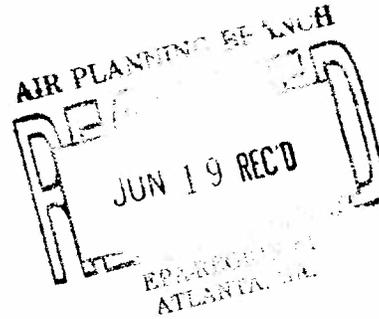




STATE OF TENNESSEE  
**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
DIVISION OF AIR POLLUTION CONTROL  
9<sup>TH</sup> FLOOR L & C ANNEX  
401 CHURCH STREET  
NASHVILLE, TENNESSEE 37243-1531

June 10, 2008

Beverly Bannister  
Director  
Air, Pesticides & Toxics Management  
Division  
United States Environmental  
Protection Agency  
Region IV  
61 Forsyth Street, SW  
Atlanta, Georgia 30303



Dear Ms. Bannister:

Thank you for the time that you and your staff took to talk to Quincy Styke and me on June 4, 2008 in Atlanta. Our conversation was to discuss the matter of a possible localized influence on a PM<sub>2.5</sub> ambient monitor located in Clarksville, Tennessee. The history of this monitor and our planned steps for the future are presented below.

This monitoring site has three PM<sub>2.5</sub> monitors: a federal reference method (FRM) monitor, a TEOM continuous PM<sub>2.5</sub> monitor and a speciation monitor. EPA required states to make recommendations of attainment status for the new 24-hour PM<sub>2.5</sub> standard that is set at 35 µg/m<sup>3</sup> no later than December 17, 2007 using the 2004-2006 data set. That data set did measure attainment of the standard although Tennessee did take note of high readings in the year 2005. Because of those higher readings in 2005, TDEC-APC increased the sampling frequency of the FRM monitor at the site and installed additional PM<sub>2.5</sub> monitors at the site to see what might be causing the problem.

On March 31, 2008, EPA Region IV Administrator Palmer sent a letter to Tennessee's Governor Bredesen stating that upon EPA's initial review of the 2005-2007 data set at the site, it appeared that the area would be measuring nonattainment of the PM<sub>2.5</sub> daily standard. That letter offered Tennessee the opportunity to provide additional information to address the preliminary finding and that is the subject of this letter.

As we discussed in the meeting, it certainly appears that the opportunity for a localized influence exists at the site. We presented you a picture of the monitoring site and that same picture is embedded in this letter. As you may be aware, it is often times

Ms. Bannister  
June 10, 2008  
Page 2

challenging to locate a property owner that is willing to allow the long term installation of an ambient air monitoring site on their property. These are not architecturally aesthetic structures.

We were able to get the city of Clarksville, Tennessee to let us install the monitoring site on their property at the city's public golf course maintenance area. Upon examination of the site, it appears that a potential exists for localized influences that may not give a true picture of the area's air quality. Examine the picture and note the following:

- There are two elevated fuel storage tanks with unsealed metal on metal vent/fill caps approximately 20 feet from the monitor intakes and approximately 5 feet lower in elevation. One tank is unleaded gasoline and the other tank is diesel. They are 300 gallons each in capacity and refilled approximately every six weeks.
- The garage at the left of the photo houses all of the gasoline powered golf carts for the golf course.
- Unseen, but at the extreme right of the photo is an open shed that houses all the lawn care equipment for the golf course.
- All these vehicles are fueled and idle while warming up in very close proximity to the monitor intakes. Organic carbon emissions in the form of unburned evaporative fuel losses occurring during filling the storage tanks, working fuel storage losses from tank venting and dispensing losses during the fueling of the vehicles could be significant given the close proximity of the monitor intakes to these operations. Similarly, partially combusted fuel from these off-road vehicles during cold start conditions is also a potentially significant localized source of organic carbon emissions.
- Tennessee's general speciation data show that organic carbon, the carbon fraction that does not absorb light, comprises a significant percent composition of our PM<sub>2.5</sub> catch. Please refer to the pie charts above the picture for additional information.
- The intake of the monitors is at the same elevation as a putting green directly behind the garage roof in the left portion of the photo. These greens are mowed often, and there may be a potential for crustal emissions.

Because of the potential interferences identified above, we have installed a second monitor at Austin Peay State University approximately two miles away. We feel that this new monitor is removed far enough from the potential localized influences, but close enough to represent the air quality of the area for a secondary pollutant like PM<sub>2.5</sub>.

We were advised at the state air directors meeting in Atlanta that EPA is planning to send the preliminary designation letters that start the 120 day negotiation period on or about July 28, 2008. Final designations would be announced on or about December 17, 2008 with the effective date of the designations being ninety days later.

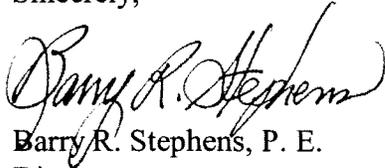
Ms. Bannister  
June 10, 2008  
Page 2

The second monitor is an FRM PM<sub>2.5</sub> monitor and will be operated continuously during the study period. The first sample was collected on June 5, 2008. Our theory is that the second monitor will show a difference and likely show attainment. While we won't have enough data for an entire year by year's end and/or during the pendency of the ninety-day wait period for the effective date, it should be enough to request a deferral of the designation or a designation of unclassifiable until sufficient data is available to make the final designation. We believe that the third quarter's monitoring data; (July through September), the historically highest quarter each year at all Tennessee PM<sub>2.5</sub> monitoring sites, may provide sufficient insight into this matter to initially demonstrate our objectives.

Last, it should be noted that we have requested exceptional event data flags on a number of days that EPA is still reviewing. EPA should complete those flagging requests prior to acting upon the final designation.

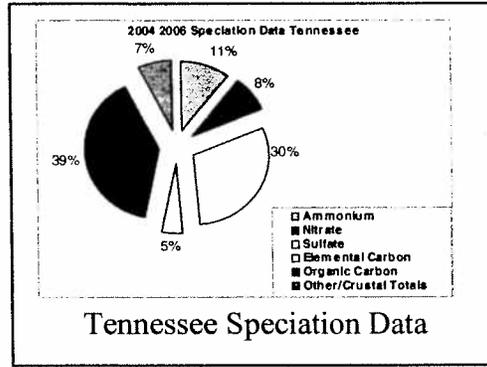
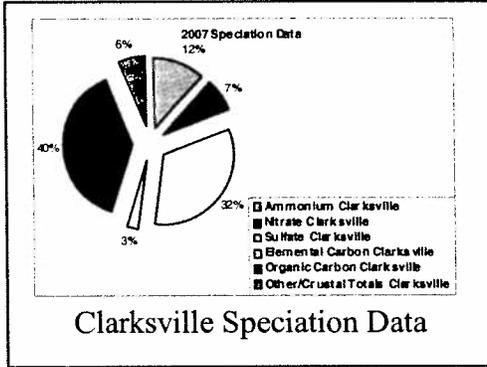
Again, thank you for your time in reviewing this important matter. If you or your staff should have questions please feel free to contact us.

Sincerely,



Barry R. Stephens, P. E.  
Director  
Division of Air Pollution Control

Copy To:  
Carol Kemker  
Doug Neeley  
Dick Schutt



**PM<sub>2.5</sub> Speciation Trends For Tennessee Sites**

