

# Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

**To:** Commissioners **Date:** November 24, 2009

**Thru:** LaDonna Castañuela, Chief Clerk  
Mark R. Vickery, P.G., Executive Director

**From:** Susana M. Hildebrand, P.E., Chief Engineer  
Chief Engineer's Office

**Subject:** Commission Consideration of 1997 Annual Fine Particulate Matter (PM<sub>2.5</sub>)  
National Ambient Air Quality Standard (NAAQS) Nonattainment Area  
Designation Recommendation Request for Clinton Drive PM<sub>2.5</sub> in Harris County

Harris County\Clinton Drive PM<sub>2.5</sub> Designation Recommendation

## Background and reasons for the request:

On October 8, 2009, the United States Environmental Protection Agency's (EPA) Acting Regional Administrator Larry Starfield sent the governor of Texas a letter (Starfield letter) initiating the process under the Federal Clean Air Act (FCAA), §107(d)(3) to redesignate Harris County and those nearby areas contributing to the violation of the 1997 annual PM<sub>2.5</sub> NAAQS. The EPA is initiating the redesignation process based on ambient air quality monitoring data from 2006 through 2008 that indicate one monitor in Harris County is violating the 1997 annual PM<sub>2.5</sub> NAAQS. The state's recommendation must be submitted to the EPA within 120 days of receipt of the EPA's notification of information indicating that designation within the state should be revised.

The 1997 annual PM<sub>2.5</sub> NAAQS is 15.0 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). A violation is a value greater than 15.0  $\mu\text{g}/\text{m}^3$  averaged over a rolling three-year period. Currently, all counties in Texas are designated attainment for the 1997 annual PM<sub>2.5</sub> standard. Since 2004, all PM<sub>2.5</sub> monitors in the Houston area except the Clinton Drive monitor have recorded readings lower than 15.0  $\mu\text{g}/\text{m}^3$ . Daytime, weekday concentrations are the main cause of high PM<sub>2.5</sub> levels at the Clinton Drive site. Analysis of chemical speciation data shows the calculated mass of soil at Clinton Drive is higher than at any other speciation sites in the Houston area, with the soil contribution being approximately 1.5 to 2.0  $\mu\text{g}/\text{m}^3$  higher at Clinton Drive than at other sites.

The EPA's request, which uses only the 2006 through 2008 monitoring data, does not take into account exceptional events (defined as an event affecting air quality that is uncontrollable, or a natural event). The TCEQ did an advanced analysis of the PM<sub>2.5</sub> and meteorological data as well as the chemical speciation data from the site to identify the cause, source type, and source areas contributing to the excessive particulate matter concentrations. Concurrently, the TCEQ began working with the Port of Houston Authority (PHA), the City of Houston, Harris County, and local industry to get voluntary reductions. The combined efforts of the various organizations have improved particulate matter air quality to the point that the 2008 PM<sub>2.5</sub> annual average at Clinton Drive was 14.0  $\mu\text{g}/\text{m}^3$ , even when exceptional event days are included.

Without removing exceptional event days, the 2006 through 2008 design value for Clinton Drive is 15.2  $\mu\text{g}/\text{m}^3$ . After removing exceptional event days identified by TCEQ meteorologists, the design value is 14.6  $\mu\text{g}/\text{m}^3$ . Continuous PM<sub>2.5</sub> data from 2009 show a continued downward trend in PM<sub>2.5</sub> concentrations at Clinton Drive, including exceptional event days. The 2009 January to June PM<sub>2.5</sub> annual average to date is 12.8  $\mu\text{g}/\text{m}^3$ , and the 2007 through 2009 (January to June 2009) design value is 14.4  $\mu\text{g}/\text{m}^3$ .

**Scope of the request:**

**A) Summary of what the request will do:** Consideration of this recommendation would allow the TCEQ to submit to the governor for his consideration a designation recommendation for transmittal to the EPA to comply with the FCAA.

**B) Scope required by federal regulations or state statutes:** Yes. Section 107(d)(3) of the FCAA requires states to submit to the EPA a recommendation regarding attainment, nonattainment, or unclassifiable for all areas of the state within 120 days after receiving a notification of information indicating that designation within the state should be revised.

**C) Executive Director's Recommendation:** Considering 2006 through 2008 PM<sub>2.5</sub> monitoring data and other factors, the Executive Director recommends that all of Texas remain designated attainment for the 1997 annual PM<sub>2.5</sub> NAAQS.

**Statutory authority:** FCAA, §107(d)(3) and Texas Clean Air Act, §§382.002, 382.011, and 382.013.

**Effect on the:**

**A) Regulated community:** If Harris County or some portion of Harris County or an area larger than Harris County is designated nonattainment for the 1997 annual PM<sub>2.5</sub> NAAQS, regulated entities may be subject to new requirements, for example, nonattainment new source review permitting.

**B) Public:** Since the unofficial data for 2009 make it clear that the 2007 through 2009 data will show attainment of the 1997 annual PM<sub>2.5</sub> NAAQS, no additional emission reductions would be required by a nonattainment designation, so there would be no air quality benefit to the public from such a designation.

**C) Agency programs:** If the state has new nonattainment and/or maintenance areas, agency programs and functions associated with air issues will have additional work in planning, rulemaking, program implementation, monitoring, permitting, and enforcement. If EPA designates the area as nonattainment and then subsequently redesignated the area as attainment, the agency would be required to develop two 10-year maintenance plans for the area. Development of maintenance plans are not a trivial exercise and involve measureable staff resources.

**Stakeholder meetings:** The Air Quality Division conducted a public meeting in Houston on November 19, 2009, to discuss the designation process and invited comments for use in preparing a recommendation.

**Potential controversial concerns and legislative interest:**

- The EPA bases its redesignation recommendation on 2006 through 2008 monitoring data at one monitor in Harris County: Clinton Drive, located in the Houston Ship Channel area. Beginning in November 2007, the TCEQ has submitted numerous exceptional event flagging days to the EPA for concurrence. The EPA has not taken action on any of the flagging days. Without removing exceptional event days, the 2006 through 2008 design value for Clinton Drive is 15.2 µg/m<sup>3</sup>. The current estimate is that the 2007 through 2009 design value will be approximately 14.4 µg/m<sup>3</sup>, including all exceptional events days. The official data may not be available until after expiration of the 120-day response period for the EPA nonattainment designation proposal.
- The EPA PM<sub>2.5</sub> designation guidance, *Designations for the Fine Particle National Ambient Air Quality Standards*, April 1, 2003, states “the presumptive use of metropolitan area boundaries to define urban areas is based on recent evidence that violations of the PM<sub>2.5</sub> air quality standards generally include a significant urban-scale contribution as well as a significant larger-scale regional contribution.” TCEQ analysis of speciation data shows that the mass of soil contributing to the PM<sub>2.5</sub> design value at Clinton Drive was higher by 1.5 to 2.0 µg/m<sup>3</sup> than at other sites in Harris County, including one site three miles to the northeast of Clinton Drive. Without this unusually large contribution of soil to the PM<sub>2.5</sub> mass at the Clinton Drive monitor, the monitor would not have a design value over the 15.0 µg/m<sup>3</sup> annual NAAQS. Analysis of the data from Clinton Drive and other sites has identified the source of the

excessive soil contribution as dust from Clinton Drive itself plus dust from the industrial workyards between Clinton Drive and the Houston Ship Channel.

- There was one legislative inquiry from Senator Gallegos.

**Will this request affect any current policies or require development of new policies?** No.

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

The FCAA requires that states submit a recommendation. Should the state opt not to submit a recommendation package, the EPA would then make final designations and nonattainment area boundary determinations without state input.

**Key dates in the request schedule:** The governor's recommendation is due to the EPA 120 days after receipt of the EPA letter notifying the state of the EPA's intent to redesignate. The recommendation is due to the EPA on February 5, 2010.

**Receipt of EPA letter: October 8, 2009**

**Stakeholder meeting: November 19, 2009**

**Public comment period: October 30 through November 23, 2009**

**Anticipated approval date: December 4, 2009**

**Commission's recommendation to governor: January 5, 2010**

**Governor's recommendation due to EPA: February 5, 2010**

**Agency contacts:**

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**Attachments**

cc: Chief Clerk, 5 copies  
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