

**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<sub>2.5</sub>) 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:**

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## 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> standard. (3)*

**RESPONSE:** DEP agrees that Dauphin, Lebanon, Lancaster and York counties should be designated nonattainment for the 24-hour PM<sub>2.5</sub> 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<sub>2.5</sub> standard. EPA guidance provides that "violating areas should be identified using the most recent three years of air quality data." The Carlisle West PM<sub>2.5</sub> 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<sub>2.5</sub> nonattainment area. It should also be noted that concentrations recorded on the new "Carlisle West" monitor do not differ significantly from the PM<sub>2.5</sub> 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<sub>2.5</sub> 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 SO<sub>2</sub> emissions, a PM<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> data as part of the modeling protocol documentation for its annual PM<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> nonattainment area recommendations are based on near-by monitoring data and projected growth. The 24-hour PM<sub>2.5</sub> design values near Armstrong County are well above the standard. Armstrong County does not currently have a Federal Reference Monitor (FRM) PM<sub>2.5</sub> monitor. The nearest FRM monitor, Harrison in northeast Allegheny County, has a 2004-06 24-hour PM<sub>2.5</sub> design value of 42.*

**RESPONSE:** The final 24-hour PM<sub>2.5</sub> designation recommendations are consistent with the annual PM<sub>2.5</sub> designations for Armstrong County. For the 24-hour PM<sub>2.5</sub> 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 SO<sub>2</sub> 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.