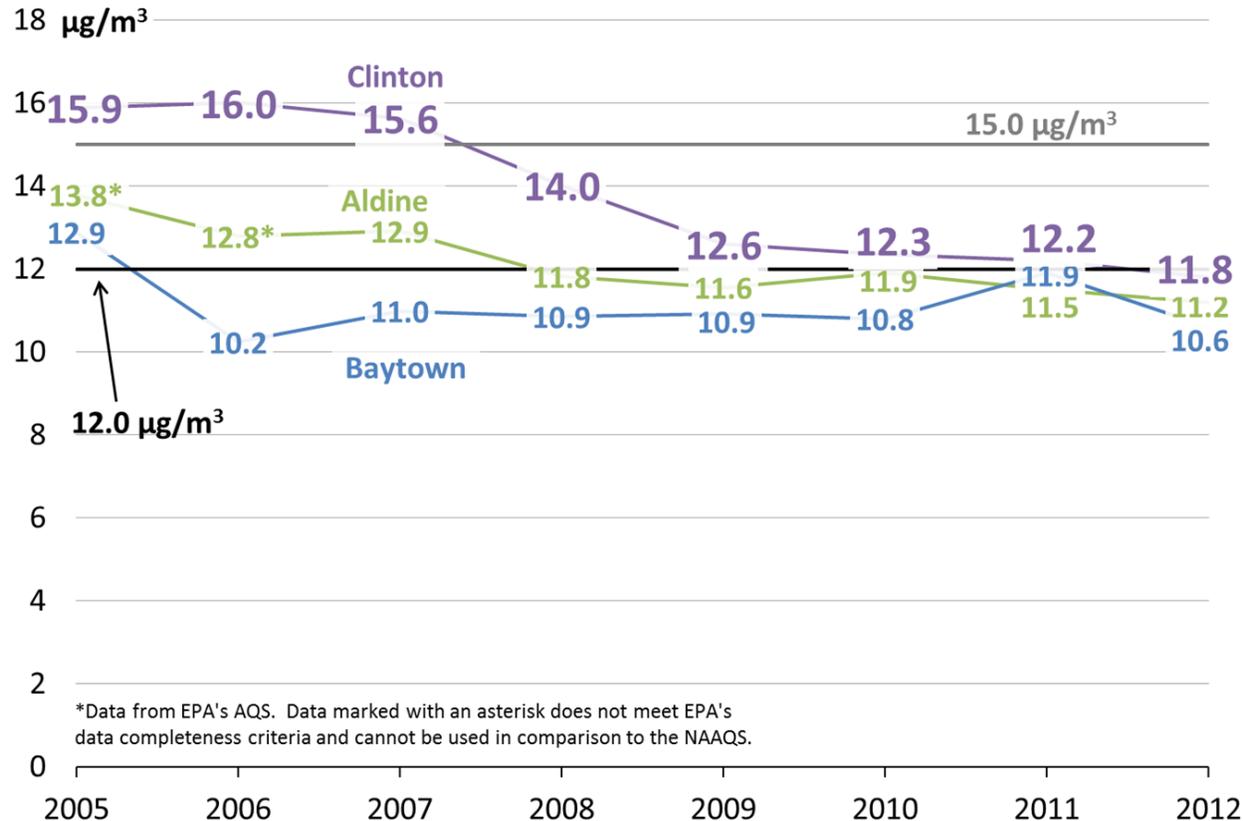
Fine particulate matter (PM_{2.5}) levels in the Houston area have shown a gradual overall decline since monitoring began in 1999. The Houston Clinton Drive monitor (EPA Site Number 482011035) measured a pronounced increase in PM_{2.5} concentrations from 2002 through 2007, as shown in Figure C-1: *Annual PM_{2.5} Design Values in Harris County Including Exceptional Event Days*, caused by localized sources in the immediate vicinity of the site. This increase has since been followed by a sharp decline resulting from extensive voluntary source reduction efforts (Sullivan et al., 2013).

Figure C-1: Annual PM_{2.5} Design Values in Harris County Including Exceptional Events Days



Further, the trends in the annual PM_{2.5} average, shown in Figure C-2: *Annual Average PM_{2.5} in Harris County Including Exceptional Event Days*, are all below the 2012 annual primary PM_{2.5} National Ambient Air Quality Standard (NAAQS) of 12.0 micrograms per cubic meter (µg/m³) in 2012. The Clinton site would meet the NAAQS in 2013 with an annual PM_{2.5} average of 12.1 µg/m³ or less. The 2012 annual PM_{2.5} average was 11.8 µg/m³ and, based on current trends, the 2013 annual average is not expected to exceed 12.1 µg/m³.

Figure C-2: Annual Average PM_{2.5} in Harris County Including Exceptional Event Days



PM_{2.5} TRANSPORT

Historically, PM_{2.5} in the Houston area is greatly impacted by long-range transport from natural events outside of the area including wildfires; African dust; dust from large, intense regional dust storms in the West Texas-New Mexico-Northern Mexico area; and smoke from agricultural burning in Mexico and Central America. Long-range transport from other types of events also impact the Houston area, including smoke from controlled burns and haze and smoke accumulated from man-made emissions in the United States and Canada (also known as continental haze).

African dust impacts the Houston area every year, mainly in the summer, with typically three to six intense episodes that are characterized by high incoming background levels and lasting one to three days or more. Smoke from agricultural burning in Mexico affects the Houston area mainly from April to early June annually when the winds bring in air from eastern Mexico and Central America. Continental haze events are most common from May through October and often include high ozone background levels as well. These external sources of PM_{2.5} air pollution cannot be controlled locally and prior work indicates that these sources, along with the global background, account for at least about 75 to 90% of the annual PM_{2.5} average at sites in the Houston area (Lambeth, 2010) as shown in Figure C-3: *Texas 2008 Annual Average PM_{2.5} Concentrations*. A variety of urban and industrial local sources of PM_{2.5} also contribute the remaining 10 to 25% of the annual means for 2010 through 2012.

Figure C-3: Texas 2008 Annual Average PM_{2.5} Concentrations

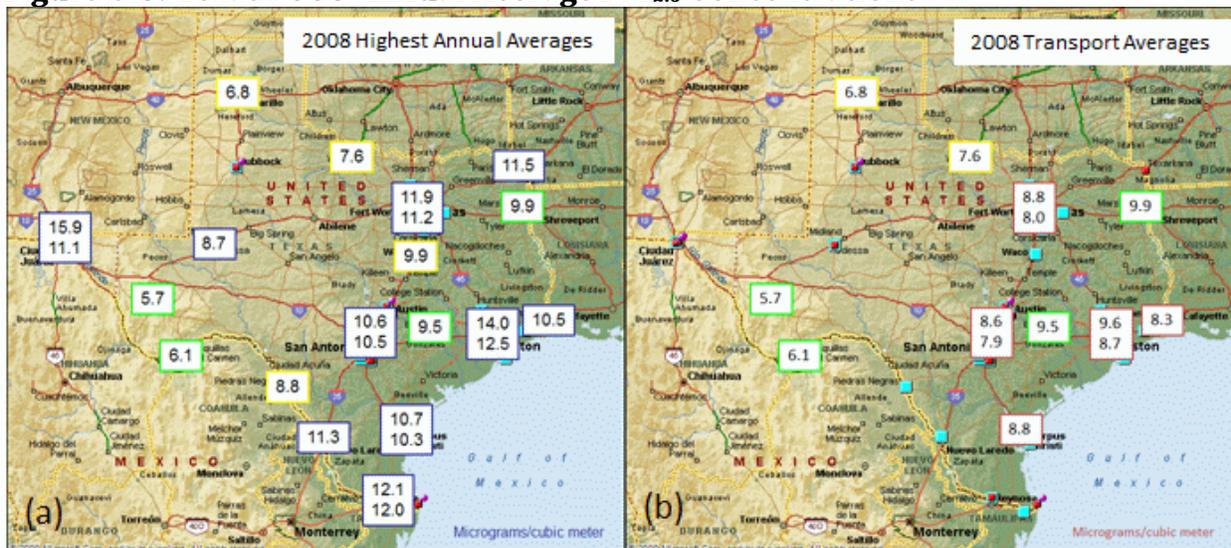


Figure C-3. Texas 2008 annual average PM_{2.5} concentrations. (a) Map showing the highest site annual averages by area, with the second highest shown in areas with more than one site. (b) Map showing the estimated annual average contribution from transport by area with the top average based on the second lowest area daily measurements for areas with more than one site (Lambeth, 2010).

REFERENCES

Lambeth, B. (2010). Assessing PM_{2.5} Background Levels and Local Add-On. 2010 National Air Quality Conferences: Air Quality Forecasting, Mapping, and Monitoring, and Communicating Air Quality. Raleigh, NC: U.S. EPA.

Sullivan, D. W., et al. (2013). Success in Reducing PM_{2.5} in the Neighborhood North of the Houston Ship Channel - Voluntary Efforts Based on Field Study Results and Source Attribution. Journal of the Air and Waste Management Association.

**Resolution Concerning the 2012 Revised Primary Annual Fine
Particulate Matter National Ambient Air Quality Standard
Designations**

Docket No. 2013-1391-MIS

WHEREAS, the Texas Commission on Environmental Quality (Commission) met on October 23, 2013 to discuss and consider designation recommendations for the revised primary annual fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS) for submittal to the Governor for his consideration and transmittal to the United States Environmental Protection Agency (EPA); and

WHEREAS, the Commission finds that the EPA revised the primary annual standard for PM_{2.5} on December 14, 2012, setting the standard at 12.0 micrograms per cubic meter (µg/m³); and

WHEREAS, the Commission acknowledges that the Federal Clean Air Act (FCAA), § 107(d), requires the EPA, after the promulgation of a new or revised NAAQS, to designate areas as attainment, nonattainment, or unclassifiable; and

WHEREAS, the Commission acknowledges that the FCAA, § 107(d), also establishes a process for each Governor to provide recommendations to the EPA regarding appropriate designations for the revised primary annual PM_{2.5} NAAQS for their state, including appropriate geographic boundaries; and

WHEREAS, the Commission acknowledges that the EPA has specified a deadline for the submittal of recommended designations for the revised primary annual PM_{2.5} NAAQS of December 13, 2013; and

WHEREAS, the Commission acknowledges that the EPA recommends that states identify areas not in compliance with the revised NAAQS using the most recent three years of air quality data, preferably data from calendar years 2010 through 2012, stored in the EPA Air Quality System (AQS) from Federal Reference Method and Federal Equivalent Method monitors that are sited and operated in accordance with 40 Code of Federal Regulations (CFR) Part 58; and

WHEREAS, the Commission finds that based on AQS monitoring data from 2010 through 2012, the demonstration of exceptional event days and historical trends, all monitors in Texas with data eligible for comparison to the revised primary annual PM_{2.5} NAAQS meet the revised standard (Attachments A, B and C); and

THEREFORE, BE IT RESOLVED, that the Commission hereby requests the Governor of Texas to submit a designation recommendation of attainment for all counties of the state with EPA AQS monitors in compliance with the revised primary annual PM_{2.5} NAAQS and unclassifiable/attainment for all other counties of the state, to the EPA for consideration, along with data analysis supporting this recommendation, by the EPA's requested deadline of December 13, 2013.

Issued date:

**TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY**

Bryan W. Shaw, Ph.D., Chairman