



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

JAN 20 2005

THE ADMINISTRATOR

Ms. Stephanie R. Timmermeyer  
Cabinet Secretary  
West Virginia Department of Environmental Protection  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

Dear Secretary Timmermeyer:

By letter dated February 21, 2005, you filed a Petition for Reconsideration ("Petition") of the Environmental Protection Agency's (EPA's) January 5, 2005, Final Rule promulgating designations and boundaries for areas of the United States, including West Virginia, with respect to the fine particles (PM 2.5) National Ambient Air Quality Standards (NAAQS) in accordance with the requirements of the Clean Air Act (CAA) (the "PM 2.5 NAAQS Designations Final Rule"). See *70 Federal Register* 944. The Petition requests that EPA reconsider the designation of the Graham Tax District within Mason County ("Graham Tax District") and of the Grant Tax District within Pleasants County ("Grant Tax District"). By this letter, we are denying your Petition.

The Petition requests that EPA reconsider the nonattainment designation of the Grant Tax District and the Graham Tax District primarily on the alleged grounds that "EPA exceeded its authority by expanding the respective nonattainment areas to include these two partial counties." While acknowledging the presence of significant emission sources in each location, the Petition further requests that EPA designate each of these locations as Unclassifiable/Attainment. Pursuant to Section 107(d)(1)(A)(i) of the CAA and EPA's policies and guidance issued for the PM 2.5 designation process, EPA continues to believe that both the Graham and Grant Tax Districts are properly designated as nonattainment with the PM 2.5 NAAQS.

As you are aware, Section 107(d)(1)(A)(i) of the Clean Air Act directs EPA to designate as nonattainment ". . . any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant." (hereinafter referred to as a "nonattainment area") See 42 U.S.C. § 7407(d)(1)(A)(i). EPA's April 1, 2003 guidance entitled "Designations for the Fine Particle Standard," and February 13, 2004 supplemental guidance entitled "Additional Guidance on Defining Area Boundaries for PM2.5 Boundaries," provided EPA's view that in evaluating the boundaries for urban nonattainment areas, the starting point for the analysis should be the

metropolitan area boundaries as defined by the U.S. Office of Management and Budget (OMB). This guidance also presented nine relevant factors that EPA indicated would be useful to consider when assessing whether to exclude portions of a metropolitan statistical area ("MSA") and whether to include additional nearby areas outside a MSA as part of the designated nonattainment area ("the nine factor analysis").

On June 29, 2004, EPA sent letters to Governors of several states, including Governor Wise of West Virginia, responding to the states' original designation recommendations and providing EPA's proposed modifications of State recommendations for PM<sub>2.5</sub> designations. As EPA explained in its June 29, 2004 letter to Governor Wise, and as the Petition recognizes, both Mason and Pleasant Counties include large stationary sources of emissions. In many instances throughout the United States, EPA recommended designations of nonattainment for entire counties containing a single large stationary source of emissions, such as a power plant, which were also adjacent to areas with violating monitors. In this letter, EPA suggested that Mason and Pleasants counties, in their entirety, should be included as part of the Huntington and Parkersburg nonattainment areas, respectively. EPA's recommendation was made based upon its review of available data and EPA policy and guidance. In response to EPA's recommendation, and in recognition of the contribution that certain large stationary sources of emissions may have on nearby nonattainment areas, by letter dated November 9, 2004, West Virginia formally requested that EPA limit the boundaries of each designated nonattainment area to encompass only the Graham and Grant Tax Districts, rather than encompassing the entire Counties of Mason and Pleasants. EPA concurred with West Virginia's alternative proposal and designated each such district as part of the respective nearby nonattainment areas.

Notwithstanding West Virginia's November 9, 2004 alternative proposal, the Petition now contests EPA's authority to designate the Graham and Grant Tax Districts as nonattainment areas. The Petition does not provide any new technical data relevant to either the Graham or Grant Tax Districts. Nor does the Petition explain why EPA lacks the authority to designate portions of counties, whether contiguous to or separated from, the remainder of the nonattainment area. EPA contends that the explicit wording of the Statute authorizes the Agency to designate either areas or "portions thereof," and to designate areas nonattainment when such areas either violate the NAAQS or contribute to such violations in another "nearby" area. The statute does not require EPA to designate only areas that are contiguous. EPA believes that it reasonably interpreted the statute to permit designations of portions of Mason and Pleasants Counties, rather than the whole counties, and to use the existing tax district boundaries as a means to identify the appropriate portions of the county for such designation. As noted above, both counties contain significant emissions sources that contribute to nonattainment in the nearby areas. EPA believes that the designation of partial counties was appropriate in this instance.

In addition to contesting EPA's statutory authority, the Petition criticizes EPA's review of existing technical information on several points, such as EPA's use of meteorological data, lack of air quality monitoring data in the Graham and Grant Tax Districts and lack of modeling of the air quality in these areas. As described above, EPA reviewed all available technical data, which included meteorological and air quality monitoring data, in the context of the nine factor analysis.

This data was reviewed to determine which areas failed to attain PM 2.5 NAAQS or contributed to ambient air quality in any nearby nonattainment area. EPA did review meteorological and air quality data which indicates that the Graham and Grant Tax Districts contribute to ambient air quality in a nearby metropolitan area that does not meet the PM 2.5 NAAQS. As the Petition recognizes, and as discussed in Attachment 1, each such designated partial county contains a large stationary source of emissions that contributes to PM2.5 formation. Section 107 of the CAA grants EPA the authority to designate as nonattainment areas, such as Graham and Grant Tax Districts, which contain sources which are contributing to ambient air quality in a nearby nonattainment area.

Although the Clean Air Act does not require air quality modeling data to support a nonattainment designation, EPA also conducted modeling to supplement this technical information and confirm the appropriateness of designating a number of partial county areas across the U.S. due to emissions contributions by large power plants. EPA developed a memorandum that described this modeling and included it in the publicly-available docket for the original designations action that was completed in December 2004. Attachment 2 further elaborates on this modeling analysis. In summary, EPA finds that this air quality modeling assessment provides additional evidence to conclude that the Mason county (Graham tax district) sources contribute to PM2.5 concentrations in the Huntington-Ashland area, and that the Pleasants county (Grant tax district) sources contribute to PM2.5 concentrations in the Parkersburg area.

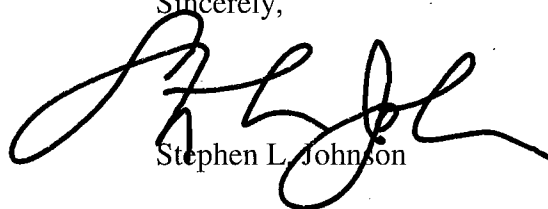
In addition to challenging EPA's statutory authority and the technical data reviewed by EPA, the Petition asserts that EPA has "ignored the State's authority to regulate sources deemed 'significantly contributing' . . ." EPA recognizes West Virginia's ability to regulate any sources which adversely contribute, significantly or otherwise, to ambient air quality. EPA's determination that the Graham and Grant Tax Districts are properly within the designated boundaries of the Huntington and Parkersburg nonattainment areas does not in any way discount West Virginia's ability to regulate air pollutant emission sources in areas designated attainment. Nor do such designations disregard the impact of EPA's Clean Air Interstate Rule ("CAIR") regulation, which is designed to address the impacts of interstate transport throughout the affected region. The designation process is intended to work in conjunction with the regional reductions achieved by CAIR and other Federal measures to insure that States also attain necessary local reductions to achieve the NAAQS. EPA concludes that the Graham and Grant Tax Districts are appropriately designated as nonattainment because, based upon available data and consistent with relevant EPA policy and guidance, each such area contributes to ambient air quality in the respective nearby PM 2.5 NAAQS nonattainment areas of Huntington and Parkersburg.

Finally, without explanation, the Petition asserts that "EPA has inappropriately applied CAA Section 107(d) (4) (A) in establishing boundary criteria." That provision sets forth statutory procedures relating to attainment designations for the ambient air quality pollutants of ozone and carbon monoxide, and, therefore, is not applicable to the PM 2.5 attainment designation process. As required by Section 107(d) (1) of the CAA, EPA provided the States

with an opportunity to provide information to EPA. Through the 120 day letter process, each State was provided an opportunity to demonstrate that EPA incorrectly modified state recommendations for designations and boundaries for PM2.5 areas. West Virginia participated in such process and, by letter dated August 31, 2004, submitted additional information and comments to EPA. EPA reviewed and considered such information and comments. However, EPA did not concur that such information demonstrated that the Graham or Grant Tax Districts do not significantly contribute to ambient air quality in the respective nearby PM 2.5 NAAQS nonattainment areas of Huntington and Parkersburg.

EPA understands West Virginia's preference for excluding Graham and Grant Tax Districts from the respective nonattainment areas. However, your Petition did not provide the Agency information that persuades us to reconsider our previous designation decision. Therefore, your Petition for reconsideration is denied. EPA appreciates your commitment to continued improvement of air quality in West Virginia, and looks forward to working with you to achieve this important goal.

Sincerely,

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

Stephen L. Johnson

Attachments

cc:

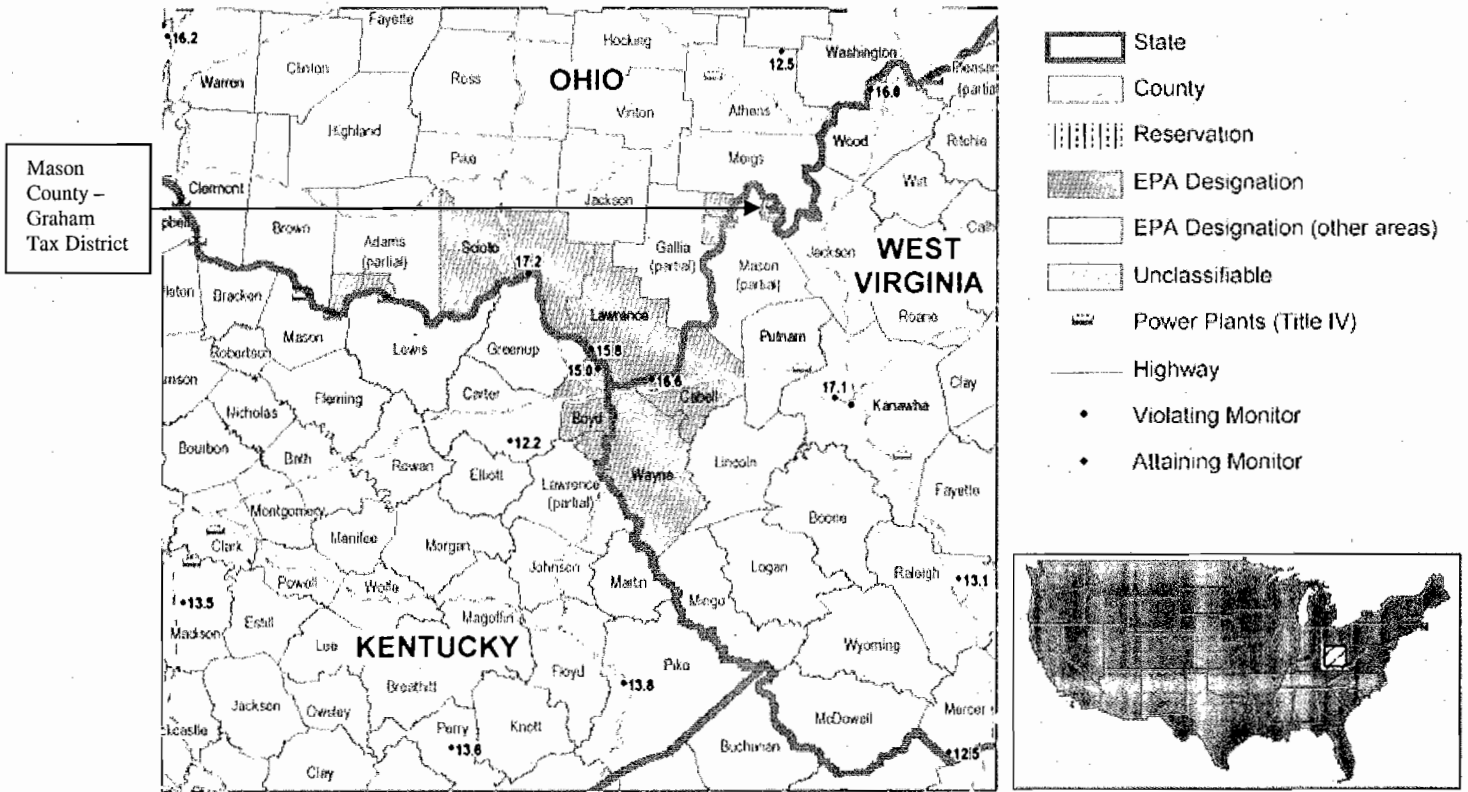
John Benedict

Director, Division of Air Quality

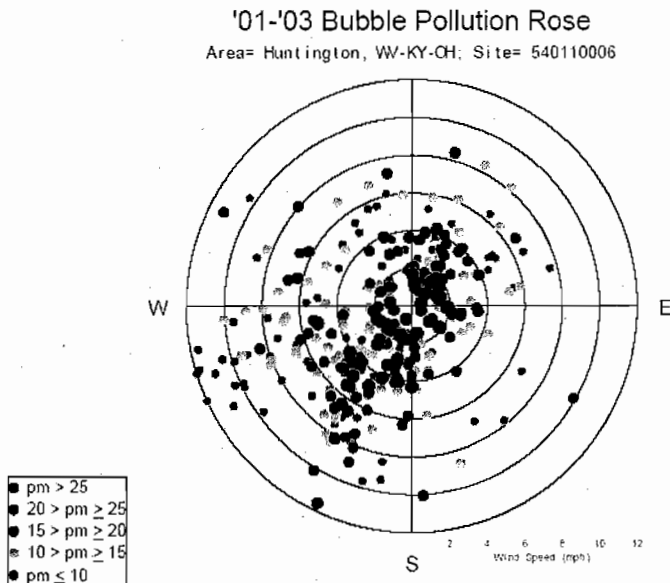
West Virginia Department of Environmental Protection

## Attachment 1

**Figure 1. Map of Huntington-Ashland PM2.5 Nonattainment Area**

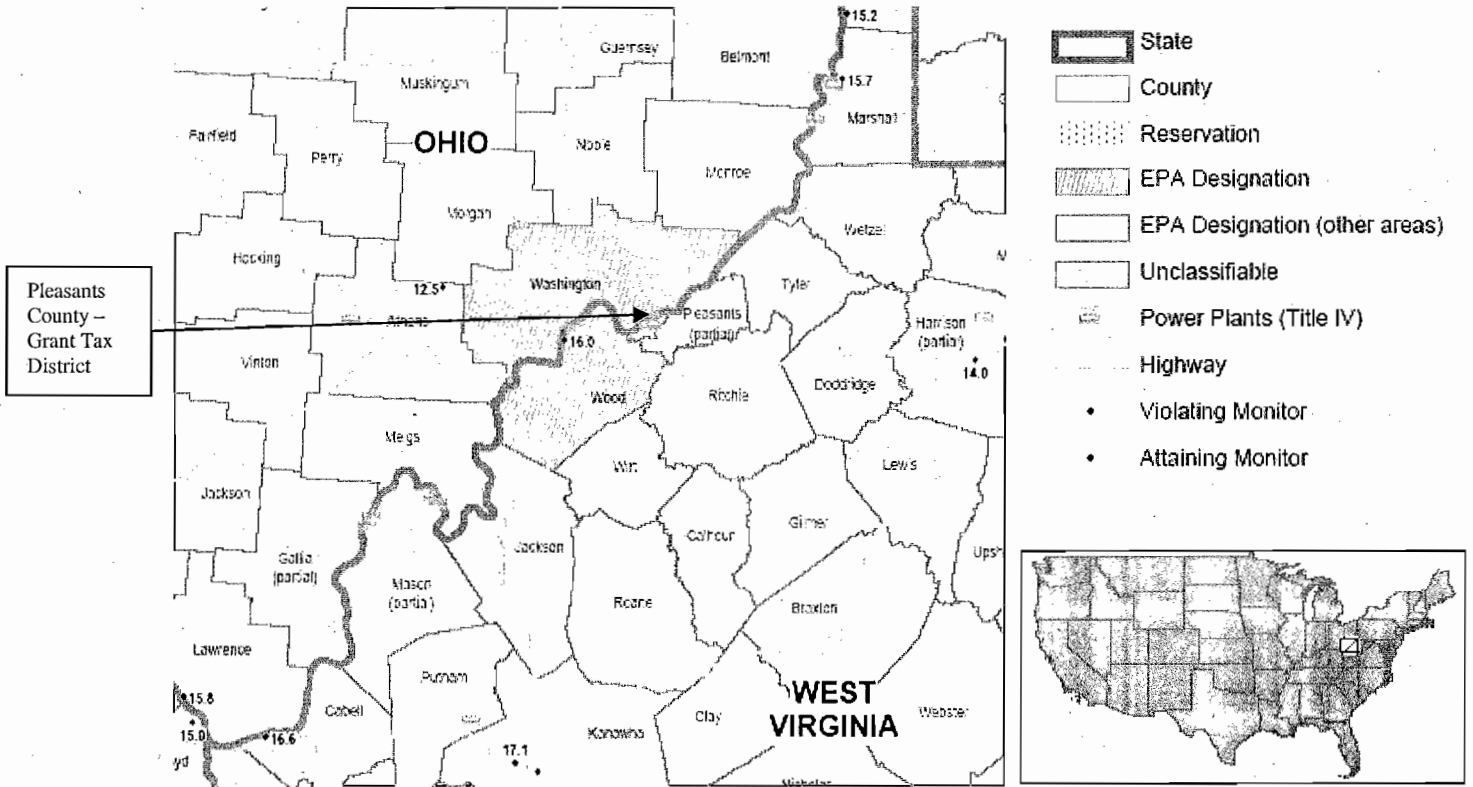


**Figure 2 – Bubble Pollution Rose Diagram for Huntington, WV (Cabell County)**

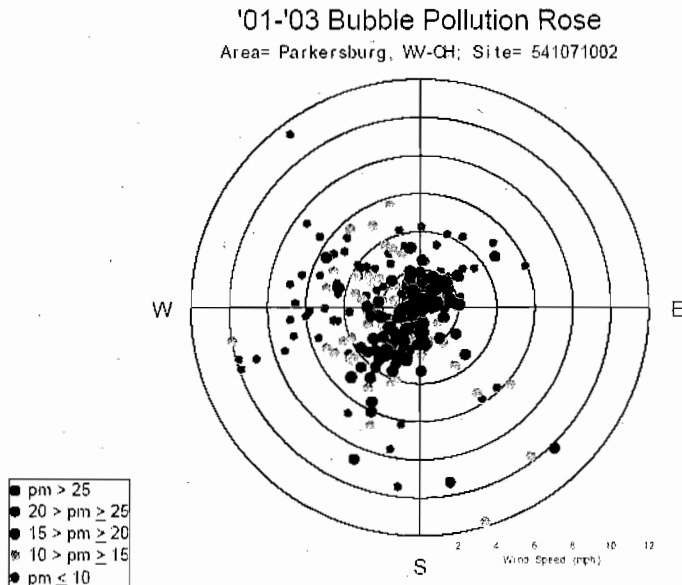


This diagram depicts 2001-2003 monitoring and meteorological data for the violating monitor in Cabell county, WV. Each dot represents a 24-hour PM2.5 monitoring sample, and the color of the dot indicates the concentration on that day (in micrograms per cubic meter). The location of the dot in reference to the center of the diagram (representing the monitor location) indicates the overall direction from which the wind was blowing on that day, and the distance of the dot from the center indicates the average wind speed on that day. The diagram shows that elevated PM2.5 concentrations in Cabell county originate from all directions, including the northeast. These data provide additional evidence that the Mason county power plants are likely contributors to PM2.5 levels in Cabell county, WV which exceed the annual standard for PM2.5.

**Figure 3 – Parkersburg, WV-OH Nonattainment Area**



**Figure 4 - Bubble Pollution Rose Diagram for Parkersburg, WV-OH**



This diagram depicts 2001-2003 monitoring and meteorological data for the violating monitor in Wood county, WV . Each dot represents a 24-hour PM2.5 monitoring sample, and the color of the dot indicates the concentration on that day (in micrograms per cubic meter). The location of the dot in reference to the center of the diagram (representing the monitor location) indicates the overall direction from which the wind was blowing on that day, and the distance of the dot from the center indicates the average wind speed on that day. The diagram shows that elevated PM2.5 concentrations in Wood county originate from all directions, including the east. These data provide additional evidence that the Pleasants county power plants are likely contributors to PM2.5 levels in Wood county, WV which exceed the annual standard for PM2.5.

## Attachment 2

### Power Plant Impacts

EPA has conducted a variety of assessments that show that power plants have significant impacts on PM-2.5 nonattainment in the Eastern United States. Many of these assessments evaluated the long range impacts of power plants, demonstrating for example the value of the Clean Air Interstate Rule. However, EPA has also evaluated the impact of power plants at intermediate distances as well.

In one assessment in particular, a set of modeling runs was conducted to evaluate the impacts of power plants on relatively nearby violating monitors. This modeling was conducted using the CMAQ air quality model and 2001 emissions data (the same modeling platform used in the development of the Clean Air Interstate Rule). (Further information on the CAIR analyses is available at [www.epa.gov/cair](http://www.epa.gov/cair).) Three model runs were conducted: one "base case" simulating current air quality levels (1999-2003 average); one case in which eight power plants in the eastern U.S. were "zeroed out" (i.e. their pollutant emissions were assumed to be zero); and one case in which 29 power plants in the eastern U.S. (those identified in EPA's June 2004 letters to states) were "zeroed out." In the eight-source run, the sources were selected such that they were a significant distance from each other (e.g. at least about 100 miles) and about 20-80 miles from a nearby violating monitor. Both emission reduction runs evaluated the range of annual average air quality impacts associated with zeroing out power plants of various sizes and located a range of distances from a violating monitor.

This modeling indicated that power plants have significant impacts on PM-2.5 concentrations at relatively nearby locations as well as the significant impacts at longer distances found in other assessments. The 8-source run zeroed out plants with SO<sub>2</sub> emissions between about 40,000 and 160,000 tons per year and NO<sub>x</sub> emissions between about 8,000 and 40,000 tons per year. These reductions caused reductions in modeled PM-2.5 concentrations ranging from 0.35 to 0.71  $\mu\text{g}/\text{m}^3$ . The 29-source run zeroed out a broader range of plants including a number of smaller plants; nevertheless, the impacts at nearby monitors were comparable to the impacts found in the 8-source run.

A memorandum entitled "Air Quality Modeling to Assess Power Plant Impacts" was included in the public docket for the PM<sub>2.5</sub> designations process (docket EPA-HQ-2003-0061) in December 2004. It provided further information regarding the zero-out modeling runs described above. EPA has included an updated version of this memorandum in the designations docket to include

additional information on the results of the 8-source and 29-source runs.

EPA would emphasize the fact that the Clean Air Act does not require air quality modeling for designating nonattainment areas. EPA's assessment of a range of air quality, demographic, transportation, and emissions information in nine categories provided a sufficient and robust technical foundation for the designations process. EPA conducted the modeling described here to address a policy question, namely to assess whether relatively large sources such as power plants should generally be considered to contribute to nearby nonattainment problems. The particular modeling runs conducted may offer insight into the potential contributions of particular power plants to particular nonattainment areas. However, the purpose of this modeling was to inform the judgments that EPA ultimately made regarding the potential contributions of numerous large sources across the Eastern United States, not to assess where to draw boundaries of any particular nonattainment area. The general finding about the impact of moderate to large power plants on nearby violating monitors supplemented additional information from the nine-factor analysis, leading EPA to conclude that sources in the Graham Tax District of Mason County contribute to a violation of the PM<sub>2.5</sub> standards in the Huntington-Ashland area, and that sources in the Grant Tax District of Pleasants County contribute to a violation of the PM<sub>2.5</sub> standards in the Parkersburg area.