



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC 5 2005

THE ADMINISTRATOR

William G. Ross, Jr., Secretary  
North Carolina Department of Environment  
and Natural Resources  
1601 Mail Service Station  
Raleigh, NC 27699-1601

Dear Secretary Ross:

Thank you for your letter of February 22, 2005, concerning fine particulate matter (PM<sub>2.5</sub>) designations and Guilford County, North Carolina. In your letter, you provided 2004 monitoring data for Davidson, and Guilford Counties, and requested that the Environmental Protection Agency (EPA) designate Guilford County as attainment for the PM<sub>2.5</sub> National Ambient Air Quality Standard (NAAQS). For the reasons set forth herein, EPA denies your request.

In determining an area's designation, we rely on the Clean Air Act (CAA) definition of a nonattainment area in section 107(d)(1)(A)(i): an area that is violating an ambient standard or an area that is contributing to a nearby area that is violating the standard. If an area meets this definition, EPA is obligated to designate the area as nonattainment. On April 1, 2003, EPA issued guidance for states and tribes to use in identifying areas that meet or do not meet EPA's national air quality standards for PM<sub>2.5</sub>. In making designations, we used the most recent 3 years of monitoring data. Once we determined that a monitor was recording a violation, the next step was to determine if there were any nearby areas that were contributing to the violation and include them in the designated nonattainment area. In making this determination, we reviewed all available technical data related to nine factors set out in the April 1, 2003, guidance such as air quality, source locations and emissions, meteorology, terrain, population, commuting, and growth in the area. The technical support analyses for all nonattainment areas are located on EPA's web site at:  
<http://epa.gov/pmdesignations/documents/final/TSD/Ch6.pdf>.

Based on the analysis of all factors for the Greensboro area, EPA determined that Guilford County was contributing to the violating monitor in adjacent Davidson County. Our analysis showed that Guilford County had sufficient emissions and emission sources to contribute to the ambient air quality in Davidson County. For example, Guilford County has the largest population of any county in the area, accounting for over one third of the metropolitan statistical area's total population, as well as significant population growth. Additionally, Guilford County commuters total by far the highest vehicle miles traveled in the area. These factors indicate that Guilford County has significant sources of emissions. EPA further found that Guilford County has sufficient emissions of PM<sub>2.5</sub>

and precursor pollutants sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and volatile organic compounds (VOC) to contribute to the ambient air quality in Davidson County.

### **2002-2004 Data**

In EPA's January 5, 2005, Final Designation Notice, we invited states to submit, by February 22, 2005, complete, quality assured, certified 2004 data that suggests a change in designation of an entire nonattainment area is appropriate for any area within the State. EPA stated that it would change an area's designation if inclusion of 2004 data showed that every county in an area was neither monitoring a violation of the standards nor contributing to a violation of the standards of a nearby area. We stated this because as long as there is a continuing violation of the standards, those areas that are contributing to the violation need to be part of the nonattainment area for controls designed to achieve the standard.

In your February 22, 2005, letter, you provided complete, quality assured, certified 2004 data for Davidson and Guilford Counties and noted that data from the PM<sub>2.5</sub> monitor in Guilford County was below the annual average PM<sub>2.5</sub> standard of 15.0 µg/m<sup>3</sup>. Your letter did not conform to EPA's January 5 offer to revisit designations based on 2004 data and was not addressed in EPA's April 5, 2005, Supplemental Notice. Instead, EPA has evaluated your letter and is responding to it separately here as a petition for reconsideration.

The 2004 data provided in your letter, while being new in the sense that it was not available to be considered in EPA's final designation of Guilford County, does not provide any new information that would compel EPA to reach a different conclusion regarding Guilford County's nonattainment status based upon its contribution to air quality in Davidson County. While the 2004 data show a decrease in Guilford County's design value, this demonstrates the continuation of a trend already in existence at the time EPA made its final designations. EPA is pleased that this monitor continues to show decreasing design values; however, nothing about the 2004 monitor data changes EPA's evaluation of Guilford County's contribution to Davidson County's air quality.

### **Meteorology**

In your letter, you characterize as "puzzling" EPA's finding that emission sources in Guilford County contribute to the ambient air quality of Davidson County, which "lies in a direction opposite the prevailing winds." We understand your perspective and believe that EPA and North Carolina are viewing the wind data differently.

North Carolina submitted information prior to EPA making the final determination of the nonattainment boundary for the Greensboro area which included a discussion of wind patterns and other meteorology. The State's analysis showed that wind direction varies based on season, with influence coming from different directions at

different times of year. In your letter, you focused on the wind pattern during the summer months, which shows prevailing winds from Guilford County generally away from Davidson County.

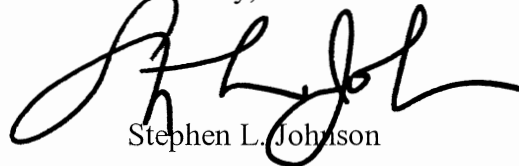
EPA analyzed the wind patterns, from all times of the year, in the area and found that there is influence on the Davidson County monitor from varying directions, including from the direction of Guilford County. While your assertion that the prevailing wind patterns from Guilford County are away from Davidson County is generally true in the summer months, EPA's analysis of year-round wind patterns found that the second strongest contribution to Davidson County is from the northeast, the direction of Guilford County. Attachment 1 is a pollution rose diagram for the violating monitor located in Davidson county. Each dot in the diagram represents a daily PM2.5 concentration (from the 2001-3 period) and the average wind direction and wind speed for that day. It shows that there were a number of days in the period when PM2.5 contributions toward the Davidson county monitor came from the northeast (the direction of Guilford county).

### **Regional Controls**

In your letter, you discussed future regional controls, such as EPA's Clean Air Interstate Rule (CAIR), as providing reductions in PM2.5 levels in the east and southeast. EPA agrees that regional controls, such as CAIR, will provide reductions in elevated PM2.5 levels in the southeast, and we agree that CAIR will provide an important tool for reducing ambient PM2.5 levels across the region. However, regional control programs do not substitute for area-specific attainment demonstrations and are not designed to achieve to help a specific nonattainment area attain the national standards. For nonattainment areas, we rely on an area-specific control strategy developed by the State which should include a combination of significant regional controls along with specific local controls. In addition, the PM2.5 designations were based on current violations of the standard and associated contributions, not projected future conditions.

EPA understands North Carolina's preference for a smaller nonattainment boundary for the Greensboro-Winston Salem-High Point area and appreciate your commitment to continued improvement of air quality. However, your letter did not provide information that persuades EPA to reconsider its decision. Therefore, your petition for reconsideration is denied.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Johnson', written over the typed name.

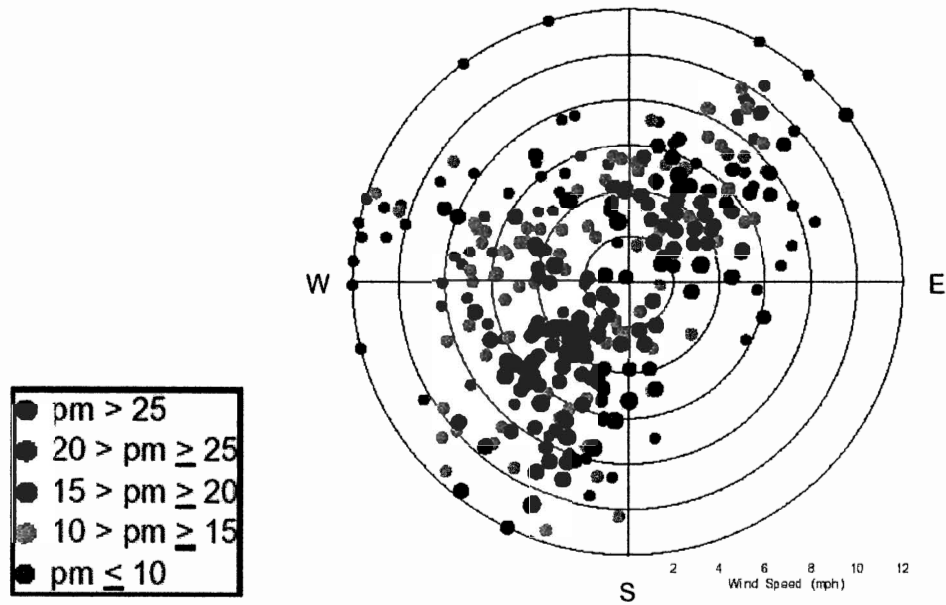
Stephen L. Johnson

Enclosure: Attachment 1

Pollution Rose for Davidson County, NC Monitor

Attachment 1  
Pollution Rose for Davidson County, NC Monitor

Area= Greensboro, NC; Site= 370570002



Plot indicates PM2.5 concentration, wind direction, and wind speed for days in 2001-2003 with PM2.5 monitoring data.