



Pennsylvania Department of Environmental Protection

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December 28, 2007

Secretary

717-787-2814

RECEIVED

Mr. Donald S. Welsh
Regional Administrator
U.S. Environmental Protection Agency, Region III
1650 Arch Street (Mail Code: 3RA00)
Philadelphia, PA 19103-2029

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JAN 03 2008

EPA, REGION III
OFFICE OF REGIONAL ADMINISTRATOR

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JAN 03 2008

Dear Mr. Welsh:

Air Protection Division (3AP21)

Pursuant to Section 107 of the Clean Air Act (CAA), enclosed are the Commonwealth of Pennsylvania's designation recommendations pertinent to the revised 24-hour National Ambient Air Quality Standard for particulate matter less than 2.5 micrometers in diameter (herein after 24-hour PM_{2.5}), 35 micrograms per cubic meter. The recommended geographical boundaries for 24-hour PM_{2.5} attainment and nonattainment areas within our borders were determined in accordance with the guidance set forth in the Robert Myers' memorandum (dated June 8, 2007) pertaining to the "Area Designations for the Revised 24-Hour Fine Particle National Ambient Air Quality Standard."

Prior to finalizing the Commonwealth's 24-hour PM_{2.5} designation recommendations, public meetings on the proposed recommendations were held in Harrisburg, Pittsburgh, and Norristown on November 26, 27 and 28, 2007, respectively. A Comment/Response document addressing the comments received is also enclosed for your information.

We understand that EPA will provide notice of any modifications to our 24-hour PM_{2.5} designation recommendations at least 120 days prior to issuing final designations. We fully intend to take advantage of the opportunities prescribed under the CAA to comment on any proposed modifications to our recommendations. I should also mention that we look forward to collaborating with your staff during the development of final 24-hour PM_{2.5} designations for this Commonwealth.

Thank you in advance for your favorable consideration of our 24-hour PM_{2.5} designation recommendations. Should you have any questions or need additional information during the 24-hour PM_{2.5} designation process, please contact Joyce E. Epps, Director, Bureau of Air Quality, by e-mail at jeepps@state.pa.us or by telephone at 717-787-9702.

Sincerely,

Kathleen A. McGinty
Secretary

Enclosures



**Commonwealth of Pennsylvania
Department of Environmental Protection**



**RECOMMENDATIONS TO THE U.S. EPA
FOR 24-HOUR
FINE PARTICULATE (PM_{2.5})
ATTAINMENT/NONATTAINMENT AREAS**

DECEMBER 2007

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Kathleen A. McGinty
Secretary

Edward G. Rendell
Governor

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**Recommendations to the U.S. EPA for 24-hour
Fine Particulate (PM_{2.5}) Nonattainment Area Designations**

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What is this document?

The federal Clean Air Act (CAA) provides a mechanism for states to make recommendations to the United States Environmental Protection Agency (EPA) on the designation of areas not meeting the health-based National Ambient Air Quality Standards (NAAQS).

In this document, the Commonwealth of Pennsylvania (Commonwealth) is making recommendations to the U.S. EPA concerning the designation of attainment and nonattainment areas in Pennsylvania for the new 24-hour fine particulate NAAQS established by the U.S. EPA (71 *Fed. Reg.* 61144, Oct. 17, 2006). The designation recommendations are based on air quality monitoring data for 2004-2006 and other available information, including particulate-forming emissions, meteorology and demographics. Since the U.S. EPA anticipates making final designations in December 2009 using air quality monitoring data for 2005-2007, the Department of Environmental Protection (DEP) will continue to work with the U.S. EPA during the process leading to the U.S. EPA's promulgation of the final designations.

What is fine particulate matter?

Particulate matter (PM) includes both solid and liquid particles suspended in the air. PM is chemically and physically diverse and originates from a variety of human and natural activities. PM is composed of particles in a wide range of sizes. Smaller particles pose a health concern because they can be inhaled into and accumulate in the respiratory system. Particles less than 2.5 micrometers in diameter (PM_{2.5}) are referred to as fine particles and generally pose the largest health risks. Because of their small size, fine particles can penetrate deeply into the lungs. Fine particles are primarily composed of sulfates, nitrates, organic carbon, elemental carbon and crustal material.

PM_{2.5} may either be directly emitted from a source ("primary" particulate, also called "direct" emissions of particulate) or formed in the atmosphere by chemical reaction of gaseous precursors ("secondary" particulate). Precursors of PM_{2.5} can include sulfur dioxide, nitrogen oxides (NO_x), volatile organic compounds (VOC), and ammonia. PM_{2.5} and its precursors result mainly from fuel combustion (motor vehicles, power plants and nonroad engines) and industrial processes.

PM_{2.5} is a significant air pollution problem in parts of Pennsylvania. Reducing concentrations of PM_{2.5} is important because levels above the health-based standard are a serious human health threat and also can cause or contribute to other negative environmental impacts.

What is the NAAQS for PM_{2.5}? The U.S. EPA sets the NAAQS based on its review of existing scientific knowledge about the adverse health and welfare effects. The CAA requires the U.S. EPA to review and update periodically, if necessary, the NAAQS to

“protect public health with an adequate margin of safety” based on the latest, best-available science. CAA § 109(d), 42 U.S.C. § 7409(d).

Previous particulate standards had been based on total suspended particulates and then particles less than 10 micrometers in diameter (PM₁₀). In 1997, the U.S. EPA revised the NAAQS to reflect the growing body of scientific knowledge that links serious health effects to fine particles.

On July 18, 1997, the U.S. EPA promulgated two new PM_{2.5} standards – an annual average of 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and a 24-hour average of 65 $\mu\text{g}/\text{m}^3$. (The PM₁₀ standards were retained as an indicator for coarse PM; all areas of Pennsylvania meet this standard.) A number of challenges were filed in the federal Court of Appeals for the District of Columbia Circuit regarding these standards. It took until March 2002 for all of the legal challenges to be resolved. Designations of attainment and nonattainment areas for the 1997 standards were made in December 2004 with an effective date of April 5, 2005. (No area in Pennsylvania was designated as nonattainment for the 24-hour standard.) The U.S. EPA then began developing new strategies for implementation of the PM_{2.5} standards. The final PM_{2.5} implementation regulation was published April 25, 2007. State Implementation Plans for the 1997 standard are due in April 2008, three years after the designations were effective.

The delay in implementing the 1997 standard did not affect the U.S. EPA’s periodic review of the standard itself. Therefore, on October 17, 2006, the U.S. EPA published its latest revisions to the PM standards. The daily (24-hour) standard for PM_{2.5} was made more protective and changed from 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$. An area does not attain the 24-hour standard if the 98th percentile 24-hour concentration averaged over 3 years is more than 35 $\mu\text{g}/\text{m}^3$. The annual standard for PM_{2.5} of 15 $\mu\text{g}/\text{m}^3$ was retained. The daily standard for PM₁₀ of 150 $\mu\text{g}/\text{m}^3$ was retained while the annual standard of 50 $\mu\text{g}/\text{m}^3$ was revoked completely. (No area in Pennsylvania violates the PM₁₀ standard.) The U.S. EPA's new fine particulate 24-hour standards will provide significantly increased health and environmental protection.

Health Effects. Millions of Pennsylvanians live in areas where the PM_{2.5} health-based standards are exceeded. Fine particles generally pose greater health risks than larger particles. Because of their small size (less than one-seventh the average width of a human hair), fine particles can lodge deeply into the lungs. Health studies have shown a significant association between exposure to PM_{2.5} and premature mortality. Studies have also linked exposure to PM_{2.5} with other significant health problems, including aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, increases in respiratory symptoms like coughing and difficult or painful breathing, chronic bronchitis, and certain cardiovascular problems such as heart attacks and cardiac arrhythmia. Individuals particularly sensitive to PM_{2.5} exposure include older adults, people with heart and lung disease, and children.

Environmental effects. Fine particles are the major cause of reduced visibility (haze) in certain parts of the United States, including many national parks. Fine particles cause

visibility impairment by scattering and absorbing light before it reaches an observer. In the Eastern United States, haze has reduced the average visual range from approximately 90 miles in the absence of manmade pollution to 15 to 25 miles. In addition, components of PM_{2.5}, such as nitrates and sulfates, contribute to acid rain formation. Acid rain makes lakes, rivers, and streams unsuitable for many fish, and erodes buildings, historical monuments, and paint on cars. PM_{2.5} and its precursor pollutants can be carried over long distances by wind and then settle on ground or water. This changes the nutrient balance in coastal waters and large river basins, contributing to fish kills and algae blooms in sensitive waterways, such as the Chesapeake Bay. The settling of PM_{2.5} also depletes the nutrients in soil, damages sensitive forests and farm crops, and affects the diversity of ecosystems. Soot, a type of PM_{2.5}, stains and damages stone and other materials. The U.S. EPA has not set a separate standard for PM_{2.5} to protect welfare and the environment.

What is the process for designating areas?

Section 107(d)(1)(B) of the CAA requires the U.S. EPA to designate areas after promulgating a new NAAQS. Following promulgation of new or revised air standards, governors are given the opportunity to submit recommendations for attainment and nonattainment areas, supported by the most recent quality-assured monitoring data. The U.S. EPA provides criteria for states' recommendations for designating areas.

The U.S. EPA has requested that governors' recommendations for PM_{2.5} attainment and nonattainment designations be submitted by December 18, 2007, one year after the promulgation of the revised NAAQS. The U.S. EPA may make modifications and promulgate all or part of a Governor's recommendations. If EPA determines that a modification to the recommendation is necessary, the U.S. EPA will notify the state no later than 120 days prior to promulgating the designation. This provides an opportunity for the state to work with the U.S. EPA if the state believes its decisions are not appropriate.

The recommendations in this document are based on 2004-2006 air quality monitoring data, the most recent full-year quality-assured data available. The U.S. EPA will make final PM_{2.5} designations in December 2009, most likely based on 2006-2008 air quality monitoring data.

The PM_{2.5} State Implementation Plan (SIP) revisions will be due to the U.S. EPA in April 2013, three years after final designations are expected to be effective. The CAA presumptive attainment date is five years after final designations are effective, which would be April 2015. There is a possibility of up to a five-year extension for the attainment date, if the state demonstrates the need for an extension.

The anticipated schedule for the recommendations of designation and development of SIPs is as follows:

November 17, 2007	Open comment period on PM _{2.5} designation recommendations
December 7, 2007	Close comment period on PM _{2.5} designation recommendations
December 18, 2007	State recommendations due to the U.S. EPA
December 2009	EPA's final designations published
April 2010	Effective date of the U.S. EPA's final designations
April 2013	PM _{2.5} SIP revision due to the U.S. EPA
Up to April 2015	Attainment date
Up to April 2020	Attainment date with a 5-year extension

DEP held three public meetings on its proposed recommendations on November 26, November 27 and November 28, 2007, in Harrisburg, Pittsburgh and Norristown, respectively.

What would be the effects of designation as nonattainment?

An area designated as nonattainment may be affected because the regulatory regimen for new or modified stationary sources will be different. In addition, the "conformity" provisions of the CAA apply only in nonattainment areas; transportation plans and federally-funded actions and projects must conform to the SIP in order not to interfere with NAAQS attainment and maintenance.

Any major new or modified stationary source inside a PM_{2.5} nonattainment area could be affected. Under current regulations, new major stationary sources need to demonstrate that they do not cause or significantly contribute to a violation of the NAAQS. The U.S. EPA has recently promulgated proposed rules offering several potential methods for sources to demonstrate during the applicable New Source Review/Prevention of Significant Deterioration permitting process whether or not their proposed emission increases would significantly contribute to an area that is already violating the PM_{2.5} standard(s) and trigger additional control requirements and emissions offsets. Until these rules are finalized it is difficult to speculate what impact they may have on sources; however, since the rules are required by the CAA to ensure that as new modifications and sources are added, these activities result in progress towards attainment, air quality in the area should improve with the addition of new and modified sources.

Eight areas encompassing 20 counties have already been designated as nonattainment for the 1997 annual PM_{2.5} standard. To the extent that these areas are also designated as nonattainment for the 24-hour PM_{2.5} standard, there would be no net change in requirements in these areas as a result of designation for the 24-hour standard.

The Commonwealth is in the process of developing SIPs that demonstrate how these areas will attain the annual standard by April 2010. Pennsylvania will derive additional emission reduction benefits from regional measures as well as mobile measures, such as cleaner new cars, cleaner new diesel vehicles and cleaner fuels, as these are implemented over the next few years. Measures adopted by states to meet this annual standard will also assist in reducing peak levels of PM_{2.5} and meeting the 24-hour standard.

Measures adopted by the states to attain the ground level ozone standards will also help states to attain the PM_{2.5} standard because the pollutants that produce ozone (NO_x and VOC) also contribute to PM_{2.5} formation. Therefore, ongoing efforts pertaining to attainment of the eight-hour ozone standards will also help to attain the PM_{2.5} standard.

In addition, regional and national control measures will assist Pennsylvania in attaining the 24-hour PM_{2.5} standard. In March 2005, the U.S. EPA issued the Clean Air Interstate Rule to address the ongoing problem of regional transport of pollutants. The Clean Air Interstate Rule (CAIR) will permanently cap emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), which contribute to PM_{2.5} and ozone, in the eastern United States. CAIR achieves large reductions of SO₂ and/or NO_x emissions across 28 eastern states and the District of Columbia. When fully implemented, CAIR will reduce SO₂ emissions in these states by over 70 percent and NO_x emissions by over 60 percent from 2003 levels. The electric generating units in the Commonwealth are subject to CAIR under a U.S. EPA Federal Implementation Plan (FIP) promulgated on April 28, 2006. The Commonwealth may submit a SIP that achieves the CAIR reductions in place of the FIP.

To the extent additional measures are required to attain the PM_{2.5} NAAQS, they would be developed by Pennsylvania through a public process as the implementation plan is developed. The Commonwealth will also work with states in areas that affect and are affected by Pennsylvania's air quality to develop measures that will not disadvantage Pennsylvania economically.

Pennsylvania's PM_{2.5} Designation Recommendations

EPA guidance for PM_{2.5} designation boundaries. On April 1, 2003, the U.S. EPA issued a general guidance memorandum, "Designations for the Fine Particulate National Ambient Air Quality Standards." The guidance memorandum described criteria that states were to examine when suggesting nonattainment boundaries for the 1997 standards that are either larger or smaller than the metropolitan area. Some of the critical factors recommended for consideration included population density similarities, emission levels, air quality, and meteorology. EPA's 2003 guidance applied a presumption that the boundaries for urban nonattainment areas should be based on statistical metropolitan/micropolitan areas, as defined by the United States Office of Management and Budget (OMB).¹ Pennsylvania used this guidance when developing designation recommendations for the annual PM_{2.5} standard.

¹ The Office of Management and Budget defines Micropolitan, Metropolitan, and Combined Statistical Areas. The areas consist of a central county or group of counties with a population core and a high degree of social and economic integration measured by commuting ties with outlying counties. OMB also defines

EPA promulgated guidance specifically for the revised 24-hour PM_{2.5} NAAQS designations on June 8, 2007. The U.S. EPA is applying no such presumption about statistical areas for the revised 24-hour standard in its 2007 guidance. The U.S. EPA also anticipates that the same boundaries for the annual PM_{2.5} standard may also be appropriate for implementing the 24-hour standard where both standards are violated, in order to facilitate overall air quality planning.

The Department has strongly considered providing for continuity of existing air quality planning efforts in its recommendations for the revised 24-hour PM_{2.5} NAAQS, as per EPA's 2007 guidance. In central and eastern Pennsylvania, the U.S. EPA's 2005 designations generally followed county boundaries and, in part, the OMB's boundaries for Metropolitan Statistical Areas and Combined Statistical Areas. The OMB-defined areas are defined primarily by having a high degree of social and economic integration measured by commuting ties with outlying counties. Where the U.S. EPA's designations did not follow these boundaries, they tended to make the nonattainment area smaller than the MSA or CSA. For example, Perry County was not included in the Harrisburg nonattainment area, even though it is part of the CSA. In western Pennsylvania, EPA's designations carved out small portions of some counties surrounding high-emitting power plants to add to full counties. For example, several townships in Indiana County were added to the Johnstown (Cambria County) nonattainment area. The process is well underway in developing SIPs for those areas. Therefore, recommendations for the revised 24-hour standard do not change most of these boundaries.

What factors have been considered? The U.S. EPA recommends that states look at a number of factors in making its recommendations for 24-hour PM_{2.5} designations (Attachment 2 to the 2007 Guidance). The Department, on behalf of the Commonwealth, has considered these factors as follows:

Air Quality. The Commonwealth's recommendations are based on the 2006 PM_{2.5} 24-hour design values (using the 2004, 2005 and 2006 monitored data). Figure B-1 is a map of the 2006 PM_{2.5} 24-hour design values for all of the PM_{2.5} monitors. The monitors exceeding the 35 µg/m³ standard are displayed in red. (With rounding, design values of 35.5 are considered exceeding the standard.) All of the areas that were designated nonattainment for the annual standard in 2004 have monitors that exceed the revised 24-hour standard. In addition, two monitors in counties that were not designated nonattainment for the annual standard in 2004 are in violation of the revised 24-hour standard: the State College monitor (in Centre County) and the Freemansburg monitor (in Northampton County). The Commonwealth is recommending that all of these areas be designated nonattainment for the 24-hour PM_{2.5} standard.

Metropolitan Statistical Areas (an urban area with a population of at least 50,000 with or without outlying counties), Micropolitan Statistical Areas (a population of at least 10,000 but less than 50,000 with or without outlying counties) and Combined Statistical Areas (combinations of either of the above). In particular, a Combined Statistical Area is formed if two core areas are significantly integrated by employment. In this document, DEP considered the most current list of Statistical Areas available at: www.census.gov/population/www.estimates/metrodef.html.

Emissions and Current Emission Controls.

Stationary Point Sources. Figures B2-B5 in Appendix B show the PM_{2.5} precursor emissions per square mile for stationary point sources, which are the sources for which the Department collects individual emissions-related information. Stationary point sources include major manufacturing operations and power plants. Figures B11-B14 show similar information for specific point sources.

Area Sources. Figures B6-B10 (Emission Density for Area Sources) in Appendix B show PM_{2.5} precursor emissions per square mile, including emissions resulting from:

- Stationary area sources, which are the industrial, commercial, and residential sources too small or too numerous to be handled individually, such as commercial and residential open burning, architectural and industrial maintenance coatings application and clean-up, consumer product use, and vehicle refueling at service stations.
- Highway vehicles, which include passenger cars and light-duty trucks, other trucks, buses and motorcycles; and
- Nonroad sources, which consist of a diverse collection of engines, including engines in outdoor power equipment, recreational vehicles, farm and construction machinery, lawn and garden equipment, industrial equipment, recreational marine vessels, commercial marine vessels, locomotives, ships, aircraft and many other such sources.

Stationary area source emissions of ammonia (NH₃) are concentrated in the areas with high concentrations of agriculture, including areas of animal and crop operations. Stationary area source emissions of the other PM_{2.5} precursors tend to be more concentrated in populated areas as a result of vehicle traffic or combustion sources.

Highway and nonroad emissions of NO_x, direct PM_{2.5} and VOC have been declining and will continue to do so, as national and state controls on new highway vehicles, nonroad equipment and motor vehicle fuels come into effect, and older vehicles are replaced. In areas where transportation is a significant generator of emissions, Pennsylvania's designations predominantly follow transportation planning boundaries (for example, Lehigh/Northampton counties).

Population, Urbanization, Traffic, Commuting, and Growth. These related factors are the primary determinates of the OMB's designation of metropolitan and micropolitan statistical areas and were used extensively by Pennsylvania in its recommendations for the annual PM_{2.5} standard, and to a lesser extent, by the U.S. EPA in its final designations. For the 24-hour standard, the U.S. EPA explicitly stated that these area boundaries would no longer be presumed to define nonattainment areas. The Commonwealth, however, has emphasized continuity of planning for attainment of the

24-hour standard with the annual standard. Consequently, the Commonwealth's recommended boundaries take these factors into account. It should be noted, however, that a high rate of growth does not necessarily mean high absolute increases. For example, while Pike County has a high rate of growth, population is relatively low and, therefore, emissions are expected to remain an insignificant contribution to the New York City area. Figure B15 shows population density by county and Figure B16 shows population growth between 1990 and 2000.

Political and other boundaries. Following county boundaries has a natural advantage in that these are the same boundaries used by the Commonwealth's regional transportation planning organizations (which are also often economic planning organizations as well). Inventory data for non-point sources is also more accurate and available on the county level.

However, the U.S. EPA included small portions (individual townships and boroughs) of some counties in the annual PM designations. For purposes of continuity of planning, the Commonwealth is not recommending changes to any of these small-area boundaries for the 24-hour designations.

Meteorology and Topography. Many regions across the Commonwealth have weather that is influenced by topography. There are many areas of river valleys and higher terrain across western Pennsylvania that influence the way wind flows across the region. Many of the monitors that exceed the 24-hour PM_{2.5} standard are located in regions that contain significant topographic features, such as the Allegheny Plateau and the Ridge and Valley regions in western Pennsylvania. Topography also has a role in the way morning inversions form. Morning inversions are a key meteorological feature that contributes to higher daily levels of PM_{2.5} across a region. Various areas contend with the influences of the Appalachian Mountains, as well. The changes in local elevation become less drastic in southcentral and southeastern portions of the Commonwealth. The Philadelphia area, by contrast, has relatively few topographic features that restrict airflow. Less restricted airflow over the region could explain why 24-hour design values in southeastern Pennsylvania are much more uniform than their counterparts in western Pennsylvania. Topography also plays a role in the Susquehanna Valley (which for discussion purposes will include the Lancaster, York, Reading, and Harrisburg areas). Monitors in this area are immediately downwind of the Appalachian Mountain chain. In meteorological scenarios of recirculation when the wind comes out the east (or is calm across the region), there are higher daily PM_{2.5} levels in the Susquehanna Valley region due to pollutants becoming bottled up on the eastern slope of the Appalachian Mountains.

Discussion by Area

Recommended Nonattainment Areas

Air quality monitoring data for 2004-2006 indicate that monitors in the following areas are in violation of the 24-hour PM_{2.5} NAAQS. The Commonwealth is making the following PM_{2.5} nonattainment area designation recommendations based upon air quality

monitoring data for 2004-2006, the other information described immediately above regarding the factors in the U.S. EPA's 2007 guidelines, and any additional information described below.

Southwest Pennsylvania:

Liberty-Clairton Nonattainment Area: This nonattainment area includes the City of Clairton, Borough of Glassport, Borough of Liberty, Borough of Lincoln and Borough of Port View. The Commonwealth recommends the same area be designated nonattainment for the 24-hour PM_{2.5} standard.

Supporting Factors: Annual and 24-hour PM_{2.5} design values are much higher, particularly at the Liberty monitor, than the surrounding areas. There are significant differences between the two monitors within the PM_{2.5} nonattainment area with the Liberty monitor being significantly over the annual standard and the Clairton monitor recently just meeting the annual standard (Summary of Pennsylvania's PM_{2.5} Nonattainment Analysis, 2007). Twenty-four hour PM_{2.5} concentrations are also significantly different (~30 µg/m³). This steep gradient between these two nearby monitors suggests a local source with enhancements from local topography is contributing to the nonattainment area's relatively high 24-hour and annual PM_{2.5} design values. A smaller nonattainment area is therefore justified.

Pittsburgh-Beaver Valley Nonattainment Area: The Pittsburgh-Beaver Valley annual PM_{2.5} nonattainment area consists of most of Allegheny County (except the Liberty-Clairton area), Beaver, Butler, Washington and Westmoreland counties, and small portions of Lawrence, Armstrong and Greene counties. Liberty-Clairton is a separate nonattainment area. The Commonwealth recommends that the Pittsburgh nonattainment area remain the same for the 24-hour standard, except that Greene County should not be included.

The portion of Greene County (Monongahela Twp) included in the Pittsburgh-Beaver Valley annual PM_{2.5} nonattainment area is situated in the southernmost portion of the annual nonattainment area. Two monitors in Washington County, Charleroi and Washington, have 24-hour design values below the PM_{2.5} 24-hour standard. Emissions from this portion of Greene County are not believed to be significantly affecting monitors to the north; if they were, the Charleroi and Washington monitors, like other monitors farther to the north, would also be exceeding the 24-hour PM_{2.5} standard.

Supporting Factors: This region of Pennsylvania is dominated by relatively high terrain cut by numerous river valleys. While these features tend to trap local emissions overall the monitors within this proposed nonattainment area tend to correlate well with one another.² This suggests that while the proposed nonattainment area is quite extensive that it can be grouped together as one nonattainment area.

² Summary of Pennsylvania's PM_{2.5} Nonattainment Analysis, Appendix C, Department of Environmental Protection, 2007

The nonattainment area includes three air basins as defined in 25 Pa Code § 121.1; the Lower Beaver Valley Air Basin, the Allegheny County Air Basin and the Monongahela Valley air basin. These air basins provide a set of common controls for sulfur compound emissions, a PM_{2.5} precursor (25 Pa Code § 123.22).

This multi-county area is included in one single transportation-planning agency as designated by the U.S. Department of Transportation (U.S. DOT) based on economic and commuting patterns.

Johnstown Nonattainment Area: Cambria County and several townships in Indiana County surrounding a coal-fired power plant were designated as a nonattainment area for the annual PM_{2.5} standard. The Commonwealth recommends the same for the 24-hour standard.

Supporting Factors: Some of the highest terrain in the Commonwealth brackets the Johnstown nonattainment area on the east and west. The nonattainment area also includes portions of Indiana County that contain large coal-fired power plants. Prevailing winds carry precursor and direct PM_{2.5} emissions from these sources eastward into Cambria County. The nonattainment area also contains the Johnstown air basin, which defines a common set of sulfur compound controls (25 Pa Code § 121.1 and 123.22). Sulfur compounds are an important PM_{2.5} precursor.

Northcentral Pennsylvania:

State College Nonattainment Area: The area is designated as attainment for the annual PM_{2.5} standard. The State College monitor violates the 24-hour standard. The Commonwealth recommends that Centre County be designated as nonattainment for the 24-hour standard.

Supporting Factors: The proposed nonattainment area is located in the Ridge and Valley province of Pennsylvania and is isolated from all of the other nonattainment areas in the Commonwealth. Centre County has significantly more people than the counties surrounding it and has experienced significant growth over the last several decades. The area is designated as a single-county transportation agency by US DOT based on economic, political and commuting patterns. These factors support a single county in the nonattainment area.

Southcentral Pennsylvania:

Harrisburg-Lebanon-Carlisle Nonattainment Area: Cumberland, Dauphin and Lebanon counties were designated as nonattainment for the annual PM_{2.5} standard. There are two MSAs included in this area. The Harrisburg MSA includes Perry County; however, emission contributions from Perry County to the area are insignificant. While Lebanon County is its own MSA, there is significant commuting between these MSAs. The Commonwealth recommends that the three-county area be designated as nonattainment for the 24-hour standard.

Lancaster Nonattainment Area: Lancaster County was designated nonattainment for the annual PM_{2.5} standard and the 8-hour ozone standard. This area is served by a single-county transportation-planning agency based on economic, political and commuting patterns. The Commonwealth recommends the same for the PM_{2.5} 24-hour standard.

Reading Nonattainment Area: Berks County was designated nonattainment for the annual PM_{2.5} standard and is the planning area for the 8-hour ozone standard. Commonwealth recommends that Berks County be designated as a nonattainment area for the 24-hour PM_{2.5} standard. Although the OMB added Berks County to the Philadelphia Combined Statistical Area (CSA) in 2006 because of increasing commuting ties to the larger area, it traditionally has its own planning functions and should not be included in the Philadelphia nonattainment area.

York Nonattainment Area: York County was designated nonattainment for the annual PM_{2.5} standard. York County was designated as an 8-hour ozone nonattainment area with Adams County. However, the Adams County monitor is attaining the PM_{2.5} 24-hour standard. The Commonwealth recommends that York County be designated individually as a nonattainment area for the PM_{2.5} 24-hour standard.

Supporting Factors: The region is comprised of four (4) nonattainment areas that lie south of Blue Mountain, which marks the southern border of the Allegheny Mountains. This physical boundary influences regional wind patterns and often poses a barrier to maritime air masses originating from the Atlantic Ocean. Several broad valleys stretch across the region mainly aligned from east to west though these terrain features are generally smaller than the mountains to the north. Region population, population density and population growth are relatively consistent across the region.

Statistical analyses indicate monitors within the area generally correlate well with one another.³ These monitors, however, correlate less well with monitors in eastern Pennsylvania, Adams County (to the west) and Perry County (to the north). While correlation statistics argue for a combined nonattainment area, historically these areas have been kept separate. The Department has defined four (4) air basins that roughly correspond to the current and proposed PM_{2.5} nonattainment areas in southcentral Pennsylvania. These include the Reading Air Basin in Berks County, the Lancaster Air Basin in Lancaster County, the Harrisburg Air Basin in Cumberland and Dauphin counties and the York Air Basin in York County. These basins are defined in 25 *Pa Code* § 121.1 and designate sulfur compound controls outlined in 25 *Pa Code* § 123.22. Sulfur compounds are an important PM_{2.5} precursor.

Eastern Pennsylvania:

Allentown-Bethlehem-Easton Nonattainment Area: No area in this metropolitan area violates the annual PM_{2.5} standard. However, for the 24-hour standard, the Freemansburg

³ *Summary of Pennsylvania's PM_{2.5} Nonattainment Analysis*, Appendix C, Department of Environmental Protection, 2007

monitor in Northampton County is violating the standard. The Allentown monitor in Lehigh County was discontinued at the end of 2005. Twenty-four hour design values for 2005 at the Allentown monitor exceeded the 24-hour standard and were very similar to design values at the near-by Freemansburg monitor. Twenty-four hour PM_{2.5} design values in 2005, the last year both monitors were operating, for Allentown and Freemansburg were 36.4 µg/m³ and 36.1 µg/m³ respectively. Because of this and the integrated economic base of the two counties, the Commonwealth recommends that Lehigh and Northampton counties be designated as a nonattainment area for the 24-hour standard. Other Pennsylvania counties in this region make insignificant contributions to the nonattainment problem at the Freemansburg monitor.

Supporting Factors: The region is bounded on the north by Blue Mountain providing a significant physical barrier. A broad valley runs from east to west connecting both Lehigh and Northampton counties. Statistical analyses indicate monitors within the area generally do not correlate all that well with monitors to the south (Summary of Pennsylvania's PM_{2.5} Nonattainment Analysis, Appendix C, 2007) justifying a separate nonattainment area. The Department's Allentown-Bethlehem-Easton Air Basin defined in 25 Pa Code § 121.1 covers portions on Lehigh and Northampton counties. Designated sulfur compound controls for this air basin are outlined in 25 Pa Code § 123.22.

Philadelphia Nonattainment Area: The Pennsylvania portion of the existing 8-hour ozone and annual PM_{2.5} interstate nonattainment areas consists of Bucks, Chester, Delaware, Montgomery and Philadelphia counties. The Commonwealth is recommending that these counties be designated as a 24-hour PM_{2.5} nonattainment area, primarily to maintain continuity for planning.

Supporting Factors: No major topographic features to restrict airflow are present in this region of the state. Some minor hills separate this region from the Lehigh Valley area to the north. Emissions, population density and population growth are relatively uniform across the region. Statistical analysis has show most of the monitors in southeast Pennsylvania correlate well with one another except for a couple of monitors which may be unduly influenced by local emission sources⁴. Twenty-four hour PM_{2.5} concentrations are relatively uniform with concentrations in areas away from the I-95 corridor falling below the 24-hour PM_{2.5} NAAQS. This drop off in design values supports separating the region from other nonattainment areas to the north and west. The nonattainment area would combine the Department's inner and outer Southeast Air Basins (25 Pa Code § 121.1). Designated sulfur compound controls for these air basins are outlined in 25 Pa Code § 123.22. Sulfur compounds are an important PM_{2.5} precursor.

Recommended Attainment Areas

Erie Area: The area is monitoring attainment with the annual and 24-hour standards and, therefore, the Commonwealth is recommending designation as attainment.

⁴ Summary of Pennsylvania's PM_{2.5} Nonattainment Analysis, Appendix C, Department of Environmental Protection, 2007

Mercer County Area: Mercer County is part of the Youngstown-Warren Metropolitan Statistical Area (MSA) in Ohio. Upwind monitors in Ohio's Trumbull and Mahoning counties are monitoring violations of the revised 24-hour standard. However, one downwind monitor in Ohio and the Mercer County monitor itself are monitoring attainment, indicating that Mercer County is not contributing to PM_{2.5} problems in the metropolitan area. The Commonwealth recommends that Mercer County not be included as part of any nonattainment area for the 24-hour standard.

Pike County: The area does not have a monitor, but is part of the New York City Consolidated Metropolitan Statistical Area (CMSA). It was not included as part of the New York City annual PM_{2.5} nonattainment area. While population in Pike County is growing, population is still very low. Pike County is now and likely to remain an insignificant contributor to New York City nonattainment. The Commonwealth, therefore, recommends that it not be included in any designation for the New York City area as nonattainment for the 24-hour standard.

Scranton/Wilkes-Barre Area: The area is monitoring attainment with the annual and 24-hour standards and, therefore, the Commonwealth is recommending designation as attainment.

Available Data. Appendix A includes a map and a table that describe the recommendations for 24-hour PM_{2.5} areas, as well as a map of the existing annual PM_{2.5} standard nonattainment areas. Appendix B includes documenting material that addresses the U.S. EPA's designation criteria pertaining to air quality, emissions and population factors.

ACRONYMS AND TERMS

CAA	Clean Air Act
CSA	Combined Statistical Area
DEP	Department of Environmental Protection (Pennsylvania)
EPA	Environmental Protection Agency (United States)
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter (of air)
MANE-VU	Mid-Atlantic/Northeast Visibility Union
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NH_3	chemical formula for ammonia
NO_x	oxides of nitrogen
OMB	Office of Management and Budget (United States)
PM	particulate matter
$\text{PM}_{2.5}$	particulate matter under 2.5 microns in size
PM_{10}	particulate matter under 10 microns in size
SIP	State Implementation Plan
SO_2	sulfur dioxide
USDOT	United States Department of Transportation
VOC	volatile organic compounds

APPENDIX A

Table A: List of Areas

**Figure A-1: Recommended 24-Hour
PM_{2.5} Nonattainment Areas**

**Figure A-2: Existing Annual PM_{2.5}
Nonattainment Areas**

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**TABLE A. List of Recommended 24-hour PM_{2.5} Designations in Pennsylvania
Based on Three-Year Average for 2004-2006
(Berks County based on 2003-5)**

Design values under 35.5 are considered to be meeting the standard

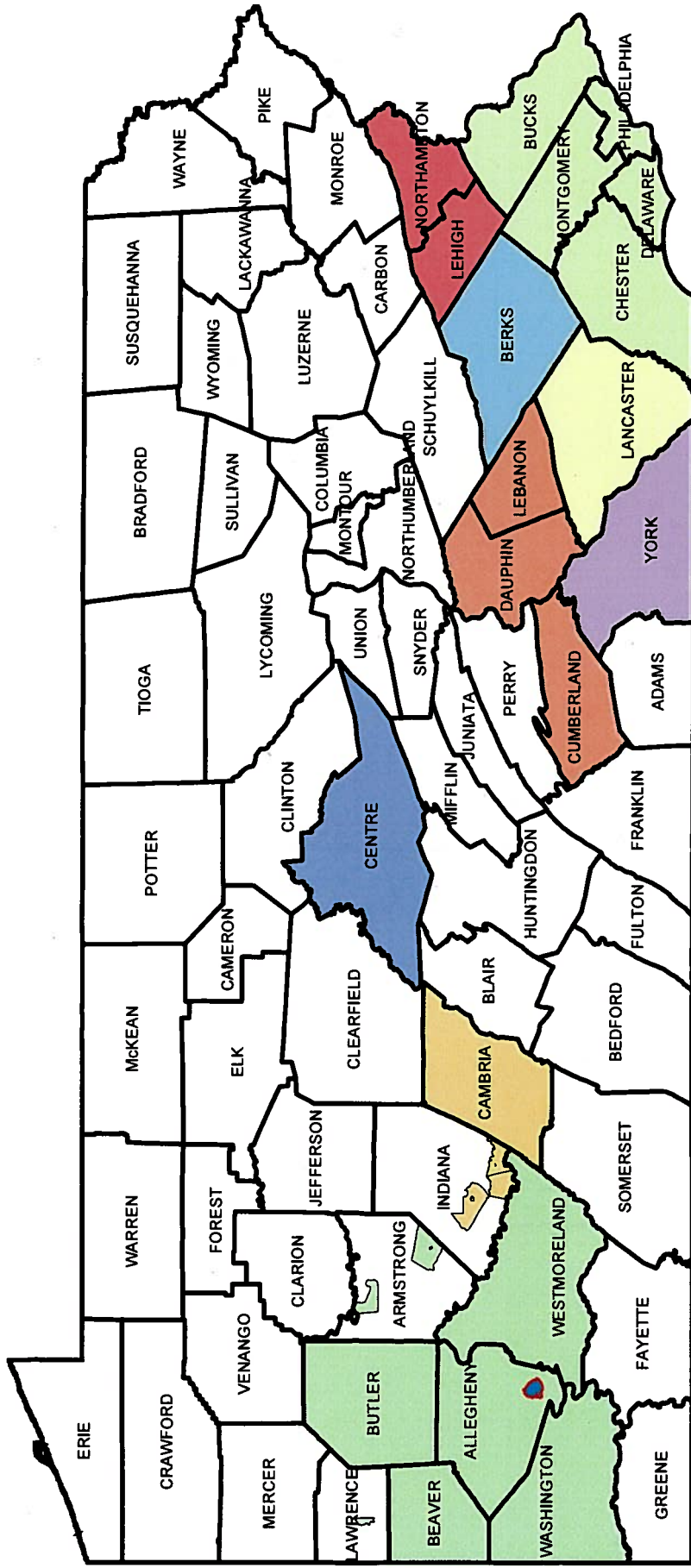
Pennsylvania Areas and Counties	24-Hour Design Value	Recommended 24-Hour Designation	Current Designation Status for Annual PM _{2.5} Standard
Southeast Region			
Philadelphia Area			
Bucks	33.2	nonattainment	nonattainment
Chester	34.9	nonattainment	nonattainment
Delaware	34.7	nonattainment	nonattainment
Montgomery	32.4	nonattainment	nonattainment
Philadelphia	36.5	nonattainment	nonattainment
Southcentral Region			
Altoona Area			
Blair	No monitor		attainment
Harrisburg-Lebanon-Carlisle Area			
Cumberland	37.5	nonattainment	nonattainment
Dauphin	37.5	nonattainment	nonattainment
Lebanon	No monitor	nonattainment	nonattainment
Perry	No monitor		attainment
Lancaster Area			
Lancaster	38.5	nonattainment	nonattainment
Reading Area			
Berks*	39.2	nonattainment	nonattainment
York Area			
York	36.2	nonattainment	nonattainment
Remaining counties			
Adams	35.2	attainment	attainment
Bedford	No monitor	attainment	attainment
Franklin	No monitor	attainment	attainment
Fulton	No monitor	attainment	attainment
Huntingdon	No monitor	attainment	attainment
Juniata	No monitor	attainment	attainment
Mifflin	No monitor	attainment	attainment

* Because the monitor was moved in 2006, no valid data exists for that year.

Pennsylvania Areas and Counties	24-Hour Design Value	Recommended 24-Hour Designation	Current Designation Status for Annual PM _{2.5} Standard
Northeast Region			
Allentown-Bethlehem-Easton			
Carbon	No monitor	attainment	attainment
Lehigh	No monitor	nonattainment	attainment
Northampton	36.6	nonattainment	attainment
Scranton-WilkesBarre			
Columbia	No monitor	attainment	attainment
Lackawanna	30.9	attainment	attainment
Luzerne	No monitor	attainment	attainment
Wyoming	No monitor	attainment	attainment
Remaining counties			
Monroe	No monitor	attainment	attainment
Pike (New York City area)	No monitor	attainment	attainment
Schuylkill	No monitor	attainment	attainment
Susquehanna	No monitor	attainment	attainment
Wayne	No monitor	attainment	attainment
Northcentral Region			
State College Area			
Centre County	36.4	nonattainment	attainment
Williamsport Area			
Lycoming County	No monitor	attainment	attainment
Remaining counties			
Bradford	No monitor	attainment	attainment
Cameron	No monitor	attainment	attainment
Clearfield	No monitor	attainment	attainment
Clinton	No monitor	attainment	attainment
Montour	No monitor	attainment	attainment
Northumberland	No monitor	attainment	attainment
Potter	No monitor	attainment	attainment
Snyder	No monitor	attainment	attainment
Sullivan	No monitor	attainment	attainment
Tioga	No monitor	attainment	attainment
Union	No monitor	attainment	attainment

Pennsylvania Areas and Counties	24-Hour Design Value	Recommended 24-Hour Designation	Current Designation Status for Annual PM _{2.5} Standard
Northwest Region			
Erie Area			
Erie	34.5	attainment	attainment
Sharon Area			
Mercer	34.7	attainment	attainment
Remaining counties			
Clarion	No monitor	attainment	attainment
Crawford	No monitor	attainment	attainment
Elk	No monitor	attainment	attainment
Forest	No monitor	attainment	attainment
Jefferson	No monitor	attainment	attainment
McKean	No monitor	attainment	attainment
Venango	No monitor	attainment	attainment
Warren	No monitor	attainment	attainment
Southwest Region			
Pittsburgh Area			
Allegheny except Liberty/Clairton	45.0	nonattainment	nonattainment
Liberty/Clairton	65.5	nonattainment	nonattainment
Armstrong	No monitor	partial nonattainment	partial nonattainment
Beaver	43.9	nonattainment	nonattainment
Butler	No monitor	nonattainment	nonattainment
Washington	38.2	nonattainment	nonattainment
Westmoreland	37.1	nonattainment	nonattainment
Fayette	No monitor	attainment	attainment
Greene	No monitor	attainment	partial nonattainment
Lawrence County Area			
Lawrence	No monitor	Partial nonattainment	Partial nonattainment
Johnstown Area			
Cambria	39.5	Nonattainment	Nonattainment
Indiana	No monitor	partial nonattainment	partial nonattainment
Somerset	No monitor	attainment	attainment

Figure A-1 Recommended 24-hour PM 2.5 Nonattainment Areas



Proposed 24-Hour PM 2.5 Designation Areas

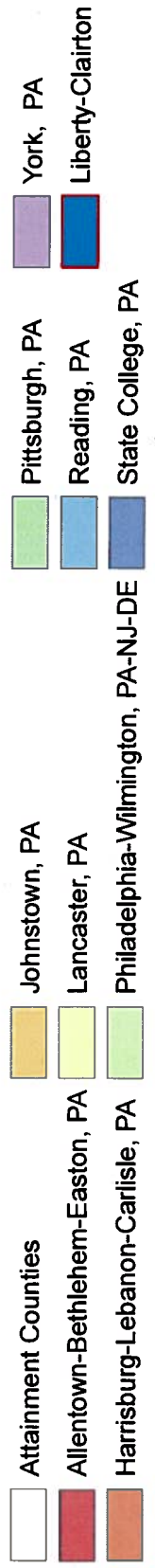
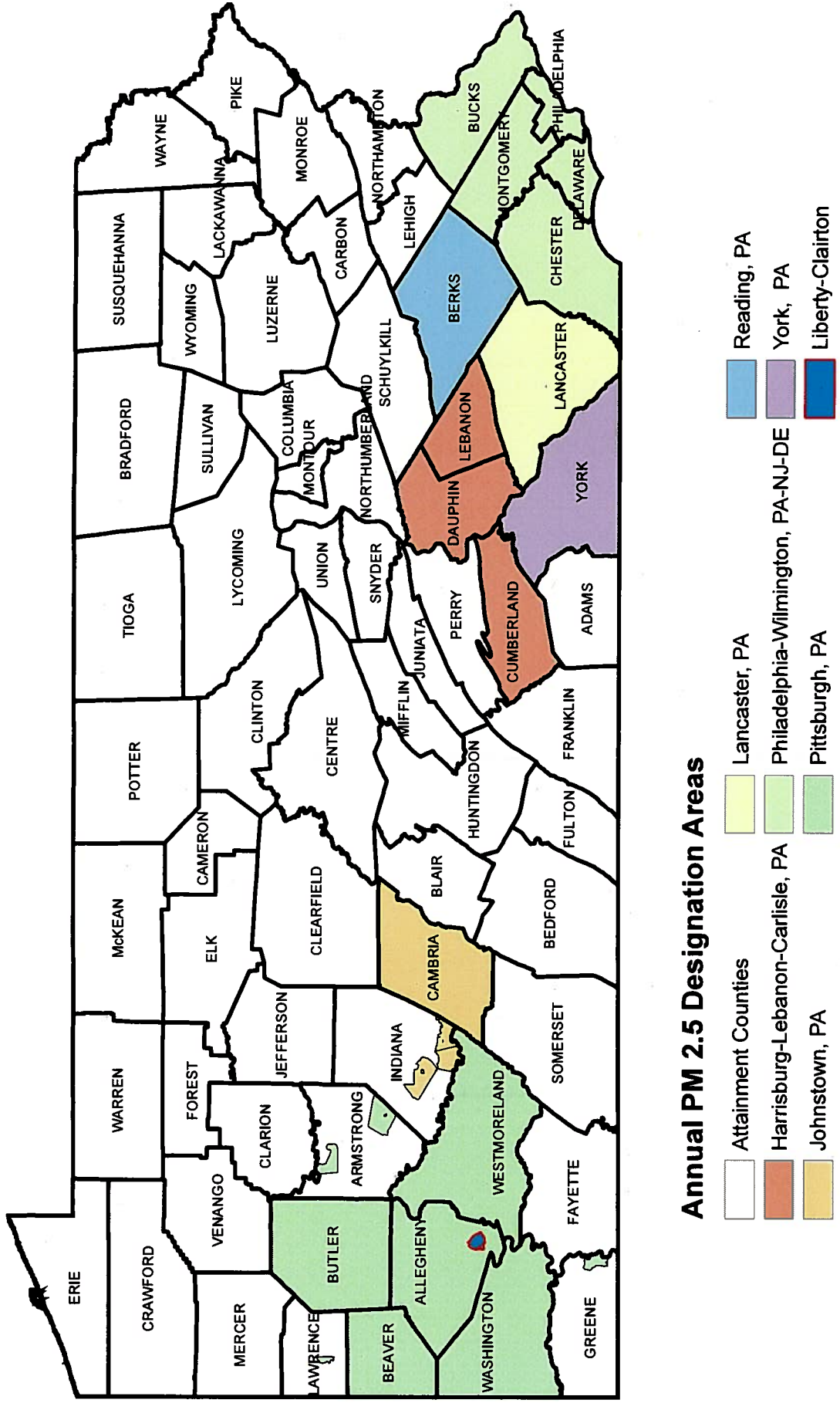


Figure A-2 Annual PM 2.5 Nonattainment Areas



Areas are Shaded Based on EPA's December 17, 2004 Designations and as Amended on April 14, 2005

APPENDIX B: Supplementary Information

Figure B-1: 2006 24-hour PM_{2.5} Design Values
Figures B2-B14: Emissions Information for
PM_{2.5} and Precursors

- B-2: PM_{2.5} Point Source Density
- B-3: SO₂ Point Source Density
- B-4: NO_x Point Source Density
- B-5: VOC Point Source Density
- B-6: Direct PM_{2.5} Area Source Density
- B-7: SO₂ Area Source Density
- B-8: NO_x Area Source Density
- B-9: VOC Area Source Density
- B-10: Ammonia (NH₃) Area Source Density
- B-11: PM_{2.5} Point Source Emissions by Facility
- B-12: SO₂ Point Source Emissions by Facility
- B-13: NO_x Point Source Emissions by Facility
- B-14: VOC Point Source Emissions by Facility

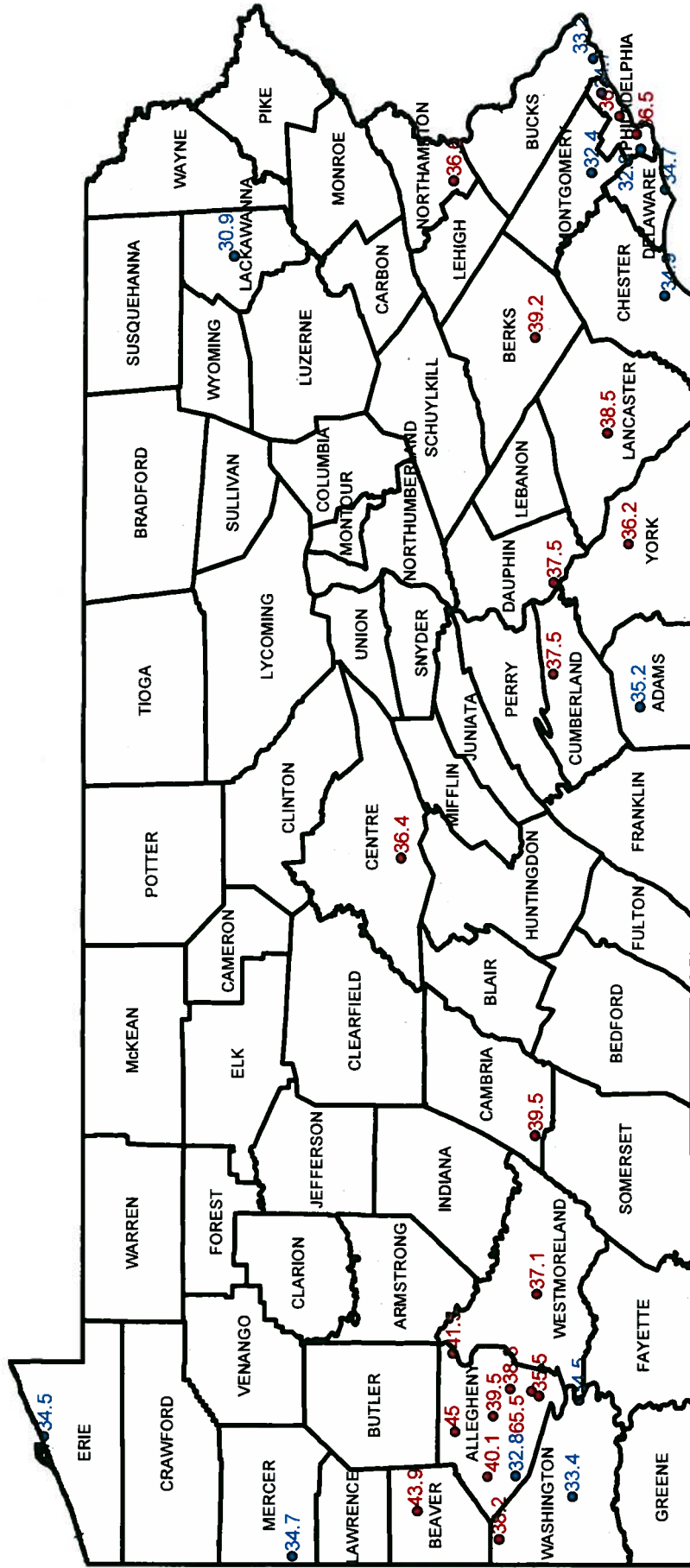
Figure B-15: Population Density By County

Figure B-16: Population Growth By County

Figure B-17: Pennsylvania Air Basins

Figure B-1 2006 24-hour PM 2.5 Design Values

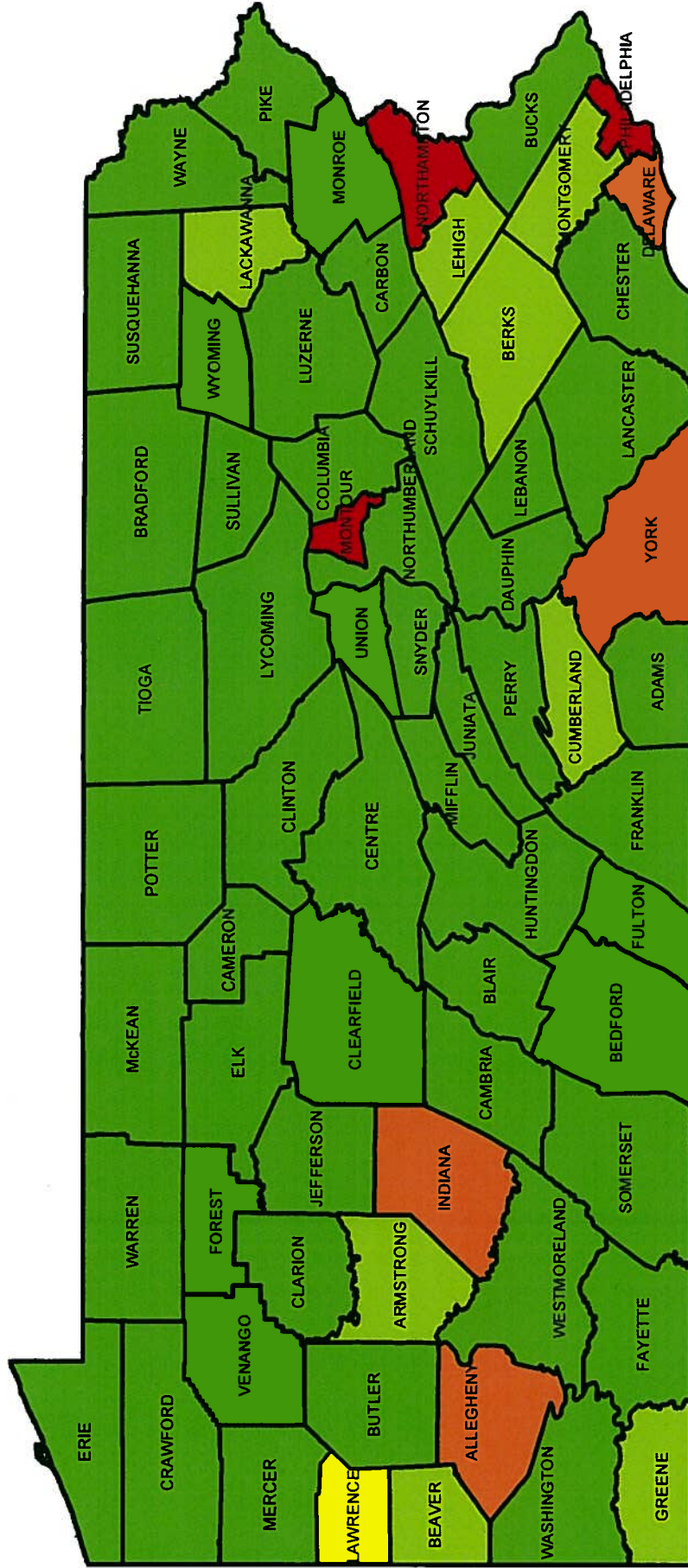
PM 2.5 Data based on 2006 24-hour Design Values (except Reading (Berks County) Monitor which is based on 2005 24-hour Design Value)



Appearing in Red - 2006 24-Hour PM 2.5 Design Values Above the Revised Standard of 35 ug/m³ (35.5 with Rounding)
 Appearing in Blue - 2006 24-Hour PM 2.5 Design Values Below the Revised Standard of 35 ug/m³ (35.5 with Rounding)

Figure B-2 Emission Density Map by County

PM-2.5 Point Source Emissions



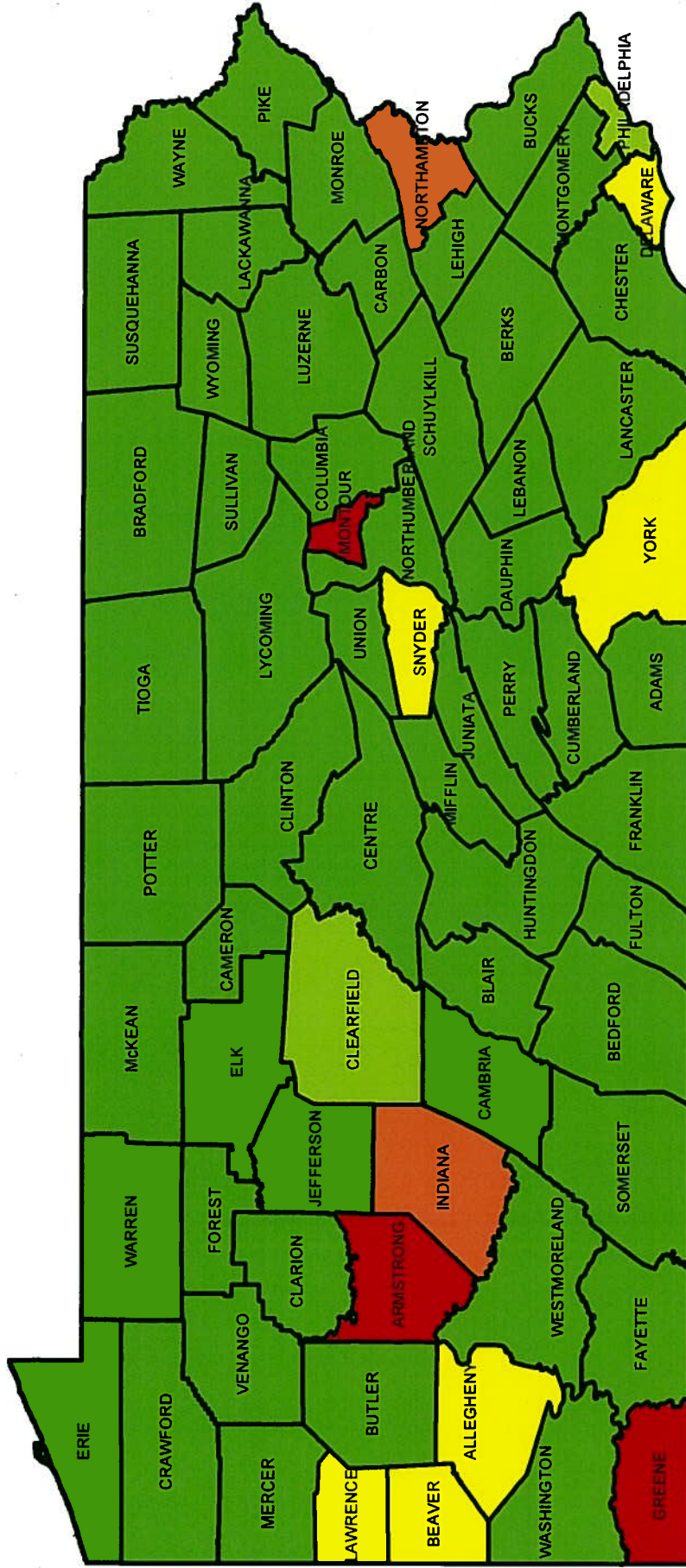
PM-2.5 Point Source Emissions are from 2002 MANE-VU Inventory

PM-2.5 Emission Density (tons per year per square mile)

- 0 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- 2.0 - 4.0
- Above 4.0

Figure B-3 Emission Density Map by County

SO2 Point Source Emissions



SO2 Point Source Emissions are from 2002 MANE-VU Inventory

SO2 Emission Density (tons per year per square mile)

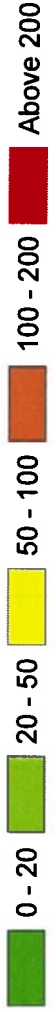
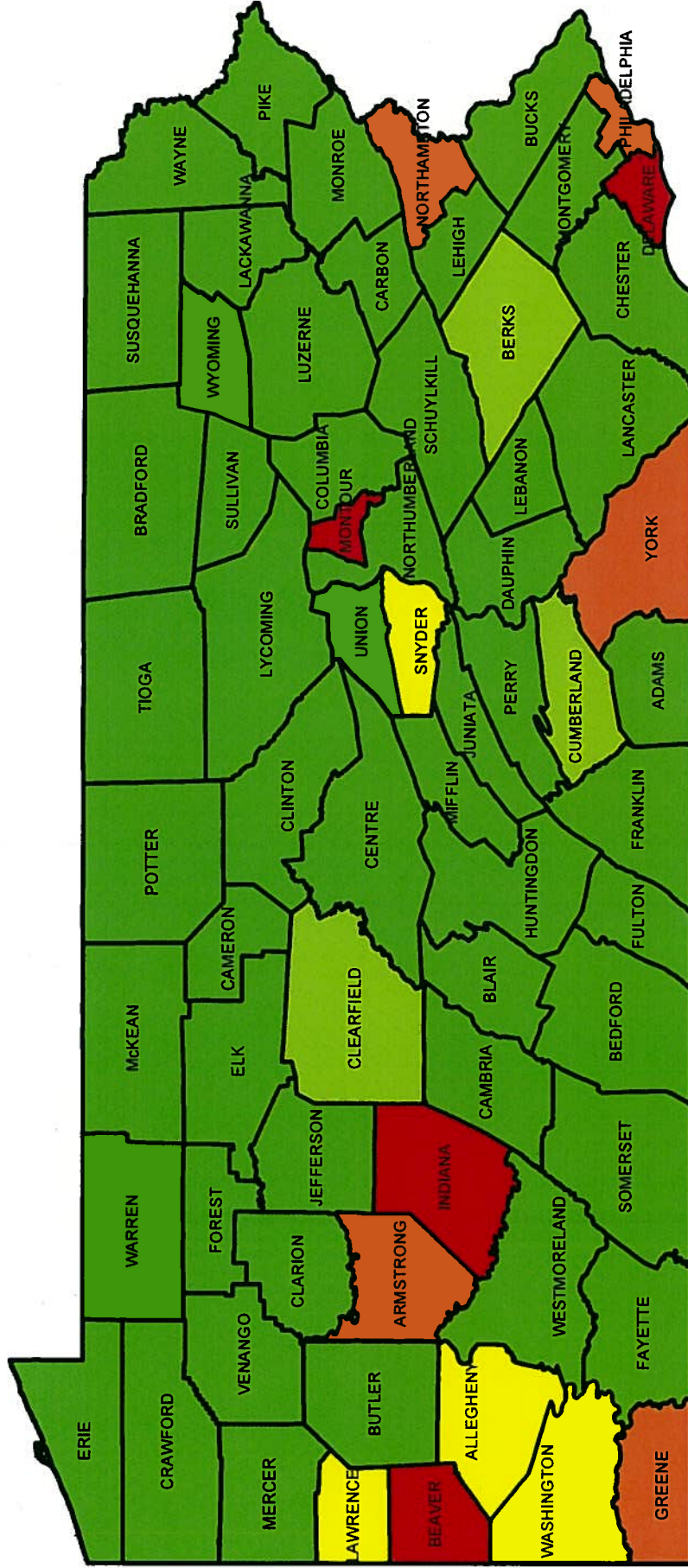


Figure B-4 Emission Density Map by County

NOx Point Source Emissions

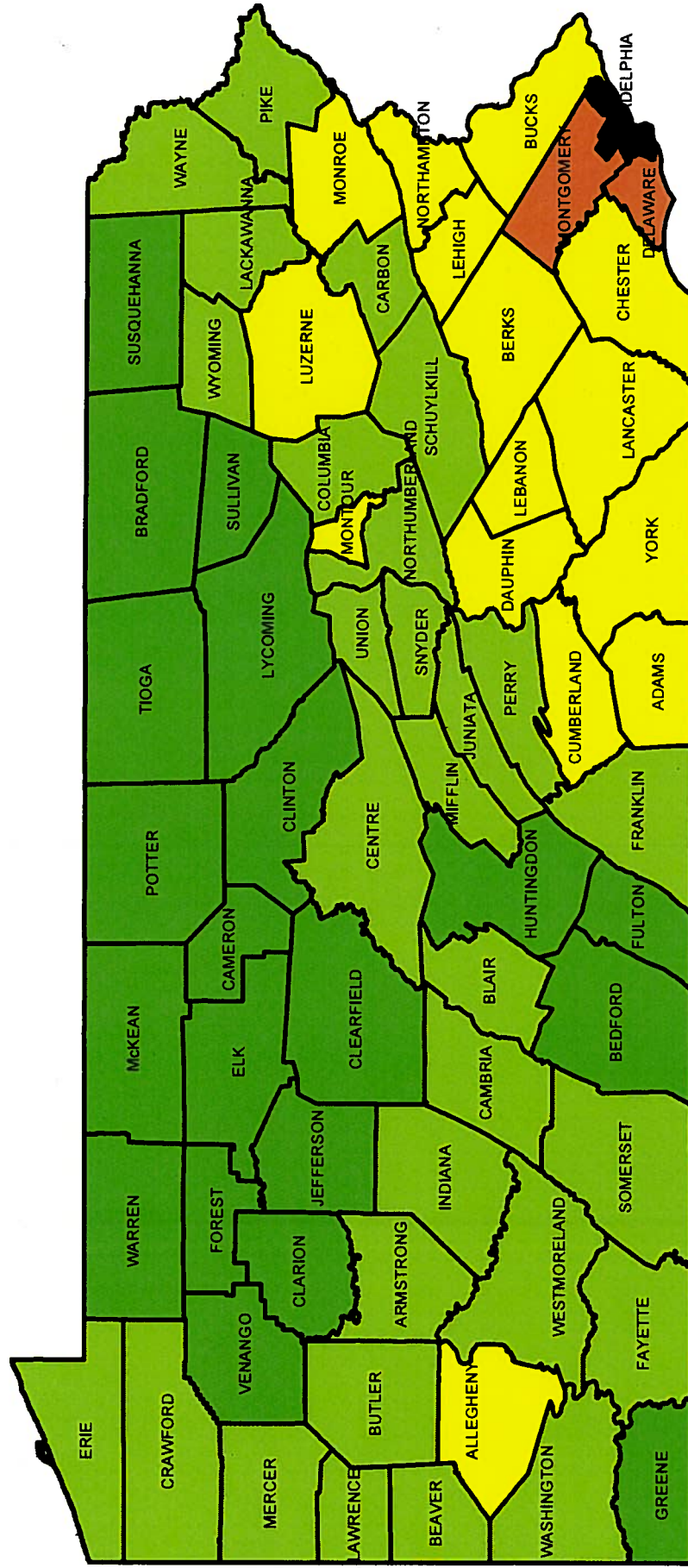


NOx Point Source Emissions are from 2002 MANE-VU Inventory



Figure B-6 Emission Density Map by County

PM-2.5 Area Source Emissions



PM-2.5 Area Source Emissions are from 2002 MANE-VU Inventory

PM-2.5 Emission Density (tons per year per square mile)

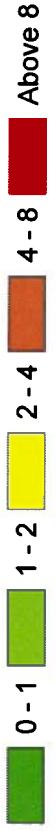
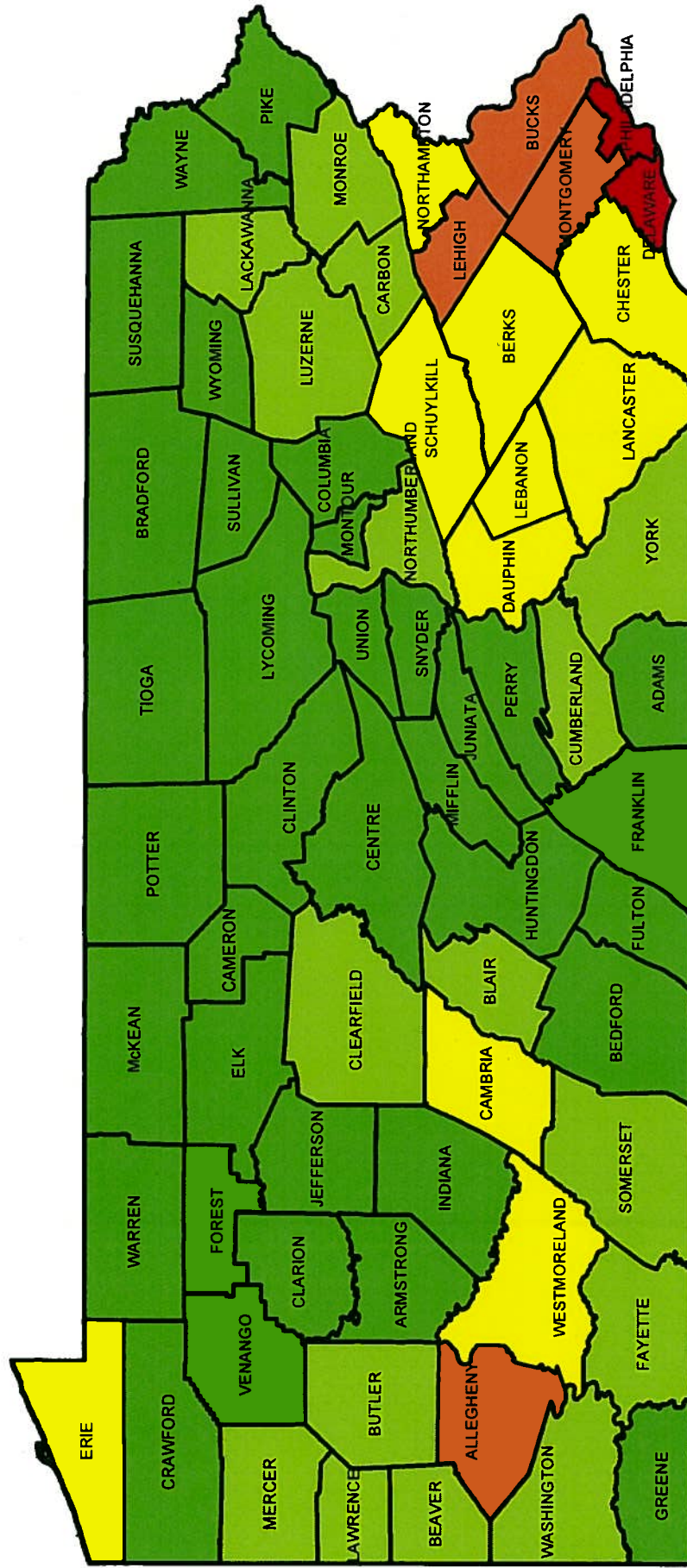


Figure B-7 Emission Density Map by County

SO2 Area Source Emissions



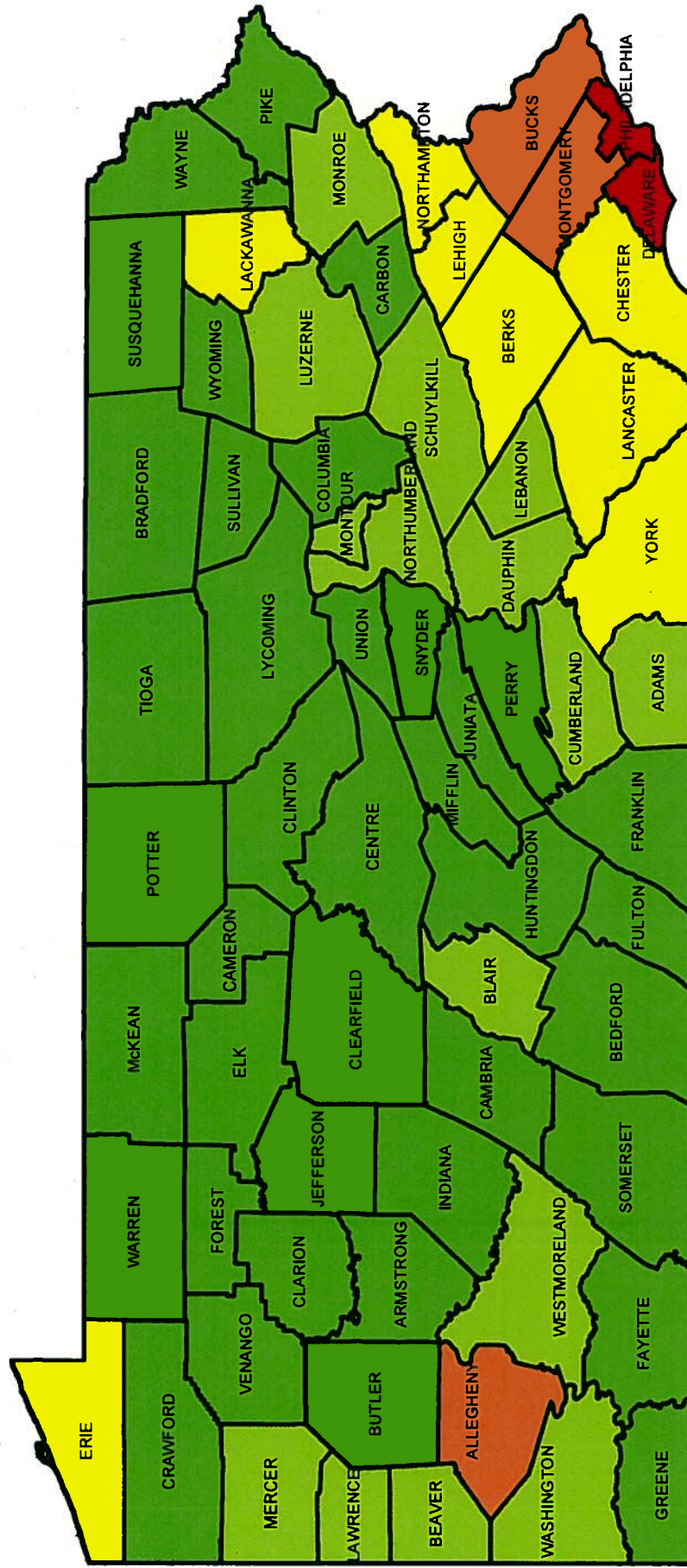
SO2 Area Source Emissions are from 2002 MANE-VU Inventory

SO2 Emission Density (tons per year per square mile)



Figure B-9 Emission Density Map by County

VOC Area Source Emissions



VOC Area Source Emissions are from 2002 MANE-VU Inventory

VOC Emission Density (tons per year per square mile)

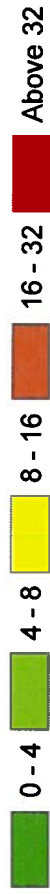
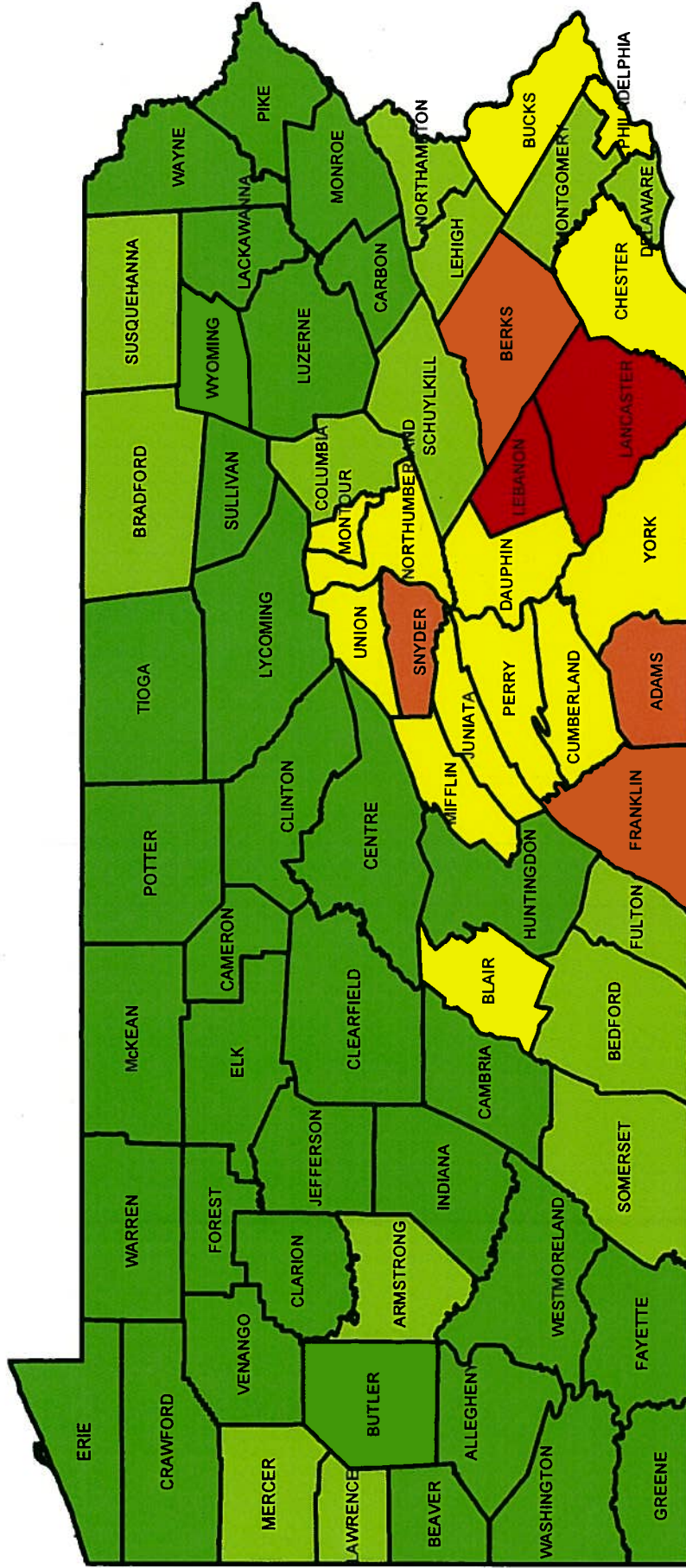


Figure B-10 Emission Density Map by County

NH3 Area Source Emissions



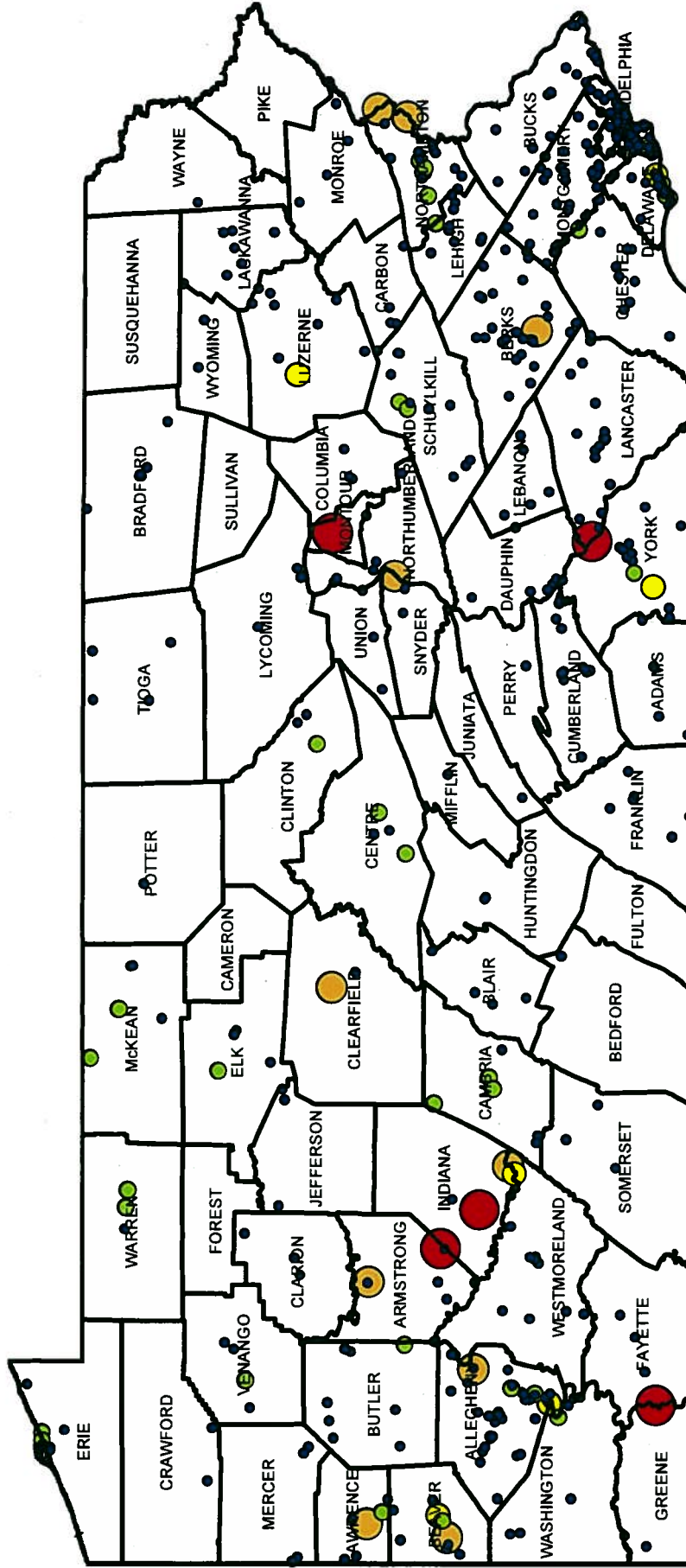
NH3 Area Source Emissions are from 2002 MANE-VU Inventory

NH3 Emission Density (tons per year per square mile)

- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- Above 8

Figure B-11 Point Source Emissions by Facility

PM-2.5 Point Source Emissions



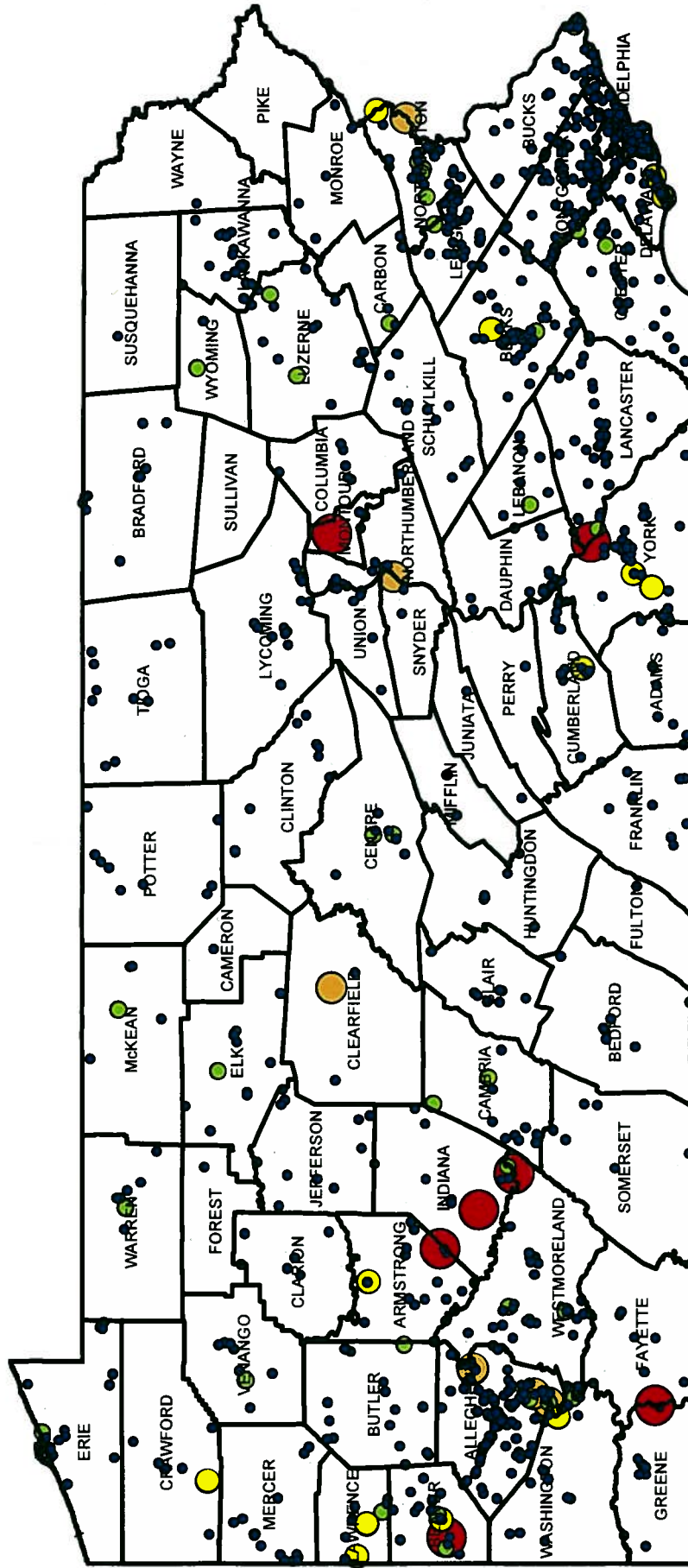
PM-2.5 Point Source Emissions are from 2002 MANE-VU Inventory

PM-2.5 Point Source Emissions (tons per year)

- 0 - 1000
- 1000 - 5000
- 5000 - 10000
- 10000 - 50000
- 100000 - 500000
- Above 500000

Figure B-13 Point Source Emissions by Facility

NOx Point Source Emissions



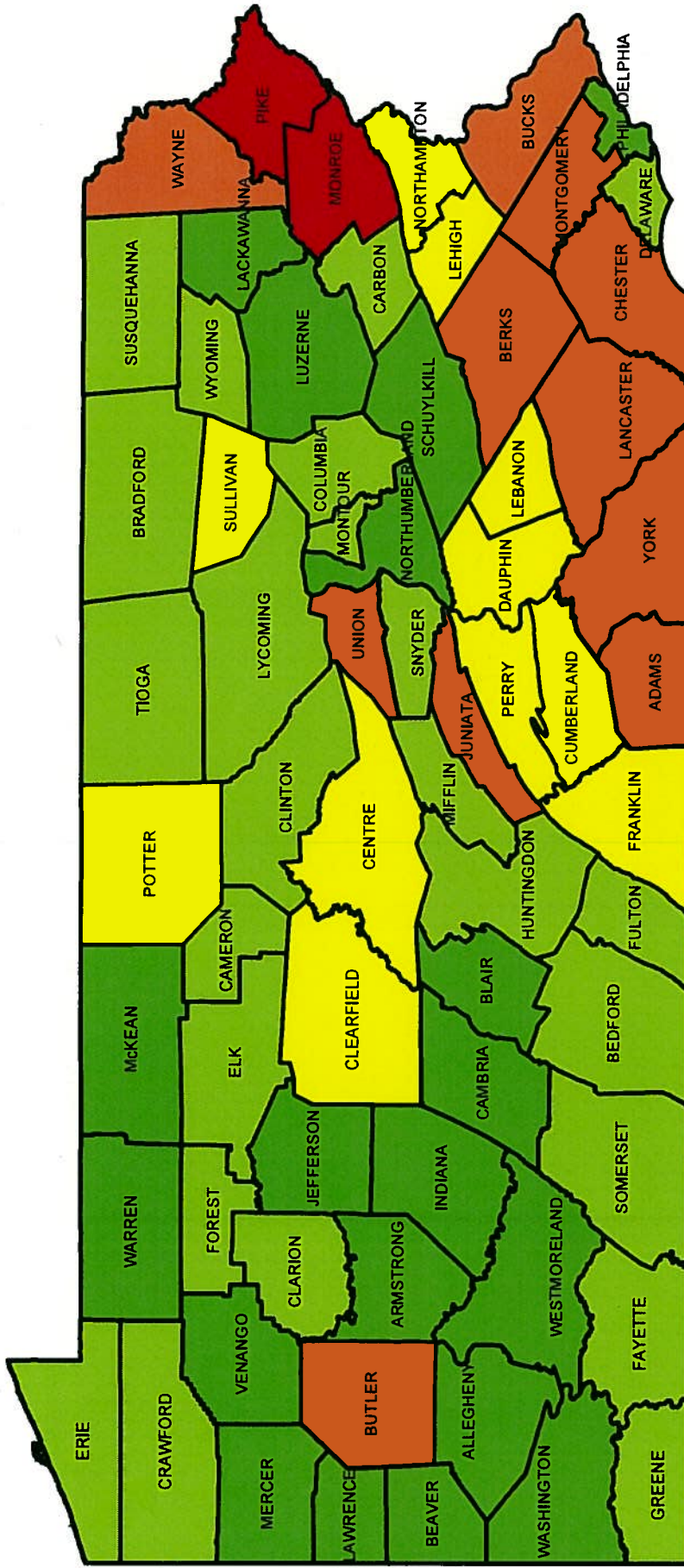
NOx Point Source Emissions are from 2002 MANE-VU Inventory

NOx Point Source Emissions (tons per year)

- 0 - 500
- 500 - 2000
- 2000 - 5000
- 5000 - 10000
- Above 10000

Figure B-16 Population Growth Map by County

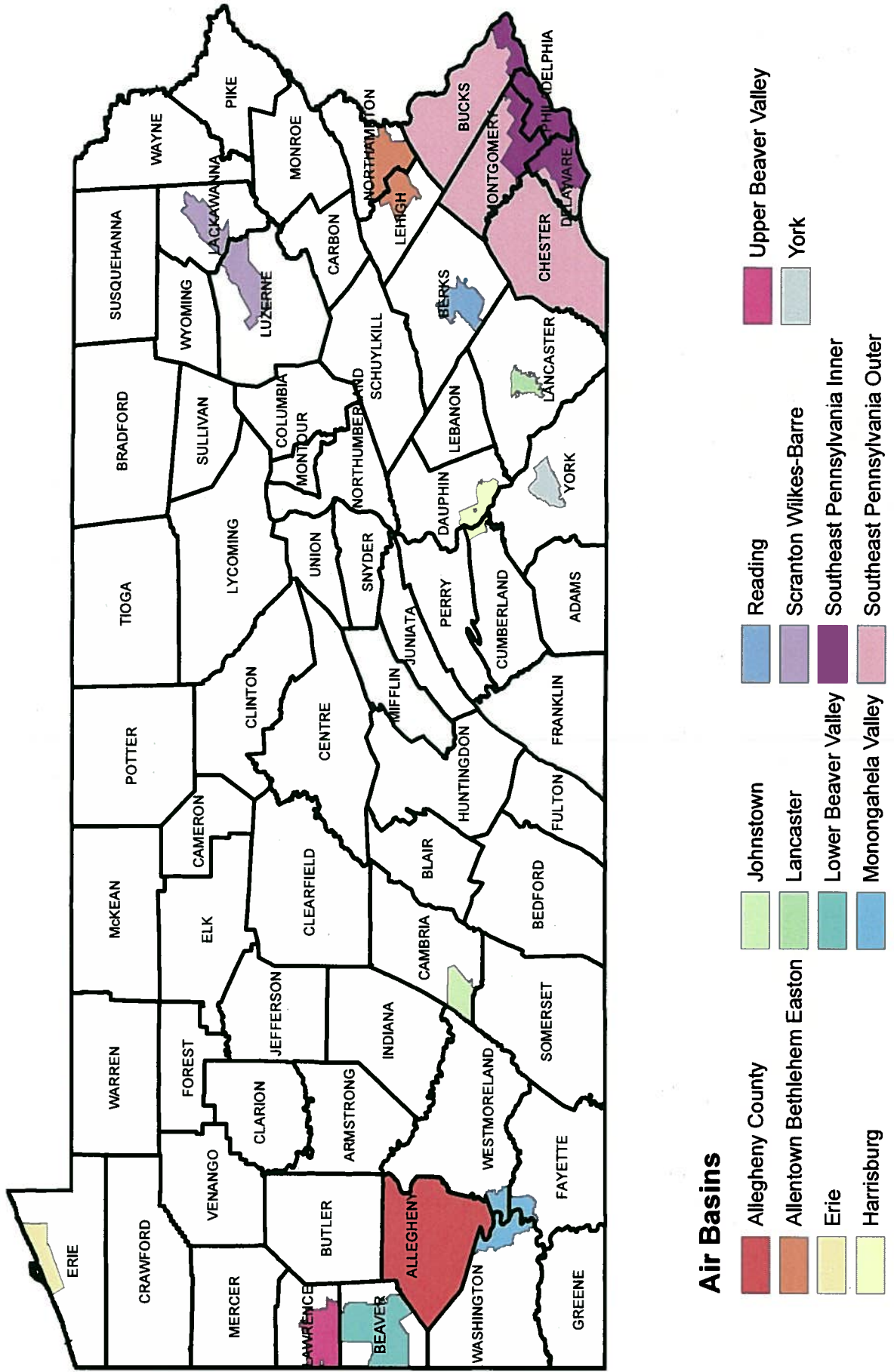
Population Trends based on 1990 and 2000 US Census Results



Population Growth (% Change: Year 2000 - Year 1990)



Figure B-17 Pennsylvania Air Basins Map



Comment Response: Supplementary Information

Comments Submitted

Summary of Comments and Responses



**DELAWARE
VALLEY
REGIONAL
PLANNING
COMMISSION**

C R E A T I N G > T O M O R R O W > T O D A Y

190 N. INDEPENDENCE MALL WEST
8TH FLOOR
PHILADELPHIA, PA 19106-1520

PHONE: 215.592.1800
FAX: 215.592.9125
WEB: www.dvrpc.org

November 26, 2007

Tim Leon-Guerrero
Air Resource Management Division
Bureau of Air Quality
P.O. BOX 8468
Harrisburg, PA 17105-8468

Re: Proposed 24-Hour PM_{2.5} Non-Attainment Area Designation

Dear Mr. Leon-Guerrero:

The Delaware Valley Regional Planning Commission (DVRPC) supports the Pennsylvania Department of Environmental Protection's (DEP) recommendations to include Bucks, Delaware, Chester, Philadelphia and Montgomery Counties in the Philadelphia – Wilmington 24-Hour PM_{2.5} Non-attainment Area. DEP's recommendation that the non-attainment areas, in Pennsylvania, for the new 24-hour standard remain the same as the current annual PM_{2.5} non-attainment area, insures continuity of planning for attainment of both of these standards. This continuity will allow DVRPC to focus resources on promoting air quality improvements over developing new procedures to address regulatory requirements of new non-attainment area boundaries.

DVRPC would like to inform PA DEP and the Environmental Protection Agency (EPA) Region III that DVRPC will be requesting that New Jersey DEP and EPA Region II include Mercer County in the Philadelphia – Wilmington 24-Hour PM_{2.5} Non-attainment Area, along with Burlington, Camden and Gloucester Counties, which are currently part of the Philadelphia – Wilmington Annual PM_{2.5} Non-attainment Area. This change to the non-attainment area in New Jersey would place the entire DVRPC planning area within one PM_{2.5} non-attainment area and also make the PM_{2.5} non-attainment area consistent with the Philadelphia – Wilmington – Atlantic City 8-hour Ozone Non-attainment Area. DVRPC feels that this logical grouping of counties in the non-attainment areas will reduce confusion for the public and promote more efficient air quality planning.

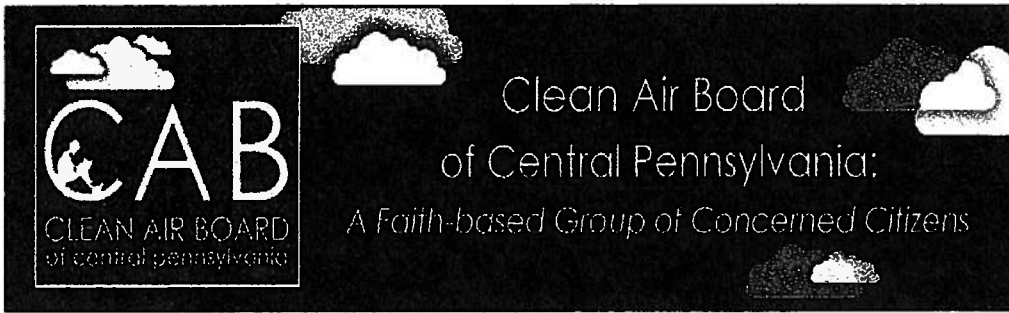
DVRPC appreciates the opportunity to comment on DEP's recommendations and looks forward to working with the DEP on this issue in the future.

Sincerely,

Barry J. Seymour
Executive Director,
Delaware Valley Regional Planning Commission

BS / sg

cc: Martin Kotsch, EPA Region III



December 4, 2007

DEP BUREAU OF AIR QUALITY
DIRECTOR'S OFFICE

2007 DEC -5 PM 3:50

RECEIVED

Joyce E. Epps, Director
Bureau of Air Quality
P. O. Box 8468
Harrisburg, PA 17105-8468

Subject: Designation of Nonattainment Areas

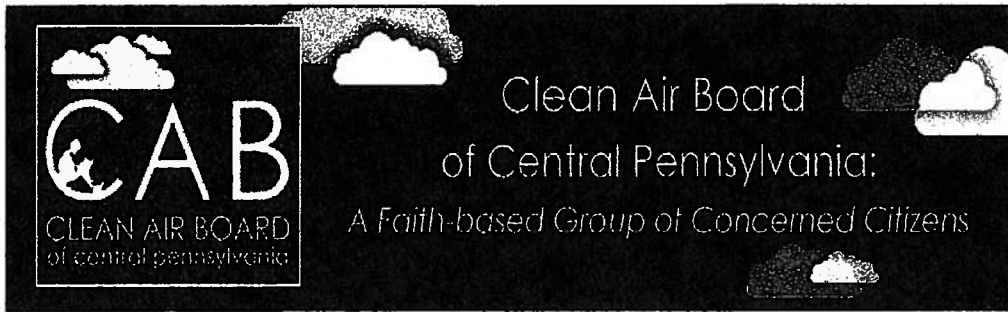
Dear Ms. Epps,

On November 14 2007, the Department of Environmental Protection invited comment on its recommendations to the Environmental Protection Agency on attainment and nonattainment areas for the revised 24 hour fine particulate ambient air quality standard (PM_{2.5}). The Department recommended that the Cumberland, Dauphin, Lebanon, York and Lancaster counties in central Pennsylvania be designated nonattainment.

The Clean Air Board of Central Pennsylvania commends the Department of Environmental Protection for the installation of a PM_{2.5} monitor in a residential neighborhood of Carlisle. This monitor will be useful in measuring the quality of air the residents of Carlisle and the surrounding communities breathe. There are two DEP monitoring sites for PM_{2.5} in and near Carlisle. The first is located in Carlisle Springs, outside Carlisle. The second is the PM_{2.5} monitoring station installed at the Macaluso farm, identified as the Carlisle West site. Both sites are designed to provide urban spatial scale and measure population exposure in accordance with the EPA ambient air monitoring requirements. More accurate information about air quality in our region will enable us to design better measures to alleviate poor air quality.

Based on the data that DEP has released, the Clean Air Board believes that Cumberland County should be designated a nonattainment area for 24 hour PM_{2.5}. According to the monitoring data for PM_{2.5} for 2006, recorded at the Carlisle Springs site and the Arendtsville site in Adams County, the Cumberland Valley area has experienced many exceedances of the 24 hour standard (35ug/m³).

528 Garland Drive Carlisle, PA 17013
cleanairboard@gmail.com



December 4, 2007

2007 DEC -5 PM 3:50
RECEIVED
DIRECTOR'S OFFICE
DEP BUREAU OF AIR QUALITY

Joyce E. Epps, Director
Bureau of Air Quality
P. O. Box 8468
Harrisburg, PA 17105-8468

Subject: Designation of Nonattainment Areas

Dear Ms. Epps,

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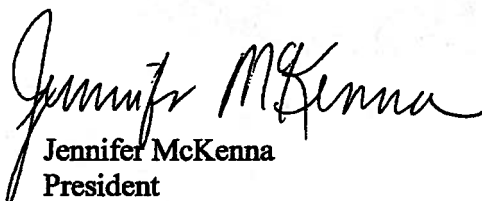
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528 Garland Drive Carlisle, PA 17013
cleanairboard@gmail.com

We believe that the data DEP has released for Dauphin, Lebanon, Lancaster, and York also support a designation of nonattainment for these counties. For these reasons, CAB supports the designation of Cumberland, Dauphin, Lebanon, York, and Lancaster counties as nonattainment for the 24 hour PM₂ standard.

Sincerely,



Jennifer McKenna
President
Clean Air Board
717.243.4571



121 Champion Way
Canonsburg, PA 15317
vbrisini@reliant.com
Writer's Cellular Number
(814) 659-3764

December 6, 2007

Mr. Timothy A. Leon-Guerrero
Chief, Air Quality Modeling Section
Pennsylvania Department of Environmental Protection
Bureau of Air Quality
P.O. Box 8468
Harrisburg, PA 17105-8468

Dear Mr. Leon-Guerrero:

Reference: Reliant Energy Comments on the Pennsylvania Department of Environmental Protection's Proposed Recommendations to the U.S. EPA for 24-Hour Fine Particulate (PM_{2.5}) Attainment/Non-attainment Areas

Reliant Energy appreciates the opportunity to provide comments to the PADEP's proposed recommendations to the U.S. EPA for the 24-hour PM_{2.5} area designations. Reliant Energy supports the Pennsylvania Department of Environmental Protection (PADEP) excluding some areas from historically designated non-attainment areas based on 2004-2006 ambient monitoring data. An example is the exclusion of Greene County from the Pittsburgh non-attainment area. Specifically, the Department recognizes that while the area is characterized by relatively high terrain (a feature common throughout western and central Pennsylvania), monitors just north of Greene County are measuring concentrations below the PM_{2.5} 24-hour standard. Consequently, PADEP is appropriately narrowing the scope of the Pittsburgh non-attainment area.

It is difficult, however, to determine if the Department is being consistent in the application of the data because only the 2004 ambient air quality reports are available on the Department's website. The PADEP's proposed recommendations reference monitoring data for 2004 through 2006, but no detail is provided as to how the data were used to assess attainment/non-attainment status. For example, in the case of Greene County are all the data lower than the standard or is the three-year average below the standard? Reliant Energy believes that if the data show a downward trend with the most recent measured concentration at or below the standard then the area should be designated as attainment. These downward trends are strong indicators that current state and federal programs are resulting in reduced ambient concentrations of fine particulate matter. Further, the Department acknowledges that EPA's Clean Air Interstate Rule (CAIR) will provide the electric generating unit (EGU) reductions appropriate to allow

the Commonwealth to attain the 24-hour $PM_{2.5}$ standard. Consequently, if there is a downward trend with 2004-2006 data, it is reasonable to assume that trend will continue with CAIR becoming effective for nitrogen oxides (NO_x) in 2009 and sulfur dioxide in 2010.

Because all of the data used for decision making are not available for review, it does appear that the Department was inconsistent in its use of the ambient air monitoring data (or the lack of ambient air monitoring data) as it appears to take an approach which is opposite to the Greene County action by adding townships to non-attainment areas simply because a coal fired electric generating power plant is located in that township. Greene County has high terrain and an electric power plant, but importantly, the monitoring results do not support the premise that the high emissions are "trapped" and consequently are above the standard. This situation does not support the Department using high terrain and power plant location to assume other areas should be added to the Johnstown and Pittsburgh non-attainment areas.

The inclusion of East Wheatfield Township, Indiana County to the Johnstown non-attainment area because of the location of Seward Power Plant is inappropriate not only because there haven't been any measurements of non-attainment in that township, but the topography makes it very unlikely those emissions would cause high levels in the Johnstown non-attainment area. Further, Seward Plant consists of two circulating fluidized boilers which result in very low sulfur dioxide (SO_2) emissions (0.6 Lbs $SO_2/MMBtu$ and 95% removal); a fabric filter which results in very low particulate emission (0.01 Lbs $PM/MMBtu$); and selective non-catalytic reduction (SNCR) for NO_x emissions (0.15 Lbs $NO_2/MMBtu$).

The inclusion of West Wheatfield Township, Indiana County to the Johnstown non-attainment area because of the location of Conemaugh Power Plant is inappropriate not only because there haven't been any measurements of non-attainment in that township, but the topography makes it very unlikely those emissions would cause high levels in the Johnstown non-attainment area. Further, Conemaugh Plant consists of two pulverized coal fired boilers equipped with low NO_x burner technology with separated overfire air; electrostatic precipitators (ESP) with over 99% particulate control; and forced oxidation wet limestone flue gas desulfurization (FGD) systems which remove over 95% of the sulfur dioxide with a co-benefit removal of about 70% additional particulate removal after the ESP.

The inclusion of Plum Creek Township, Armstrong County into the Pittsburgh non-attainment area because of the location of Keystone Power Plant is inappropriate not only because there haven't been any measurements of non-attainment in that township, but the location in Armstrong County, which is northwest of Pittsburgh makes it very unlikely that the emissions from Keystone Plant will influence the area in the contiguous Pittsburgh non-attainment area. Further, Keystone Plant consists of two pulverized coal fired boilers equipped with low NO_x burner technology with separated overfire air; selective catalytic reduction (SCR) which achieves additional NO_x removal of up to 90%; electrostatic precipitators with over 99% particulate control; and wet limestone flue

gas desulfurization (FGD) systems with up to 98% SO₂ removal and about 70% additional particulate matter removal as a co-benefit are currently being installed and coming into service in 2009.

The inclusion of Taylor Township, Lawrence County into the Pittsburgh non-attainment area because of the location of New Castle Power Plant is inappropriate because there haven't been any measurements of non-attainment in that township and because there hasn't been any demonstration that New Castle Power Plant emissions are a significant contribution to the Pittsburgh non-attainment area. New Castle Plant consists of three coal fired boilers which are equipped with low NO_x burner technology with separated overfire air; electrostatic precipitators (ESPs) with over 99% particulate control; and selective non-catalytic reduction (SNCR) for NO_x control which achieves an additional 25% removal of NO_x.

To include a township in a non-attainment area simply because of the location of a coal fired electric power plant subjects that township to the same economic hardships as the demonstrated non-attainment areas. That burden is completely inappropriate as these power plants have not been demonstrated as causing non-attainment in these areas and these plants are already, or will be, some of the most highly controlled in Pennsylvania and the US. Further, this rationale for designation is inappropriate as EPA has demonstrated the effectiveness of the CAIR program for controlling electric generating units (EGUs) in achieving and maintaining attainment of the PM_{2.5} standards.

The PADEP contention that the inclusion of these selected areas is appropriate based on the potential sulfur compound emissions from coal-fired EGUs in these areas does not appear to be supported by its own ambient air monitoring data. As noted in the 2004 Annual Air Quality Monitoring Report, the ratio of sulfate to total PM_{2.5} is essentially the same for 13 monitoring sites located throughout the Commonwealth (reference Figures 2-11 through 2-17 of the aforementioned report), thus suggesting that sulfates (i.e., sulfur compound emissions) are a regional issue as opposed to a local issue. Similarly, annual average SO₂ concentrations measured at multiple monitoring sites located throughout the Commonwealth show nearly uniform values (reference Appendix A, Table A-11 of the aforementioned report). The implementation of CAIR is expected to effectively address the regional transport of SO₂ and NO_x (PM_{2.5} precursors). The Department's own ambient air monitoring data do not support the non-attainment designation of small selected areas that are external to large contiguous non-attainment areas.

Based on the discussion outlined above EPA requests that the PADEP consider the following recommendations:

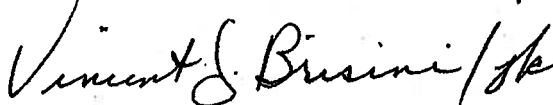
1. PADEP maintains the exemption of Greene County from the Pittsburgh non-attainment area based on ambient air monitoring data.
2. Make all the monitoring data used in the attainment/non-attainment determinations available for public review on the Department's web page.

3. Consider trending of the data in the attainment/non-attainment determination process (particularly in light of upcoming CAIR reductions) as opposed to only absolute values being compared to the 24-hour standard.
4. Withdraw the inclusion of townships from non-attainment areas based upon the location of a power plant within that township.

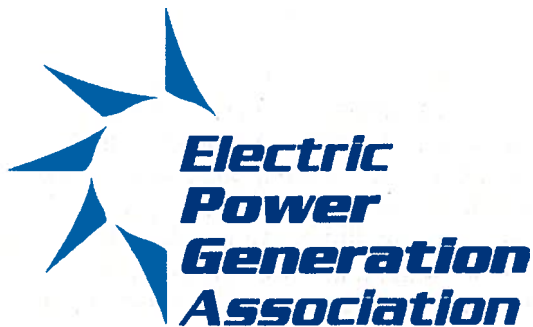
Reliant Energy provides electricity and energy services to retail and wholesale customers in the U.S. The company has approximately 20,000 megawatts of power generation capacity in operation, under construction or under contract in the U.S. In Pennsylvania, the company owns and/or operates 18 power plants which produce approximately 8,800 net megawatts of generation capacity. Reliant Resources, Inc. is based in Houston, Texas and the Eastern Regional Office is located in Canonsburg, PA.

Thank you for the opportunity to comment on these proposed PADEP recommendations to the U.S. EPA.

Sincerely yours,

A handwritten signature in black ink that reads "Vincent J. Brisini" followed by a stylized flourish or initials.

Vincent J. Brisini
Manager Air Resources



800 North Third Street, Suite 303
Harrisburg, Pennsylvania 17102
Telephone (717) 909-3742
Fax (717) 909-1941
www.epga.org

December 7, 2007

Mr. Timothy A. Leon-Guerrero
Chief, Air Quality Modeling Section
Pennsylvania Department of Environmental Protection
Bureau of Air Quality
P.O. Box 8468
Harrisburg, PA 17105-8468

Subject: Electric Power Generation Association (EPGA) Comments on Proposed Recommendations to the U.S. EPA for 24-Hour Fine Particulate (PM_{2.5}) Attainment/Non-attainment Areas

Dear Mr. Leon-Guerrero:

EPGA appreciates the opportunity to provide comments to the PADEP's proposed recommendations to the U.S. EPA for the 24-hour PM_{2.5} area designations. EPGA applauds the PADEP for excluding some areas from historically designated non-attainment areas based on 2004-2006 ambient monitoring data. An example is the exclusion of Greene County from the Pittsburgh non-attainment area. Specifically, the Department notes that while the area is characterized by relatively high terrain (a feature common throughout western and central Pennsylvania), area monitors just north of Greene County are yielding data values below the PM_{2.5} 24-hour standard. Hence, PADEP is appropriately narrowing the scope of the Pittsburgh non-attainment area.

It is difficult, however, to determine if the Department was consistent in the application of the data because only the 2004 ambient air quality reports are available on the Department's website for review by the public. The PADEP's proposed recommendations reference data for 2004 through 2006, yet no detail is provided as to how the data were used to make attainment/non-attainment determinations. As in the example above with Greene County, were all the data lower than the standard or was the three-year average below the standard? EPGA believes that if the data shows a downward trend with the most recent data point at or below the standard then the area should be designated as attainment. These downward trends are strong indicators that current state and federal programs are having positive influences. Further, the Department acknowledges that EPA's Clean Air Interstate Rule (CAIR) will assist the state in attaining the 24-hour PM_{2.5} standard. Consequently, if there is a downward trend with 2004-2006 data, it is reasonable to assume that trend will continue with CAIR becoming effective for nitrogen oxides (NOx) in 2009 and sulfur dioxide in 2010.

Because all of the data used for decision making are not available for review, it does appear that the Department was inconsistent in its use of the ambient air monitoring data (or the lack of ambient air monitoring data) as the PADEP takes the opposite approach to the action first mentioned, by adding townships to non-attainment areas simply because a coal fired electric generating power plant is located in the township. Greene County has high terrain and an electric power plant, yet the monitoring data does not support the notion that the high emissions are "trapped" and presumably above the standard. Why then does the Department use high terrain and power plant location (to the apparent exclusion of the monitoring data) assumptions in other areas, namely Johnstown and Pittsburgh, to make a non-attainment designation?

The inclusion of East Wheatfield Township, Indiana County into the Johnstown non-attainment area because of the location of Seward Power Plant is inappropriate not only because there haven't been any measurements of non-attainment in that township, but the topography makes it very unlikely those emissions would cause high levels in the Johnstown non-attainment area. Further, Seward Plant consists of two circulating fluidized boilers which result in very low sulfur dioxide (SO₂) emissions (0.6 Lbs SO₂/MMBtu and 95% removal); a fabric filter which results in very low particulate emission (0.01 Lbs PM/MMBtu); and selective non-catalytic reduction (SNCR) for NO_x emissions (0.15 Lbs NO₂/MMBtu).

The inclusion of West Wheatfield Township, Indiana County into the Johnstown non-attainment area because of the location of Conemaugh Power Plant is inappropriate not only because there haven't been any measurements of non-attainment in that township, but the topography makes it very unlikely those emissions would cause high levels in the Johnstown non-attainment area. Further, Conemaugh Plant consists of two pulverized coal fired boilers equipped with low NO_x burner technology with separated overfire air; electrostatic precipitators (ESP) with over 99% particulate control; and forced oxidation wet limestone flue gas desulfurization (FGD) systems which remove over 95% of the sulfur dioxide with a co-benefit removal of about 70% additional particulate removal after the ESP.

The inclusion of Plum Creek Township, Armstrong County into the Pittsburgh non-attainment area because of the location of Keystone Power Plant is inappropriate not only because there haven't been any measurements of non-attainment in that township, but the location in Armstrong County, which is northwest of Pittsburgh makes it very unlikely that the emissions from Keystone Plant will influence the area in the contiguous Pittsburgh non-attainment area. Further, Keystone Plant consists of two pulverized coal fired boilers equipped with low NO_x burner technology with separated overfire air; selective catalytic reduction (SCR) which achieves additional NO_x removal of up to 90%; electrostatic precipitators with over 99% particulate control; and wet limestone flue gas desulfurization (FGD) systems with up to 98% SO₂ removal and about 70% additional particulate matter removal as a co-benefit, currently being installed and coming into service in 2009.

The inclusion of Taylor Township, Lawrence County into the Pittsburgh non-attainment area because of the location of New Castle Power Plant is inappropriate because there haven't been any measurements of non-attainment in that township and because there hasn't been any demonstration that New Castle Power Plant emissions are a significant contribution to the Pittsburgh non-attainment area. New Castle Plant consists of three coal fired boilers which are equipped with low NO_x burner technology with separated overfire air; electrostatic precipitators (ESPs) with over 99% particulate control; and selective non-catalytic reduction (SNCR) for NO_x control which achieves an additional 25% removal of NO_x.

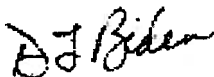
To include a township in a non-attainment area simply because of the location of a coal fired electric power plant subjects that township to the same economic hardships as the demonstrated non-attainment areas. That burden is completely inappropriate as these power plants have not been demonstrated as causing non-attainment in these areas and these plants are already, or will be, some of the most highly controlled in Pennsylvania and the US. Further, this rationale for designation is inappropriate as EPA has demonstrated the effectiveness of the CAIR program for controlling electric generating units (EGUs) in achieving and maintaining attainment of the PM_{2.5} standards. The Department's contention that the inclusion of these selected areas is appropriate based on the potential sulfur compound emissions from coal-fired EGUs in these areas does not appear to be supported by its own ambient air monitoring data. As noted in the 2004 Annual Air Quality Monitoring Report, the ratio of sulfate to total PM_{2.5} is essentially the same for 13 monitoring sites located throughout the Commonwealth (reference Figures 2-11 through 2-17 of the aforementioned report), thus suggesting that sulfates (i.e., sulfur compound emissions) are a regional issue as opposed to a local issue. Similarly, annual average SO₂ concentrations measured at multiple monitoring sites located throughout the Commonwealth show nearly uniform values (reference Appendix A, Table A-11 of the aforementioned report). The implementation of CAIR is expected to effectively address the regional transport of SO₂ and NO_x (PM_{2.5} precursors). The Department's own ambient air monitoring data does not support the non-attainment designation of small selected areas that are external to large contiguous non-attainment areas.

Based on the discussion outlined above EPA requests that the Department consider the following recommendations:

1. PADEP maintains the exemption of Greene County from the Pittsburgh non-attainment area based on ambient air monitoring data.
2. Make all the monitoring data used in the attainment/non-attainment determinations available for public review on the Department's web page.
3. Consider trending of the data in the attainment/non-attainment determination process (particularly in light of upcoming CAIR reductions) as opposed to only absolute values being compared to the 24-hour standard.
4. Withdraw the inclusion of townships from non-attainment areas based upon the location of a power plant within that township.

Thank you for the opportunity to comment on these PADEP recommendations to the U.S. EPA. EPGA is a regional trade association of electric generating companies with headquarters in Harrisburg, Pennsylvania. Its members include Allegheny Energy Supply, AES Beaver Valley, Dynegy Inc, Exelon Generation, FirstEnergy Generation Corporation, L S Power Associates, Midwest Generation, Mirant Corporation, Cogentrix Energy Inc., PPL Generation, Reliant Energy, Sunbury Generation, and UGI Development Company. These companies own and operate more than 141,000 megawatts of electric generating capacity, approximately half of which is located in the mid-Atlantic region.

Sincerely yours,



Doug Biden
President



Wightman School Community Bldg.
5604 Solway Street, Room 204, Pittsburgh, PA 15217
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Mr. Timothy Leon Guerrero
Chief, Air Quality Modeling Section
Air Resource Management
Bureau of Air Quality
PA Department of Environmental Protection (EPA)

December 7, 2007

Comments from Group Against Smog and Pollution (GASP) to the Pennsylvania Department of Environmental Protection on the Proposed Recommendations to the U.S. EPA for 24 hour PM 2.5 Designations for Attainment or Nonattainment Areas

On June 8, 2007, the Environmental Protection Agency (EPA) issued guidance for states and tribes to use in identifying areas that meet or do not meet EPA's recently revised national air quality standards for fine particle (PM_{2.5}) concentrations over a 24-hour period.

The guidance states, "When determining boundaries in urban areas for the annual PM_{2.5} standards, EPA applied a presumption that the boundaries for urban nonattainment areas should be based on metropolitan area boundaries as defined by the U.S. Office of Management and Budget. For the PM_{2.5} 24-hour standards, EPA is establishing no such presumption."

Further the Guidance notes, "In developing boundary recommendations for nonattainment areas for the 24-hour PM_{2.5} standards, this guidance encourages states and tribes to evaluate each area on a case-by-case basis. For each monitor or group of monitors that indicate violations of the standard, nonattainment area boundaries should cover a sufficiently large area to include both the area that violates the standard and the areas that contribute to the violations.

This guidance indicates a case by case evaluation and that "nonattainment area boundaries should cover a sufficiently large area to include both the area that violates the standard and the areas that contribute to the violations."

Noting these comments, GASP partially agrees with the recommendations for the Pittsburgh Beaver Valley Nonattainment Area. However, we urge that more examination be given to Armstrong County, an area of moderate population density, proposed to be designated partial nonattainment. The partial nonattainment is likely due to several large emission sources on the western and northern ends of the county. However, there is a monitor in Allegheny County very near Armstrong County's southern border according to Figure B 1 of the presentation "Pennsylvania's Proposed 24-Hour PM 2.5

Designation Recommendations November 2007” given by Timothy Leon Guerrero on November 27 in Pittsburgh that has a 24 hour PM 2.5 design value of 41.5.

On the western side of Armstrong County is Butler County proposed as non attainment which appears to have no monitor but has a monitor in Beaver County to its west with a design value of 43.9 for the PM 2.5 24 hour standard and one in Allegheny County just over the southern border with a design value of 45 for the PM 2.5, 24 hour standard. The prevailing wind direction is from the west or southwest. That wind direction flows over Butler and Allegheny County most of the time just before hitting Armstrong County. It is hard to believe that with a monitor reading 41.5 for the 24 hour PM 2.5 standard just over the southern border in Allegheny County from Armstrong County and the prevailing winds sweeping over Allegheny County into Armstrong County that at least the immediate southern section of Armstrong County if not most of the county is in attainment for the new 24 hour PM 2.5 standard.

It should be noted that there are many monitors in Allegheny County with PM 2.5 design values well above the new 24 hour PM 2.5 standard including the Liberty Monitor with one of the highest design value in the country according to monitor data analysis by Mark Schmidt of the EPA Air Quality Trends and Analysis Group. PM 2.5 is thus likely forming downwind of Allegheny County sources which would bring some of that formation to the area of Armstrong County. Allegheny County ranks high for Area Source VOC, NOx and SO2 emissions among others according to appendix B of the “Pennsylvania Proposed Recommendations to the US EPA For 24-Hour Fine Particulate (PM 2.5) Attainment/Nonattainment Areas.” which has implications for downwind fine particulate formation.

Additionally, sources within Armstrong County which necessitate the partial non attainment may also contribute to countywide fine particulate pollution. Armstrong County has very high rates for Point Source sulfur dioxide and nitrogen dioxide emissions (tons per year per square mile) according to Appendix B of the “Pennsylvania Proposed Recommendations to the US EPA For 24-Hour Fine Particulate (PM 2.5) Attainment/Nonattainment Areas.” Armstrong County also has more ammonia contribution than other nearby nonattainment counties. Without a monitor it is unclear how one would assess the design value of the county but simply not having a monitor in a county when nearby evidence suggests an air quality problem should not be acceptable. For the above reasons, we believe that Armstrong County or at least the southern portion should be designated as nonattainment and monitoring should be done in the county.

The Liberty Clairton area is a separate nonattainment area within Allegheny County but the area’s emissions influence the downwind area which moves over Allegheny County. This is a serious health hazard for the immediate and downwind community. We urge that PM 2.5 reductions be reached expeditiously in this area in particular and that this higher level of emissions not be allowed to continue through any extension periods.

Thank you for the opportunity to make these comments concerning Pennsylvania’s proposed attainment/nonattainment designations for the revised 24 hour PM 2.5 standard. We here limit our comments to southwestern Pennsylvania.

*Suzanne Seppi
(GASP Project Manager)*



Delaware River Basin Commission

25 State Police Drive
PO Box 7360
West Trenton, New Jersey
08628-0360
Phone: (609) 883-9500 Fax: (609) 883-9522
Web Site: <http://www.drbc.net>

FBAQ

Carol R. Collier
Executive Director

Robert Tudor
Deputy Executive Director

December 4, 2007

Mr. Thomas K. Fidler
Deputy Secretary
PA Department of Environmental Protection
Office of Waste, Air and Radiation Management
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063

RECEIVED

DEC 10 2007

**DEPARTMENT OF ENV. PROTECTION
WASTE, AIR AND RADIATION MGMT.**

Dear Mr. Fidler:

This is in reference to DEP's proposed recommendations to EPA on nonattainment areas for fine particulate matter (PM2.5) national ambient air quality standards, as described in your letter dated November 14, 2007.

The Delaware River Basin Commission strongly supports DEP's proposed recommendations for nonattainment areas and subsequent development of a State Implementation Plan. In addition to the inherent health benefits associated with reducing atmospheric fine particulate matter, our work on the Total Maximum Daily Load for Polychlorinated Biphenyls (PCBs) for the Delaware River demonstrates that atmospheric particulates play a role in the transport of PCBs into the waters of the Basin. Reducing atmospheric particulate pollution provides the added benefit of limiting the migration of PCBs and reducing our exposure to PCBs and other hydrophobic toxic chemicals.

Sincerely,

Carol R. Collier
Executive Director

c: Cathy Curran Myers

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2007 DEC 12 AM 10:01
DIRECTOR'S OFFICE
DEP BUREAU OF AIR QUALITY

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY**

**COMMENT AND RESPONSE DOCUMENT
CONCERNING**

**Designation Recommendations
for the 24-hour Fine Particulate (PM_{2.5}) National Ambient Air Quality Standard
December 18, 2007**

The Pennsylvania Department of Environmental Protection (“DEP” or “Department”) requested public comments on its “Proposed Fine Particulate Nonattainment Designation Recommendations” on November 17, 2007. *27 Pennsylvania Bulletin* 6179. Three public meetings were held on November 26, 27 and 28 in Harrisburg, Pittsburgh and Norristown, Pennsylvania, respectively. The Department’s comment period on the proposed designation recommendations closed on December 7, 2007.

COMMENTATORS:

1. Barry J. Seymour, Executive Director
Delaware Valley Regional Planning Commission
190 N. Independence Mall West
Philadelphia, PA 19106
2. Gavin Biebuyck, Principal
Liberty Environmental, Inc.
10 N. 5th Street, Suite 800
Reading, PA 19601
3. Jennifer McKenna, President
Clean Air Board of Central Pennsylvania
528 Garland Drive
Carlisle, PA 17013
4. Vincent Brisini, Manager Air Resources
Reliant Energy
121 Champion Way
Canonsburg, PA 15317
5. Dough Biden, President
Electric Power Generation Association
800 North Third Street, Suite 303
Harrisburg, PA 17102

6. Suzanne Seppi, Project Manager
Group Against Smog Pollution (GASP)
Wightman School Community Bldg.
5604 Solway Street, Room 204
Pittsburgh, PA 15217

7. Carol Collier, Executive Director
Delaware River Basin Commission
25 State Police Drive
P.O. Box 7360
West Trenton, New Jersey 08628-0360

COMMENTS AND RESPONSES

1. COMMENT: *The recommendation that the nonattainment areas in Pennsylvania for the new 24-hour standard remain the same as the current annual PM_{2.5} nonattainment area insures continuity of planning for attainment of both of these standards. This continuity will allow resources to be focused on promoting air-quality improvements over developing new procedures to address regulatory requirements of new nonattainment area boundaries. (1)*

RESPONSE: DEP agrees. Continuity of planning was one of the factors considered in the proposed designation recommendation for the Pennsylvania portion of the Philadelphia Area nonattainment area and is consistent with guidance outlined in the U.S. EPA's June 8, 2007 memorandum from Robert Meyers, entitled, "Area Designations for the Revised Fine Particle National Ambient Air Quality Standard".

2. COMMENT: *Mercer County, New Jersey, should be included in the Philadelphia-Wilmington 24-hour PM_{2.5} nonattainment area along with Burlington, Camden and Gloucester counties in New Jersey, currently part of the annual nonattainment area, to make the 24-hour PM_{2.5} nonattainment area consistent with the regional planning agency's borders and the ground-level ozone nonattainment area in New Jersey. This would reduce confusion for the public and promote more efficient air quality planning. (1)*

RESPONSE: DEP's 24-hour PM_{2.5} designation recommendation for the Philadelphia Area is consistent with U.S. EPA's June 8, 2007 memorandum from Robert Meyers, in which U.S. EPA "anticipates that the same boundaries for the annual standard may also be appropriate for the 24-hour NAAQS where both standards are violated." This approach will facilitate overall air quality planning for the area. Mercer County, NJ, which is designated nonattainment for the annual PM_{2.5} NAAQS is included the New

York-North New Jersey-Long Island (NY-NJ-CT) nonattainment area. We do believe that different planning areas for the annual and 24-hour standards "...will *promote* more efficient air quality planning."

3. COMMENT: *Including Lebanon and Lehigh counties largely because they are located between areas with PM_{2.5} monitors showing nonattainment is a concern. Then why wouldn't Schuylkill, Carbon, and Monroe counties also be designated nonattainment? (2)*

RESPONSE: The U.S. EPA designated Lebanon County, an unmonitored county, as nonattainment for the annual PM_{2.5} standard since it was surrounded on three sides by monitored counties not attaining the standard (Dauphin, Lancaster and Berks). It was placed in the Harrisburg-Lebanon-Carlisle nonattainment area because of common commuting patterns within this area. When warranted, the Department's PM_{2.5} designation recommendations for the 24-hour nonattainment areas mirror the current annual nonattainment areas.

Lehigh County was included in the Department's proposed designation recommendations as a separate nonattainment area because its 2004-2006 24-hour PM_{2.5} design value exceeds the standard, not because it is located between other monitors exceeding the standard.

Schuylkill, Carbon and Monroe counties are unmonitored. While these counties border nonattainment counties, they are not surrounded by them, as is Lebanon County. The Blue Ridge provides an effective barrier to emissions transport. Population densities also argue against recommending that U.S. EPA designate these areas as 24-hour PM_{2.5} nonattainment areas.

4. COMMENT: *Adams and Franklin counties should be considered for inclusion with the York or the Harrisburg-Lebanon-Carlisle nonattainment area based on population growth projections, traffic patterns (trucks on I-81 and Routes 15/30). (2)*

RESPONSE: Adams County's monitored 24-hour PM_{2.5} design value is below the standard so it was not included in the designation recommendation for the York nonattainment area. Franklin County, an unmonitored county, was not included in the Harrisburg-Lebanon-Carlisle nonattainment area due to low population and emission densities.

5. COMMENT: *Based on the DEP monitoring data, Dauphin, Lebanon, Lancaster and York counties should be designated nonattainment for the 24-hr PM_{2.5} standard. (3)*

RESPONSE: DEP agrees that Dauphin, Lebanon, Lancaster and York counties should be designated nonattainment for the 24-hour PM_{2.5} standard. See response to comment 3 for additional explanation. To this end, the final designation recommendations seek a nonattainment designation for Dauphin, Lebanon, Lancaster and York counties.

6. COMMENT: *Readings at the newly established Carlisle West monitor in Cumberland County support the nonattainment recommendation for Cumberland County. (3)*

DEP understands the commentator's position that readings at the newly established (May 2007) Carlisle West monitor in Cumberland County support the nonattainment recommendation for Cumberland County since there have been a number of readings above the recently revised 24-hour PM_{2.5} standard. EPA guidance provides that "violating areas should be identified using the most recent three years of air quality data." The Carlisle West PM_{2.5} sampler, however, is designated as a "special purpose" monitor under 40 CFR Part 58 regulations and, therefore, results from this recently installed (May 2007) monitor cannot be used to designate a nonattainment area. The DEP does operate another monitor in Cumberland County. Monitoring data from this monitor (Carlisle) was considered by the Department for Pennsylvania's nonattainment recommendations, which include recommending Cumberland County as part of the Harrisburg-Lebanon-Carlisle 24-hour PM_{2.5} nonattainment area. It should also be noted that concentrations recorded on the new "Carlisle West" monitor do not differ significantly from the PM_{2.5} concentrations observed at the NAAQS Imperial Court monitoring site in Cumberland County.

7. COMMENT: *DEP should not include Monongahela Township, Greene County in the Pittsburgh-Beaver Valley nonattainment area. (4)(5)*

RESPONSE: DEP agrees. The Department's final recommendations to U.S. EPA will not include Monongahela Township in the Pittsburgh-Beaver Valley nonattainment area. This decision was based on monitoring data from two sites (Charleroi and Washington) north of Monongahela Township, which meet the 24-hour PM_{2.5} standard. It is also important to note that the township contains a large coal-fired power plant (Hatfield's Ferry Power Station). The owner of the facility has been granted approval by the Department to install flue-gas desulfurization (FGD) units within the next two years. FGD controls will significantly reduce SO₂ emissions, a PM_{2.5} precursor.

8. COMMENT: *All data considered in the DEP's nonattainment recommendations, in particular the annual ambient air-quality monitoring reports for 2005 and 2006, should be available on its website. (4)(5)*

RESPONSE: The ambient air quality monitoring reports for 2005 and 2006 which are undergoing review and concurrence should be posted within 60 days. Prior to posting of the reports, ambient data used by the DEP to develop its PM_{2.5} standard designation recommendations is available by request.

9. COMMENT: *The Department should consider trends in the monitoring data as part of its recommendations. (4)(5)*

RESPONSE: The DEP did not consider trends in the PM_{2.5} ambient data as part of its recommendation analysis because this technique was not specifically listed as one of the items in U.S. EPA's nine-factor analysis. The DEP did analyze trends in the annual PM_{2.5} data as part of the modeling protocol documentation for its annual PM_{2.5} State Implementation Plan (SIP). This work is available on the DEP's website under "Clean Air Plans".

The Department's trends analysis for the annual PM_{2.5} SIP shows that there are some monitors in the western portion of the Commonwealth that have statistically significant trends. The Department noticed that most of the monitors with statistically significant (downward) trends are located near large mobile-emissions sources (busy highways). The Department suspects that these monitors are responding to various emission controls recently imposed on the mobile source sector. It is important to note that controls imposed by the Clean Air Interstate Rule (CAIR) have not been fully implemented and are, therefore, probably not responsible for any recent downward trends in the PM_{2.5} monitoring data.

10. COMMENT: *The DEP has been inconsistent in its application of criteria because it excluded Monongahela Township in Greene County but it included other western Pennsylvania townships that have high terrain and contain large coal-fired power plants in the Pittsburgh-Beaver Valley and Johnstown nonattainment areas. The DEP lacks monitoring data to support recommending these townships be included in either nonattainment area. DEP has not established that any of the coal-fired power plants in the affected townships are contributing to monitored nonattainment. Furthermore, the DEP did not consider current and future controls that will help alleviate the nonattainment problems in the area. (4)(5)*

The DEP considered on a case-by-case basis whether to include or exclude townships that contain large coal-fired power plants in its recommended nonattainment areas. Air-monitoring data in the northern portions of the Pittsburgh-Beaver Valley nonattainment area and the Johnstown nonattainment area exceed the 24-hour PM_{2.5} standard. This supports maintaining the surrounding and nearby townships the commentators have identified inside their respective nonattainment areas.

The DEP has not assessed each emission source's contribution to nonattainment. A culpability analysis using current air-quality models is very difficult. The DEP believes that while some of the coal-fired power plant owners have installed or will be installing

pollution controls, emissions from those units are still quite large. Therefore, it is reasonable to expect that they are still contributing to monitored nonattainment.

While the DEP recognizes that future controls due to CAIR will help alleviate PM_{2.5} nonattainment problems in most areas of the Commonwealth, issuance of plan approvals to modify existing facilities does not provide certainty that the controls will be constructed and operated. CAIR is a cap-and-trade program that allows flexibility in the types, location and timing of controls. Because of this uncertainty, there is no way to determine which coal-fired power plants will install controls of sufficient stringency or within the time frames needed to assure timely attainment. Because of these uncertainties, the DEP believes it would be premature to exclude these townships from their respective nonattainment areas.

11. COMMENT: *The commentator points out that 24-hour PM_{2.5} nonattainment area recommendations are based on near-by monitoring data and projected growth. The 24-hour PM_{2.5} design values near Armstrong County are well above the standard. Armstrong County does not currently have a Federal Reference Monitor (FRM) PM_{2.5} monitor. The nearest FRM monitor, Harrison in northeast Allegheny County, has a 2004-06 24-hour PM_{2.5} design value of 42.*

RESPONSE: The final 24-hour PM_{2.5} designation recommendations are consistent with the annual PM_{2.5} designations for Armstrong County. For the 24-hour PM_{2.5} NAAQS, EPA did not establish a presumption that boundaries for the nonattainment area should be based on metropolitan area boundaries as defined by the U.S. Office of Management and Budget.

12. COMMENT: *Emission reductions within the Liberty-Clairton nonattainment area should be made as expeditiously as possible. (6)*

RESPONSE: The DEP and the Allegheny County Department of Health, which will jointly be developing the Liberty-Clairton SIP revision, agree. Significant SO₂ reductions are predicted from the installation and operation of controls that should provide for improved air quality in the area.

13. COMMENT: *The Commentator strongly supports DEP's proposed recommendations for nonattainment areas and subsequent development of a State Implementation Plan (SIP). (7)*

RESPONSE: The DEP appreciates the commentator's support.