

Testimony of  
John A. Paul, Administrator  
of the  
Regional Air Pollution Control Agency—Dayton, Ohio  
on  
Ohio EPA's Proposed Request to USEPA Region 5  
for  
Designation of Montgomery County as Non-Attainment  
for  
The Annual PM-2.5 National Ambient Air Quality Standard (NAAQS)

December 5, 2013

Good morning. My name is John Paul, and I am the Administrator of the Regional Air Pollution Control Agency (RAPCA), a six-county local agency centered in Dayton. RAPCA is part of Public Health—Dayton and Montgomery County and contracts with the health departments of our five additional counties. As such, the protection of public health is our primary objective. I am here today to testify on Ohio EPA's proposed recommendation to USEPA Region 5 for designation of Montgomery County as nonattainment of the annual NAAQS for PM-2.5. My testimony is intended to alert all interested parties—Ohio EPA, USEPA, and others to the fact that whereas the 2010 thru 2012 data indicate nonattainment of the standard, the 2011 thru 2013 data, once certified, will show attainment. Thus, whereas we agree with the proposed recommendation at this time, we want to alert interested parties to the fact that once the 2013 data are certified, we will be recommending that the nonattainment proposal not go final. We believe current air quality meets the annual standard for PM-2.5.

RAPCA's adopted mission statement is as follows: "the primary mission of the Regional Air Pollution Control Agency is to protect the citizens of the Miami Valley from the adverse health and welfare impacts of air pollution. This is accomplished through the enforcement of federal, state, and local air pollution control regulations, and through implementation of the state's industrial permit system. RAPCA strives for technical credibility and accountability in all actions." Agency personnel are mindful of the mission statement and emphasize its accomplishment through all our actions. RAPCA staff operate 32 air quality monitors at 11 monitoring locations in 5 of our six counties.

Because of their small size (approximately 1/30th the average width of a human hair), PM-2.5 particles can lodge deeply into the lungs. The major health effects of fine particulate matter include reduced lung function, cough, wheeze, missed school days due to respiratory symptoms, increased use of asthma medications, cardiac arrhythmias, strokes, emergency room visits, hospital admissions, lung cancer, and premature death.

Roughly one out of every three people in the United States is at a higher risk of experiencing PM-2.5 related health effects. One group at high risk is active children because they often spend a lot of time playing outdoors and their bodies are still developing. In addition, oftentimes the elderly population are at risk. People of all ages who are active outdoors are at increased risk because, during physical activity, PM-2.5 penetrates deeper into the parts of the lungs that are more vulnerable to injury. The PM-2.5 national ambient air quality standard is important and we want to emphasize the significance of meeting and maintaining air quality levels below the standard.

Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. Some particulates are formed in the air from the chemical change of gases. They are indirectly formed when gases from burning fuels react with sunlight and water vapor. These can result from fuel combustion in motor vehicles, at power plants, and in other industrial processes. These emissions can be transported long distances and thus are regional in nature. Emissions can originate in Indiana, Kentucky, or other states further upwind and cause or contribute to measured concentrations within the Dayton Area.

RAPCA staff have prepared an analysis of the air quality data and the emissions inventory for our six counties over the past several years and will work with Ohio EPA staff to supplement these data as necessary. We also have looked closely at national inventories of those pollutants that are transported across regions. Our analysis shows a steady decrease in emissions and a corresponding steady increase in air quality over the years. In fact, the 2013 data will show the cleanest air quality measured over our monitoring history of more than 40 years.

As stated above, attainment and maintenance of the NAAQS is important to the agency. In order to assure continued maintenance of the standards, it is important to document the sources of emissions and assure that enforceable controls are in place to limit those emissions to levels that correspond to healthy air quality. Given the sources of fine particulates and their precursors (direct PM, SO<sub>2</sub>, and NO<sub>x</sub>), and given the ability of these emissions to be transported over long distances, we are active supporters of national rules on major sources. In fact we believe that the following national rules must be upheld by USEPA:

- The Clean Air Interstate Rule (CAIR) or the Cross State Air Pollution Rule (CSAPR) or a replacement transport rule.
- The Utility Maximum Achievable Control Technology (MACT) rule for Electric Generating Units (EGUs).
- The Portland Cement MACT.
- The Industrial Boiler MACT.
- The Tier 3 Tailpipe and Evaporative Emission and Vehicle Fuel Standards.

Each of these rules are under various legal attacks, but must be preserved for current air quality (both for PM-2.5 and ozone) to be maintained. We urge Ohio EPA's support of these rules.

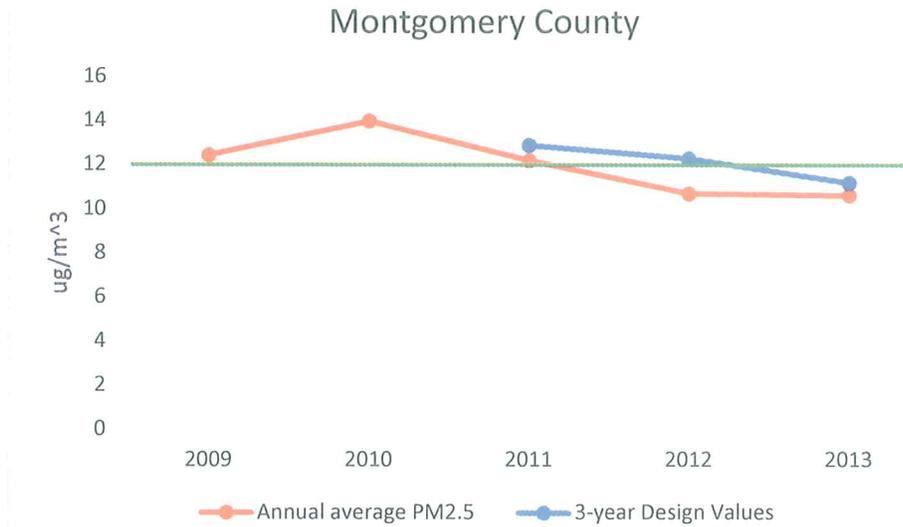
Additionally, we support the measures adopted by the Ohio legislature in 2008 under Senate Bill 221 and oppose the currently propose Ohio Senate Bill 58, which would roll back many of the measures adopted regarding alternative energy portfolios and energy efficiency standards. Thus, we urge Ohio EPA's opposition to the passage of SB 58.

The progress made toward healthy air quality within the RAPCA region and throughout Ohio over the past several decades is remarkable. RAPCA staff believe much of this progress is due to the current suite of national controls, especially those controls on Electric Generating Units and motor vehicles. We pledge our continued support of these national rules and urge that Ohio EPA actively and publically join in this support.

In conclusion, we recognize that Ohio EPA is proposing a nonattainment designation for Montgomery County for the annual PM-2.5 standard based on air quality data for the three-year period of 2010-2012. However we submit for the record our belief that once the 2013 air quality monitoring data are quality assured and certified, the three year period of 2011-2013 will demonstrate attainment of the standard. Thus, we ask that those data be considered for the final designation and that the area remain designated attainment. We recognize that with this attainment designation comes a responsibility for RAPCA to take appropriate measures to assure this attainment is maintained into the future. We stand ready to take these measures.

Thank you for this opportunity to provide testimony. I will be happy to address any questions you might have.

Montgomery County (RAPCA) PM2.5



	Annual average PM2.5	3-year Design Value period	3-year Design Values
2009	12.428		
2010	13.968		
2011	12.179	2009 - 2011	12.9
2012	10.676	2010 - 2012	12.3
2013 to date (Jan thru Oct)	10.597	2011 - 2013	11.2

While the 2013 data is still incomplete (10 months), it is possible to estimate what would be required for PM2.5 measurements in November and December 2013 to return the Montgomery County monitor to violating status.

First, based on the 2011 and 2012 annual average PM2.5, it would require 2013 annual average to be around 13.3 ug/m<sup>3</sup> to raise the 3-year DV to 12.05.

$$(12.179 + 10.676 + X) / 3 = 12.05$$

X = 2013 annual average = **13.295 ug/m<sup>3</sup> required to violate**

Given the 2013 10-month average is only 10.597 ug/m<sup>3</sup>, it would require extraordinarily high PM2.5 levels in November and December 2013 to reach the **13.295 ug/m<sup>3</sup> required to violate**

$$(10(10.597) + 2Y) / 12 = 13.295 \text{ ug/m}^3 \text{ required to violate}$$

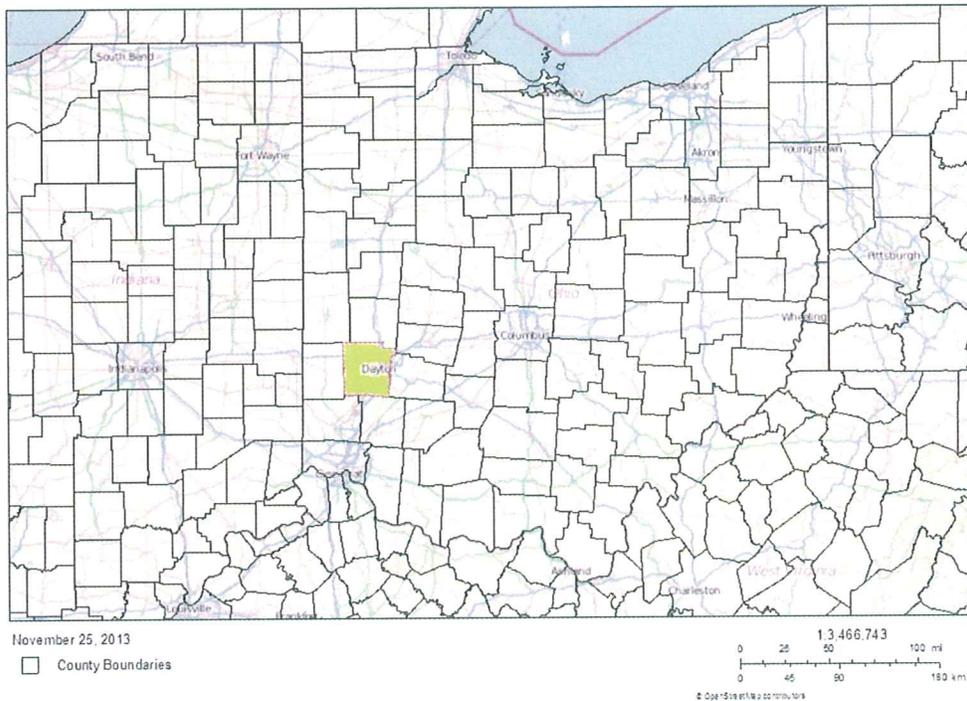
Y = Nov and Dec 2013 average PM2.5 = **26.785 ug/m<sup>3</sup> required to violate**

This is deemed exceedingly unlikely.

**NOTE this incorrect statement on the bottom of page 30 in current recommendation document:**  
*“Counties to the north are part of the historical Dayton-Springfield PM2.5 nonattainment area which is attaining the newly revised standard.”*

## **Dayton-Springfield, OH**

Figure ##: Dayton-Springfield, OH Recommended Nonattainment Area

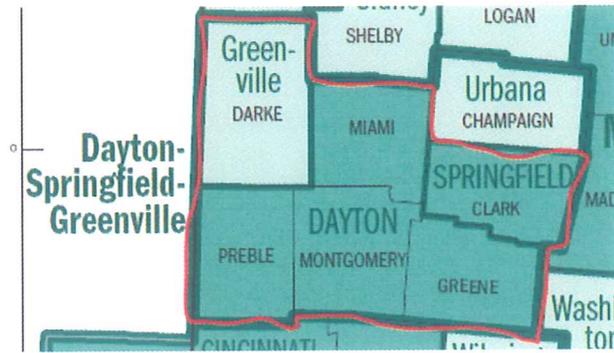


## **Discussion**

There are three Ohio counties in this historic PM2.5 nonattainment area: Clark, Greene, and Montgomery counties. Ohio EPA recommends designating only Montgomery County as nonattainment for the annual PM2.5 NAAQS. After considering the five factors, Ohio EPA does not recommend adding any additional contributing counties.

There is one violating monitor in Montgomery County, and three non-violating monitors in Clark, Greene, and Preble counties (one per county). The Dayton-Springfield-Greenville CSA includes the following additional counties: Darke and Miami.

Figure ##: Dayton-Springfield-Greenville CSA

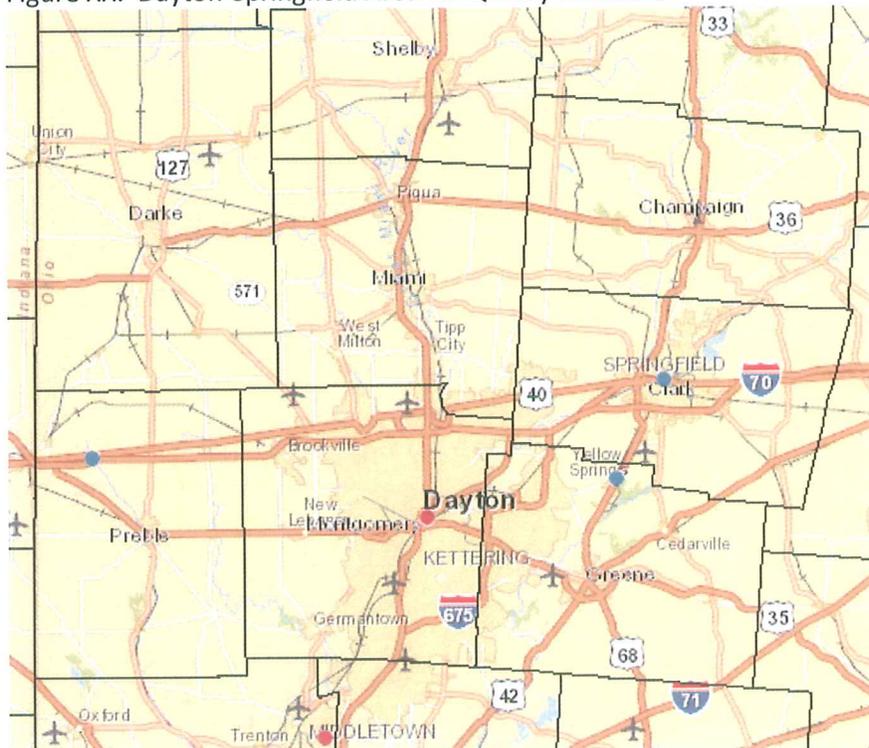


Ohio EPA will not be analyzing any additional adjacent counties to the CSA counties. Counties to the south are part of the Cincinnati-Middletown-Wilmington CSA and they have been addressed elsewhere in this document. Counties to the east, north and south are rural and border Dayton-Springfield-Greenville CSA counties that are rural or non-violating counties or both.

### Factor 1: Air Quality

There are four PM2.5 monitors in this area.

Figure XX: Dayton-Springfield Area Air Quality Monitors



Only the Montgomery County monitor 39-113-0032 is violating the standard based on 2010 to 2012 air quality data. The other three monitors in the CSA are all non-violating monitors. As can be seen from Table 1, PM2.5 concentrations have declined in this area. We emphasize that the downward trend continues in 2013, with the average PM2.5 at all monitors for 2013 to date well below the standard.

Table YY: Annual average PM2.5 (ug/m3) for Dayton-Springfield area Monitors

Site	County				Average
		2010	2011	2012	'10 – '12
39-023-0005	Clark	13.1	12.3	10.4	11.9
39-057-0005	Greene	13.2	11.3	9.6	11.4
39-113-0032	Montgomery	14.0	12.1	10.7	12.3
39-135-1001	Preble	12.0	10.9	9.3	10.7

Insufficient data

Violating monitor

There are two PM2.5 speciation monitors in this area. The Montgomery County speciation monitor is collocated with the violating monitor at 39-113-0032. The Preble County speciation monitor is collocated with the non-violating monitor at 39-135-1001.

Table YY: Dayton-Springfield Area Speciation Monitors

NOTE – this data is not in the cnspeciationdata2010-2012.xlsx spreadsheet provided. Only data for Franklin (390490081) and Hamilton (390610040).

Note I did contact Beth Palma and obtained SANDWICH data for the Montgomery 39 113 0032 speciation monitor and Preble 39 135 1001 speciation monitor. They aren't on the designations tool because they didn't meet their completeness criteria. Attached is her spreadsheet, edited down to just Ohio speciation data.

However, similar data is available in the pm25designvalues2010-2012withurbanincrements.xlsx spreadsheet and is shown here following the format in your Table 12.

2010-2011 AVG.		PM2.5 Total	PM2.5 Total UI	Org. Carbon	OC UI	Elem. Carbon	EC UI	Nitrate	Nitrate UI	Sulfate	Sulfate UI	Crust	Crust UI
Montgomery County	Q1	15.2	5.7	4.9	2.6	0.5	0.0	4.9	3.0	4.5	0.0	0.3	0.0
	Q2	11.0	1.7	4.4	0.3	0.8	0.1	0.5	0.4	4.7	0.8	0.6	0.1
	Q3	14.3	1.5	6.2	0.6	0.8	0.2	0.0	0.0	6.8	0.7	0.4	0.0
	Q4	11.6	3.0	4.8	1.6	0.9	0.2	2.1	1.2	3.4	0.0	0.5	0.0
	Ann.	13.0	3.0	5.1	1.3	0.8	0.1	1.9	1.2	4.9	0.4	0.5	0.0

As can be seen from these data, Organic Carbon and Sulfate are the dominant contributors to PM2.5 in Montgomery County on an annual basis. However, some significant seasonality is also evident. In the cool season quarters (Q1 – January February March and Q4 – October November December), nitrate is a large contributor to total PM2.5 mass. In the cool season quarters, urban increment is also much larger, due to the prevalence of local inversions. Conversely, atmospheric conditions favors sulfate and organic carbon PM2.5 formation in the warm season quarters (Q2 April – June and Q3 July – September) and a much lower urban increment. Therefore, local reductions of NOx emissions and regional reductions of SO2 emissions should figure prominently in PM2.5 NAAQS attainment strategies.

## Factor 2: Emissions and emission related data

As the sole recommended nonattainment county, Montgomery County alone accounts for very large fractions of the PM2.5 primary and precursor emissions in the Dayton-Springfield-Greenville CSA.

TABLE YYY: Montgomery County 2008 source sector emissions percent of total CSA emissions

Montgomery % of CSA	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
33%	41%	42%	45%	29%	68%	52%	6%	42%	24%	

Clearly in most cases Montgomery County dominates emissions in the CSA. Of all primary and precursor pollutants, only NH3 is emitted in lesser quantities than another county in the CSA (Darke). This is due to the high level of agricultural and animal husbandry activities in the rural Darke County.

Detailed emission tables for each county in the CSA are shown below. Most emissions data are for 2008, but the Point 2011 data are included. Large reductions in NOx and SO2 Point source emissions are evident in Montgomery and Greene counties due to source shutdowns or fuel switching or improved controls. This trend is expected to continue.

Montgomery	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
Point 2011	182.6	n/a	n/a	1,611.0	n/a	2,368.0	n/a	7.2	727.2	n/a
Point 2008	383.9	25.1	34.4	2,678.7	0.8	4,776.0	46.8	3.2	1,187.6	397.0
Nonpoint	2,484.2	950.2	104.2	2,598.6	4.4	642.6	37.1	570.7	11,242.9	2,660.9
Nonroad	188.3	51.0	106.4	2,562.0	0.3	44.9	1.0	2.6	1,942.3	29.7
Onroad	509.6	163.3	241.8	11,834.0	0.7	63.4	4.1	254.4	6,436.4	99.7
Fire	0	0	0	0	0	0	0	0	0	0
Total 2008	3,566.0	1,189.5	486.8	19,673.4	6.2	5,526.9	88.6	830.9	20,809.2	3,187.3

Clark	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
Point 2011	17.7	n/a	n/a	17.6	n/a	5.1	n/a	5.2	99.1	n/a
Point 2008	12.4	2.2	1.7	13.4	0.1	1.9	1.2	0.4	199.1	11.6
Nonpoint	1,283.6	383.0	58.9	942.4	2.8	154.3	15.2	737.1	3,828.2	1,769.2
Nonroad	54.7	13.7	33.3	693.1	0.1	12.3	0.3	0.6	526.9	7.4
Onroad	173.5	55.9	85.6	4,229.1	0.2	19.0	1.2	81.9	2,049.7	30.5
Fire	0	0	0	0	0	0	0	0	0	0
Total 2008	1,524.2	454.8	179.5	5,878.0	3.2	187.6	17.9	820.1	6,603.9	1,818.6

Greene	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
Point 2011	135.0	n/a	n/a	1,518.1	n/a	1,132.7	n/a	24.2	26.8	n/a
Point 2008	121.9	11.9	3.5	2,400.5	1.7	1,822.1	15.0	2.7	18.8	149.1
Nonpoint	1,173.6	289.9	27.2	656.7	1.9	136.6	9.6	757.2	4,224.3	1,639.6
Nonroad	75.1	18.8	45.9	863.7	0.1	17.9	0.2	0.9	617.4	10.2
Onroad	147.0	45.5	73.1	3,331.5	0.2	18.7	1.1	73.5	1,599.3	27.1
Fire	3.4	1.7	0.4	0.9	0.0	0.4	0.0	0.6	8.5	1.3
Total 2008	1,521.0	367.7	150.0	7,253.2	3.9	1,995.7	25.9	834.9	6,468.4	1,827.2

Miami	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
Point 2011	74.6	n/a	n/a	33.7	n/a	0.8	n/a	0.8	121.3	n/a
Point 2008	0.4	0.1	0.2	2.1	0.0	0.2	0.0	0.0	27.6	0.1
Nonpoint	1,248.8	320.9	51.4	962.3	2.6	163.6	14.9	1,137.1	4,085.8	1,895.5
Nonroad	58.1	14.7	34.9	752.1	0.1	12.6	0.3	0.7	518.6	8.0
Onroad	112.8	35.6	56.5	3,103.4	0.2	13.1	0.8	54.4	1,614.1	19.8
Fire	1.4	0.7	0.2	0.4	0.0	0.2	0.0	0.2	3.5	0.5
Total 2008	1,421.5	372.0	143.2	4,820.3	2.8	189.7	16.1	1,192.5	6,249.6	1,923.9

Darke	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
Point 2011	31.0	n/a	n/a	210.4	n/a	13.9	n/a	3.2	124.5	n/a
Point 2008	3.9	0.8	2.8	121.7	0.0	1.0	0.1	0.1	89.2	0.4
Nonpoint	1,618.2	271.7	40.9	777.0	2.8	78.9	12.4	8,205.6	4,083.4	2,781.2
Nonroad	54.9	11.4	38.4	635.1	0.1	11.8	0.2	0.5	271.8	4.8
Onroad	45.0	15.1	21.7	1,329.4	0.1	5.2	0.3	24.9	735.0	7.9
Fire	0	0	0	0	0	0	0	0	0	0
Total 2008	1,722.0	299.0	103.7	2,863.2	3.0	96.9	13.0	8,231.1	5,179.4	2,794.3

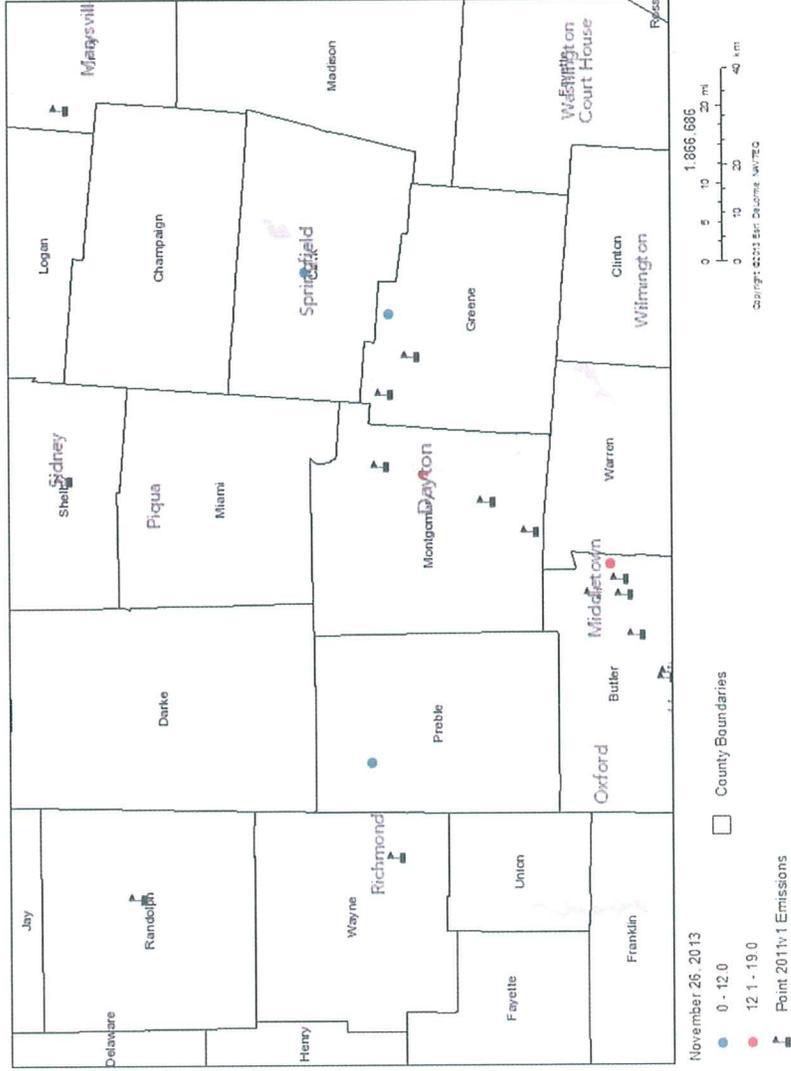
Preble	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
Point 2011	8.0	n/a	n/a	2.6	n/a	0.2	n/a	0	60.3	n/a
Point 2008	0.1	0.0	0.1	0.6	0.0	0.0	0.0	0	26.0	0.0
Nonpoint	927.7	209.0	39.3	606.7	2.0	70.3	9.8	1,178.6	3,703.6	1,493.7
Nonroad	37.4	8.9	23.8	405.5	0.1	7.5	0.1	0.4	304.3	4.5
Onroad	61.1	18.7	33.5	1,818.4	0.1	5.8	0.4	27.5	734.8	8.5
Fire	0	0	0	0	0	0	0	0	0	0
Total 2008	1,026.3	236.6	96.6	2,831.2	2.1	83.7	10.3	1,206.4	4,768.6	1,506.8

Summary table of total 2008 source sector emissions.

2008 TOTALS	PM2.5	OC	EC	NOx	Nitrate	SO2	Sulfate	NH3	VOC	Other
MONTGOMERY	3,566.0	1,189.5	486.8	19,673.4	6.2	5,526.9	88.6	830.9	20,809.2	3,187.3
Clark	1,524.2	454.8	179.5	5,878.0	3.2	187.6	17.9	820.1	6,603.9	1,818.6
Greene	1,521.0	367.7	150.0	7,253.2	3.9	1,995.7	25.9	834.9	6,468.4	1,827.2
Miami	1,421.5	372.0	143.2	4,820.3	2.8	189.7	16.1	1,192.5	6,249.6	1,923.9
Darke	1,722.0	299.0	103.7	2,863.2	3.0	96.9	13.0	8,231.1	5,179.4	2,794.3
Preble	1,026.3	236.6	96.6	2,831.2	2.1	83.7	10.3	1,206.4	4,768.6	1,506.8
<b>TOTAL CSA</b>	<b>10,780.9</b>	<b>2,919.6</b>	<b>1,159.8</b>	<b>43,319.3</b>	<b>21.2</b>	<b>8,080.6</b>	<b>171.8</b>	<b>13,115.9</b>	<b>50,079.0</b>	<b>13,058.0</b>

As seen in Table XX below, there are five large (> 500 tpy PM precursor emissions in 2011) point sources in the Dayton-Springfield-Greenville CSA.

2011 POINT	FACILITY NAME	PM2.5	NOx	SO2	NH3	VOC
MONTGOMERY	DP&L O.H. Hutchings Generating Station	26.6	220.0	648.7	0.7	1.4
MONTGOMERY	Appleton Papers Inc.	57.9	538.3	937.6	1.0	23.8
MONTGOMERY	Cargill Inc.	55.2	468.3	747.1	1.4	356.9
Greene	Wright-Patterson Air Force Base	99.1	336.0	918.1	0.2	5.9
Greene	CEMEX Construction Materials Atlantic, LLC	33.6	1,175.0	213.1	23.9	0



Both DP&L Hutchings and Appleton Papers are south-southwest of the violating monitor, at distances of 19 km and 11 km, respectively. It should be noted that DP&L Hutchings ceased burning coal in September 2012 and Appleton Papers ceased burning coal in June 2012. While largely due to market conditions, these shutdowns are expected to be enforceable in the near future.

Cargill, WPAFB and CEMEX are west or southwest of the non-violating monitors in Greene and Clark counties, at distances ranging from 7 km to 30 km from the non-violating monitors. It should be noted that WPAFB announced in July 2013 that a permit to construct gas-fired boilers was obtained. They will be converting or shutting down all existing coal-fired boilers at WPAFB by January 2016.

## Level of control of emission sources

In Dayton-Springfield area, the emission reduction programs which have had or will have the greatest potential impact on PM2.5 concentrations are:

- on-road and off-road diesel control programs in conjunction with ultra-low sulfur diesel fuel requirements
- NOx trading program
- Clean Air Interstate Rule (CAIR)
- Ohio Clean Diesel Initiatives
- Mercury and Air Toxics Standards (MATS)
- Industrial Boiler MACT

CAIR and MATS regulate electric generating units (EGUs, or power plants). CAIR is the program which will bring about largest reductions in precursor or primary emissions of any of the PM2.5 species (sulfates, nitrates, organic carbon, elemental carbon and crustal). Compliance with the MATS rule will also lead to additional reductions in precursor species, in particular, sulfur dioxide.

The Industrial Boiler MACT played a large role in Appleton Papers and WPAFB decisions to cease burning coal, leading to SO2 reductions.

In addition, many of the large Ohio utilities that contribute to regional SO2 and sulfate are shutting down or adding controls or repowering with natural gas.

## Urbanization, population and commuting trends

The following table provides a summary of 2010 population and VMT for each of the counties that are discussed in this section.

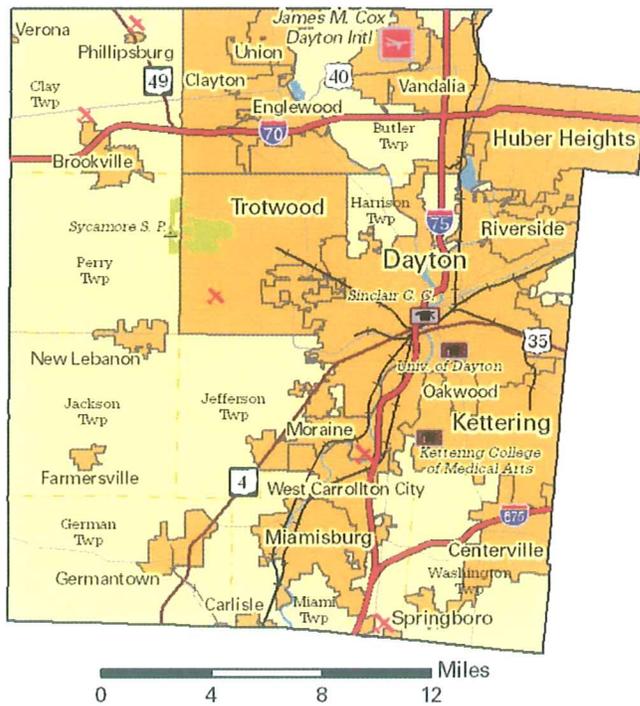
2010	VMT	Population	Land Area (sq miles)	Population Density (1,000 per sq mile)
MONTGOMERY	5,280,882,633	559,062	462	1.21
Clark	1,611,832,319	144,742	400	0.36
Greene	1,582,905,852	147,886	415	0.36
Miami	1,128,090,712	98,868	407	0.24
Darke	482,564,788	53,309	600	0.09
Preble	511,464,251	42,337	425	0.10
<b>TOTALS</b>	<b>10,597,740,555</b>	<b>1,046,204</b>	<b>2,708</b>	<b>0.39</b>

## Degree of urbanization and population trends

As can be seen in the table, Montgomery County is by far the most populous and urbanized county in the CSA. In Ohio as a whole (88 counties) it ranks #5 in VMT, #4 in population, and #6 in population density. As a result, and as noted above in Table , Montgomery County dominates anthropogenic emissions of PM2.5 and PM2.5 precursors in the CSA.

Figure XX: Dayton-Springfield Analysis Area County Profiles

**Montgomery County** is 43% urban, 33% cropland and 18% forest. Dayton is the largest city with population 141,527 (2010). The county population in 2010 was 535,153 and is estimated 534,325 for 2012. Population has been declining since 1970, and is expected to continue to decline to 513,830 by 2020.

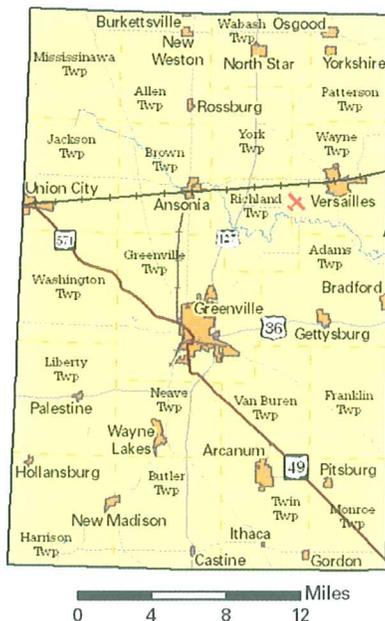




**Miami County** is 13% urban, 64% cropland, and 19% forest. Troy is the largest city with population 25,058 (2010). The county population in 2010 was 102,506 and is estimated 103,060 for 2012. Population is expected to remain fairly steady at 102,590 by 2020.



**Darke County** is 2% urban, 83% cropland, and 10% forest. Greenville is the largest city with population 13,227 (2010). The county population in 2010 was 52,959 and is estimated 52,507 for 2012. Population is expected to decline slightly to 51,270 by 2020.

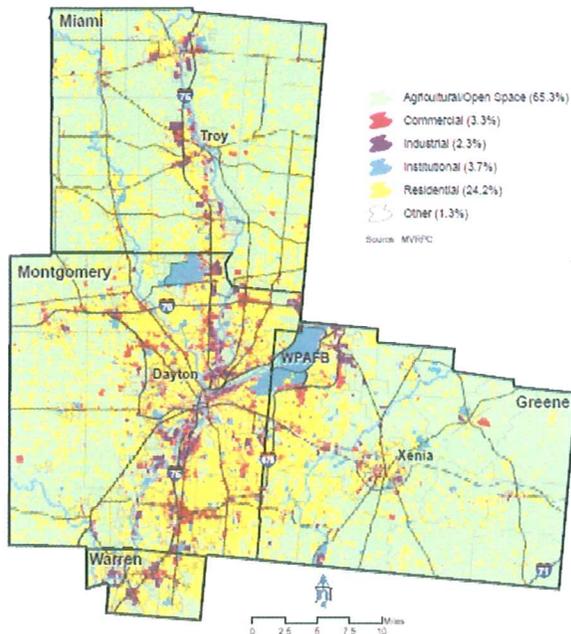


**Preble County** is 6% urban, 67% cropland, and 17% forest. Eaton is the largest city with population 8,407 (2010). The county population in 2010 was 42,270 and is estimated 41,886 for 2012. Population is expected to remain essentially the same at 42,060 by 2020.



Overall, the Dayton-Springfield analysis area is approximately 18% urban, 66% cropland, and 16% forest. This is depicted in the following RPO regional land use map for three of the six counties in the area.

Figure 4. Regional Land Use/Land Cover Map - 2007



Source: <http://docs.mvrpc.org/rlu/Ph1ExecSummary/2-PhysicalConditionAssessment.pdf>

## Commuting Trends

	# of workers living in county	% of workers living in /working out county	# of workers working in county	% of workers living out / working in county
Clark	60,448	34.5%	50,810	22.0%
Darke	24,233	38.5%	19,063	21.8%
Greene	77,386	42.8%	79,916	44.6%
Miami	48,727	38.7%	42,905	30.4%
MONTGOMERY	238,542	21.0%	263,040	28.4%
Preble	19,892	52.4%	12,389	23.6%

Compared to the attainment counties in the Dayton-Springfield area, levels of commuting in Montgomery County are fairly low. Greene County's rates are high due to the presence of the large federal installation Wright-Patterson Air Force Base.

Nevertheless, as a regional center for manufacturing and commerce, Montgomery County does draw significant numbers of workers from the surrounding area. Several thousands of workers (a few percent) commute between Butler and Hamilton counties and Montgomery County.

Number of workers living in Montgomery County 238,542

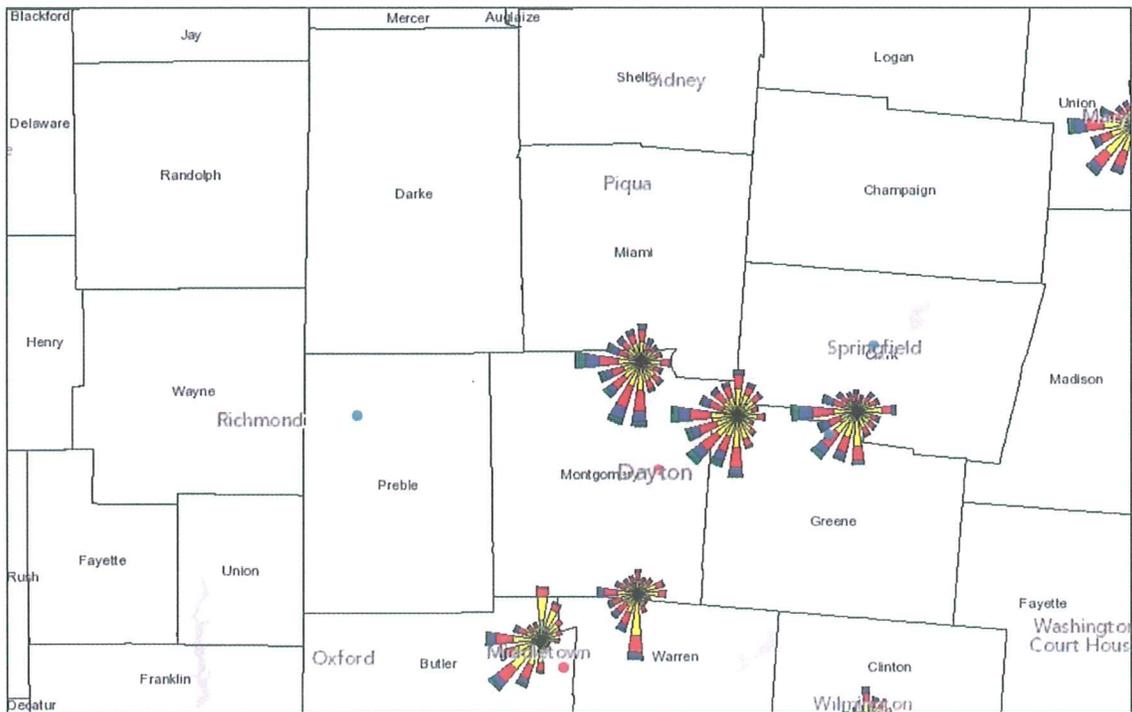
Commute Out To	Number	Percent of workers living in Montgomery County
Greene Co. OH	23,035	9.7%
Warren Co. OH	5,790	2.4%
Miami Co. OH	4,404	1.8%
Butler Co. OH	3,709	1.6%
Hamilton Co. OH	3,293	1.4%
Clark Co. OH	2,827	1.2%
Franklin Co. OH	994	0.4%
Preble Co. OH	989	0.4%
Clinton Co. OH	418	0.2%
Darke Co. OH	407	0.2%
Shelby Co. OH	365	0.2%
Clermont Co. OH	226	0.1%
SUBTOTAL	46,457	19.5%

Number of workers working in Montgomery County 263,040

Commute In From	Number	Percent of workers working in Montgomery County
Greene Co. OH	24,126	10.1%
Warren Co. OH	12,867	5.4%
Miami Co. OH	10,109	4.2%

Clark Co. OH	7,004	2.9%
Butler Co. OH	4,537	1.9%
Preble Co. OH	4,067	1.7%
Darke Co. OH	2,245	0.9%
Hamilton Co. OH	1,632	0.7%
Franklin Co. OH	729	0.3%
Shelby Co. OH	668	0.3%
Clinton Co. OH	631	0.3%
Champaign Co. OH	628	0.3%
SUBTOTAL	69,243	26.3%

### Factor 3: Meteorology



November 26, 2013



#### **FACTOR 4: Geography/topography**

This analysis area does not have any geographical or topographical barriers significantly affecting air pollution transport. Therefore, this factor does not play a role in the analysis of this area.

#### **FACTOR 5: Jurisdictional boundaries**

Clark, Greene and Montgomery counties were designated as nonattainment counties for the 1997 annual PM2.5 standard as part of the Dayton-Springfield nonattainment area. However, they were recently redesignated as attainment (78 FR 45135) for that standard. The entire area has been designated attainment for the 2008 ozone standard.

The Miami Valley Regional Planning Commission (MVRPC) and the Clark County-Springfield Transportation Coordinating Committee (Clark TCC) are the MPOs for the Dayton-Springfield area.

#### **Conclusion**

Montgomery, Clark and Greene have historically been part of the Dayton-Springfield nonattainment area. They are the most populous of the CSA counties and have the highest emissions and VMT.

However, Montgomery County has been shown to have the lion's share of the area's emissions and hosts the only PM2.5 monitor with design value above the standard in 2010 – 2012. Considering all six counties in this analysis area, Montgomery County alone accounts for 33% of direct PM2.5, 45% of NOx and 68% of SO2.

We note that there is an ongoing trend of PM2.5 and PM2.5 precursor emissions reductions, with concomitant reductions in monitored PM2.5 levels. We anticipate revising the nonattainment recommendation for Montgomery County when the design value 2011- 2013 showing attainment is calculated from certified 2011 – 2013 monitoring data.





**DEPARTMENT OF THE AIR FORCE**  
HEADQUARTERS 88TH AIR BASE WING  
WRIGHT-PATTERSON AIR FORCE BASE OHIO

5 Dec 13

Mr. Raymond Baker  
Chief, Environmental Branch  
88 ABW/CEIE  
1450 Littrell Road  
Wright-Patterson AFB OH 45433

Ms. Jennifer Van Vlerah  
Ohio Environmental Protection Agency, DAPC  
Lazarus Government Center  
PO Box 1049  
Columbus OH 43216-1049

RE: Comments Regarding Ohio EPA Recommended Designation of Nonattainment Area Boundaries for the 2012 Annual PM<sub>2.5</sub> National Ambient Air Quality Standard (NAAQS)

Dear Ms. Van Vlerah

Wright-Patterson AFB is pleased to submit comments regarding Ohio EPA's recommended designation of nonattainment boundaries for the 2012 annual PM<sub>2.5</sub> NAAQS. The base is located in Greene and Montgomery counties, which are part of the Dayton-Springfield Metropolitan Air Quality Control Region. Wright-Patterson AFB is the largest single site employer in the state of Ohio with over 6,200 active duty Air Force personnel and over 12,000 civilian employees and contractors, and is a significant economic presence in Dayton-Springfield, supporting a multitude of small businesses and community organizations throughout the region.

Wright-Patterson AFB supports Ohio EPA's recommendation to designate Greene County to attainment/unclassifiable for the 2012 annual PM<sub>2.5</sub> NAAQS, but would like to offer an alternative approach for determining the Montgomery County PM<sub>2.5</sub> design value. For the past fifteen years, the Dayton-Springfield area has demonstrated steady progress in reducing PM<sub>2.5</sub> pollution, which resulted in re-designating the area to attainment for the 1997 annual PM<sub>2.5</sub> NAAQS effective September 26, 2013. As shown on the attached table, the five major sources of sulfur dioxide in Montgomery and Greene counties have collectively reduced sulfur dioxide emissions by 47% and nitrogen oxides by 43% from 2008 through 2011 (Note: sulfur dioxide and nitrogen oxides are precursors of PM<sub>2.5</sub>). These area emission reductions are, for the most part, the result of permanent operational changes or unit shutdowns which will leave only one operating coal-fired industrial boiler in the Dayton-Springfield region by spring of 2016.

Wright-Patterson AFB has committed to further reduce future area PM<sub>2.5</sub> pollution levels by changing from coal to natural gas combustion at both of our main central heating plants by January 2016. Through federally enforceable air permit terms, the base will reduce annual emissions by over 1,000 tons of sulfur dioxide, 200 tons of nitrogen oxides, and 5 tons of particulate emissions within the next two years. Additionally, Wright-Patterson AFB will continue to proactively implement energy programs designed to promote efficiency and reduce fuel consumption.

Ohio EPA has selected the calendar years 2010 through 2012 for the three-year averaging period to determine the Montgomery County annual PM<sub>2.5</sub> NAAQS design value. The annual quality assured monitoring data are 14.0, 12.1, and 10.7 µg/m<sup>3</sup> for each year respectively, averaged together for 12.3 µg/m<sup>3</sup> design value. Wright-Patterson AFB believes that the significant reduction of monitored PM<sub>2.5</sub> data comparing 2010 to 2012 is reflective of the recent permanent PM<sub>2.5</sub> precursor emissions reductions enacted by the largest sulfur dioxide sources in the region. For this reason, the base believes that the 2010 PM<sub>2.5</sub> data do not represent current conditions in Montgomery County and should be replaced with quality assured monitored data from 2013 for use in determining the three-year averaging period and design value. Any annual average data result from 2013 that would be 12.8 µg/m<sup>3</sup> or less for Montgomery County will result in an annual PM<sub>2.5</sub> NAAQS design value of 11.9 µg/m<sup>3</sup> or less, thus making the county attainment/unclassifiable for the 2012 annual PM<sub>2.5</sub> NAAQS. It is highly anticipated that the 2013 PM<sub>2.5</sub> quality assured monitored data will resemble 2011 or 2012 data.

Wright-Patterson AFB understands that Ohio EPA must meet certain regulatory deadlines for submitting recommended designation area boundaries to the US EPA and that the 2013 quality assured PM<sub>2.5</sub> monitored data may not be available prior to submittal. Therefore, the base proposes that Ohio EPA recommend Montgomery County to be in attainment/unclassifiable for the 2012 annual PM<sub>2.5</sub> NAAQS, contingent upon submittal of supplemental quality assured PM<sub>2.5</sub> monitored data for 2013. The basis for supporting this contingency is that the significant PM<sub>2.5</sub> emissions reductions affecting Montgomery County after 2010 are for the most part permanent and/or federally enforceable through air permit term revisions. In the long run, Ohio EPA will benefit from this approach by eliminating the years of time and effort needed for the Montgomery County re-designation process in the future, when attainment data may in fact be available today.

Wright-Patterson AFB is committed to being a good neighbor in the Dayton-Springfield area and a community leader in supporting sustainable economic growth. The combination of Ohio EPA's recommended PM<sub>2.5</sub> NAAQS attainment designations with the proposed alternative approach and our commitment to future pollution reductions will go far toward allowing the Dayton-Springfield area to continue to grow and thrive. Thank you for considering our comments.

Sincerely

**BAKER.RAYMOND.F.1230231105**  
**D.F.1230231105**

Digitally signed by  
BAKER.RAYMOND.F.1230231105  
DN: c=US, o=U.S. Government, ou=DoD,  
ou=PKI, ou=USAF,  
cn=BAKER.RAYMOND.F.1230231105  
Date: 2013.12.05 16:56:13 -05'00'

RAYMOND F. BAKER  
Chief, Environmental Branch  
Installation Management Division

Attachment:  
Table: Emission Levels

Table: Comparison of Montgomery County Ohio PM<sub>2.5</sub> NAAQS Monitored Data to the PM<sub>2.5</sub> Precursor Emission Levels of the Five Major Sources of Sulfur Dioxide in Montgomery and Greene Counties Ohio

Averaging Period		'06-08	'07-09	'08-10	'09-11	'10-12
Montgomery County PM <sub>2.5</sub> 3-year Annual Average	µg/m <sup>3</sup>	14.1	13.7	13.2	12.8	12.3
Calendar Year		2008	2009	2010	2011	2012
Montgomery County PM <sub>2.5</sub> Monitored Data Annual Average	µg/m <sup>3</sup>	13.2	12.4	14.0	12.1	10.7
O H Hutchings <sup>1</sup> Coal Combustion Montgomery County	SO <sub>2</sub> (tons)	2,886	796	1,405	649	411
	NO <sub>x</sub> (tons)	858	251	476	220	130
	SO <sub>2</sub> + NO <sub>x</sub> (tons)	3,744	1,047	1,881	869	541
Wright-Patterson AFB <sup>2</sup> Central Heating Plants Greene County	SO <sub>2</sub> (tons)	1,024	1,027	962	922	662
	NO <sub>x</sub> (tons)	382	409	380	361	249
	SO <sub>2</sub> + NO <sub>x</sub> (tons)	1,406	1,436	1,342	1,283	911
Cargil, Inc. <sup>3</sup> Coal Combustion Montgomery County	SO <sub>2</sub> (tons)	742	566	663	674	N/A <sup>4</sup>
	NO <sub>x</sub> (tons)	755	379	422	410	N/A <sup>4</sup>
	SO <sub>2</sub> + NO <sub>x</sub> (tons)	1,497	945	1,085	1,084	N/A <sup>4</sup>
Appleton <sup>3</sup> Coal Combustion Montgomery County	SO <sub>2</sub> (tons)	1,054	982	725	937	N/A <sup>4</sup>
	NO <sub>x</sub> (tons)	564	526	400	479	N/A <sup>4</sup>
	SO <sub>2</sub> + NO <sub>x</sub> (tons)	1,618	1,508	1,125	1,416	N/A <sup>4</sup>
Cemex <sup>3</sup> Kiln Operation Greene County	SO <sub>2</sub> (tons)	739	184	534	212	N/A <sup>4</sup>
	NO <sub>x</sub> (tons)	2,108	1,477	2,418	1,175	N/A <sup>4</sup>
	SO <sub>2</sub> + NO <sub>x</sub> (tons)	2,847	1,661	2,952	1,387	N/A <sup>4</sup>
Group Totals	SO <sub>2</sub> (tons)	6,445	3,555	4,289	3,394	N/A <sup>4</sup>
	NO <sub>x</sub> (tons)	4,667	3,042	4,096	2,645	N/A <sup>4</sup>
	SO <sub>2</sub> + NO <sub>x</sub> (tons)	11,112	6,597	8,385	6,039	N/A <sup>4</sup>
Percentage Reduction From 2008 to 2011 And 2010 to 2011	SO <sub>2</sub> (%)	47.3		20.8		
	NO <sub>x</sub> (%)	43.3		35.4		
	SO <sub>2</sub> + NO <sub>x</sub> (%)	45.7		28.0		

Notes:

- (1) Data Source: US EPA Air Markets Program, US EPA Website
- (2) Data Source: Wright-Patterson AFB Coal-to-Gas Conversion PTI Application
- (3) Data Source: Ohio EPA EIS Data Reports, Ohio EPA Website
- (4) Data Source: Ohio EPA EIS Data Reports Not Available on Ohio EPA Website for Calendar Year

**Public Notice**  
**Ohio Environmental Protection Agency**  
**Amendment to Recommended Designation of Nonattainment Area Boundaries for**  
**the 2012 Annual PM2.5 Standard**

The Ohio Environmental Protection Agency (Ohio EPA) recently issued public notices soliciting comments regarding the extent of Ohio's nonattainment areas for the revised annual PM2.5 National Ambient Air Quality Standard (NAAQS) which lowered the 1997 annual standard from 15.0 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) to 12.0  $\mu\text{g}/\text{m}^3$ . The United States Environmental Protection Agency (U.S. EPA) adopted this revised annual PM2.5 standard effective on December 14, 2012. Since that time, Ohio EPA identified Montgomery County as an additional area that is not attaining the standard based on 2010 to 2012 air quality data. The 3-year design value for monitor 39-113-0031, located in Montgomery County, is 12.3  $\mu\text{g}/\text{m}^3$ . Ohio EPA is now also soliciting comments regarding the addition of this county as a recommended nonattainment county. The comments received will be used to formulate the State's formal recommendation proposal to U.S. EPA. Ohio EPA's preliminary recommendations are for the following counties to be designated nonattainment for the revised annual PM2.5 standard: Montgomery, Cuyahoga, Stark, Jefferson, Butler, Clermont, and Hamilton. The remainder of the State is recommended as unclassifiable/attainment.

These actions must be noticed to allow public comment and to satisfy U.S. EPA requirements for public involvement in state implementation plan related activities. Comments should be submitted on or before December 5, 2013 at the following address:

E-mail: [Jennifer.dines@epa.state.oh.us](mailto:Jennifer.dines@epa.state.oh.us)

Mailing address: Jennifer Van Vlerah  
Ohio Environmental Protection Agency, DAPC  
Lazarus Government Center  
P.O. Box 1049  
Columbus, Ohio 43216-1049  
Phone: (614) 644-3696

Pursuant to Section 119.03 of the Ohio Revised Code, public hearings on these recommendations will be conducted on:

December 4, 2013 at 1:00 PM, at the Stark County Library, Sandy Valley Branch, 9754 Cleveland Ave SE., Magnolia, Ohio, 44643; and

December 5, 2013 at 10:30 AM, at the Southwest Ohio Air Quality Agency, 250 William Howard Taft Road, Cincinnati, Ohio, 45219.

All interested persons are entitled to attend or be represented at the hearing and give written or oral comments on these recommendations. All oral comments presented at

the hearing, and all written statements submitted at the hearing or to the above address by the close of business on December 5, 2013, will be considered by Ohio EPA prior to final action on these recommendations. Written statements submitted after December 5, 2013, may be considered as time and circumstances permit, but will not be part of the official record of the hearing.

The PM2.5 designation recommendation documentation is available on Ohio EPA DAPC's Web page for electronic downloading at:  
<http://www.epa.ohio.gov/dapc/SIP/2013.aspx>. Questions regarding accessing the web site should be directed to Arunee Niamlarb at 614-728-1342; other questions or comments about this document should be directed to Jennifer Van Vlerah at (614) 644-3696, [Jennifer.dines@epa.state.oh.us](mailto:Jennifer.dines@epa.state.oh.us) or mailed to Jennifer Van Vlerah at the above address.





ArcelorMittal

December 5, 2013

**Via E-Mail & Overnight Mail**

Jennifer VanVlerah  
Ohio EPA, DAPC  
Lazarus Government Center  
P.O. Box 1049  
Columbus, Ohio 43216-1049

**RE: ArcelorMittal USA LLC's Comments on Ohio's Recommended Designations for the 2012 Annual PM<sub>2.5</sub> Standard (October 2013)**

Dear Ms. VanVlerah,

ArcelorMittal USA LLC ("ArcelorMittal") appreciates the opportunity to comment on the above captioned proposed PM<sub>2.5</sub> designation recommendations. ArcelorMittal respectfully requests that Ohio EPA amend its proposed designation in the Cleveland-Akron-Lorain CMSA to properly reflect the contribution of large power plants located just outside Cuyahoga County.

Pursuant to Clean Air Act ("CAA") §107, an area is to be designated as "nonattainment" when it "does not meet . . . [a] national primary or secondary ambient air quality standard" or when it "*contributes to ambient air quality* in a nearby area that does not meet" a national primary or secondary ambient air quality standard.<sup>1</sup> The largest sources in the area are the coal-fired electric utilities in Avon Lake and Eastlake located just outside of the proposed Cuyahoga County nonattainment area. These sources emit thousands of tons of SO<sub>2</sub> and NO<sub>x</sub> that contribute to the formation of ambient PM<sub>2.5</sub> at the nearby monitors in Cuyahoga County that exceed the National Ambient Air Quality Standard ("NAAQS"). By expressly identifying these sources as contributing to the ambient air quality in Cuyahoga County's nonattainment area, Ohio EPA ensures its authority to require enforceable emission reductions from these sources and its ability to take credit for those emission reductions in its State Implementation Plan for bringing the area into attainment with the NAAQS.<sup>2</sup>

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<sup>1</sup> CAA §107(d)(1)(A)(i)(emphasis added).

<sup>2</sup> To the contrary, without enforceable emission reductions, these sources can create Emission Reduction Credits that can be used by new or modified sources to increase emissions.

Under the instructions provided in the United States Environmental Protection Agency's ("USEPA") Designations Guidance, designations must be made based on the three most recent years of air quality data from appropriate monitoring stations.<sup>3</sup> Ohio EPA has concluded that four monitors in Cuyahoga County do not meet the new 12ug/m<sup>3</sup> standard.<sup>4</sup> As a result, Ohio EPA has the obligation to propose boundaries for the designated nonattainment area that meet the statutory criteria. In so doing, Ohio EPA is directed to consider the following five factors; (1) air quality data, (2) emissions and emissions-related data, (3) meteorology, (4) geography and topography, and (5) jurisdictional boundaries.<sup>5</sup> Ohio EPA's proposal to use the jurisdictional boundary of Cuyahoga County as its designated nonattainment area improperly excludes sources that have a demonstrated contribution to ambient air quality in this area.

### 1. Air Quality Data

The first factor, air quality data, demonstrates that the air quality problems in Cuyahoga County have a significant regional component. Sulfates and nitrates are both very significant PM<sub>2.5</sub> components in Cuyahoga County, with sulfates being the single largest contributor based on speciation data.<sup>6</sup> However, not all of the sulfates and nitrates originate in Cuyahoga County. In fact, the largest point sources of Sulfur Dioxide ("SO<sub>2</sub>") and Nitrogen Oxides ("NOx") originate just outside of Cuyahoga County in Avon Lake and Eastlake where large coal-fired utilities operate. Table 1 below illustrates that the contributions of these major sources in Lake and Lorain Counties dwarf local Cuyahoga County SO<sub>2</sub> and NOx emissions.

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<sup>3</sup> Memorandum from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency to Regional Administrators, *Initial Area Designations for the 2012 Revised Primary Annual Fine Particle National Ambient Air Quality Standard*, p. 3 (April 16, 2013).

<sup>4</sup> We note that the E.14 & Orange Site (monitor 39-035-0060) increased PM<sub>2.5</sub> in 2012 vs. 2011 due to a major multi-year (2012-2015) construction project conducted by the Ohio Department of Transportation project adjacent to monitor and now has become the PM<sub>2.5</sub> monitor with the highest concentration in Cuyahoga County with a 2012 value of 13.2 ug/m<sup>3</sup> while the monitor with the next highest 2012 value is 12.3 ug/m<sup>3</sup>. All other monitor sites decreased during this same time period. This indicates that the data from the Orange Site is flawed and should be disregarded as unreliable for designations purposes.

<sup>5</sup> Memorandum from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency to Regional Administrators, *supra* note 2 at p. 11.

<sup>6</sup> See Ohio's Recommended Designations for the 2012 Annual PM<sub>2.5</sub> Standard, Table 20, p. 58 (October 2013).

Table 1: Point Source Emissions Data for Sulfur Dioxide and Nitrogen Oxides<sup>7</sup>

County	SO <sub>2</sub> Emissions (tpy) 2008 Point Sources	SO <sub>2</sub> Emissions (tpy) 2011 Point Sources	NO <sub>x</sub> Emissions (tpy) 2008 Point Sources	NO <sub>x</sub> Emissions (tpy) 2011 Point Sources
Lake	58,673.6	51,964.8	11,078.2	9,667.4
Lorain	23,087.0	32,418.3	6,361.0	5,389.8
Cuyahoga	9,487.7	6,492.5	5,837.4	4,193.1

## 2. Emissions Related Data

The second factor, emission and emissions-related data, confirms that the large coal-fired utilities in Avon Lake and Eastlake (Lorain and Lake Counties, respectively) play substantial roles in the overall profile of the combined statistical area (“CSA”) for Cuyahoga County. As Ohio EPA acknowledges, Cuyahoga, Lorain, Lake and Summit Counties alone “account for: 79% of PM<sub>2.5</sub>, 81% of NO<sub>x</sub>, 73% of VOC and 95% of SO<sub>2</sub>” while “while Cuyahoga County alone only accounts for 19% of PM<sub>2.5</sub>, 25% of NO<sub>x</sub>, 24% of VOC and 8% of SO<sub>2</sub>.”<sup>8</sup> As Table 1 illustrates, SO<sub>2</sub> and NO<sub>x</sub> emissions from point sources in Lorain and Lake Counties contribute more to these percentages than all of the point sources in Cuyahoga County. Recognizing the significance of those nearby emissions, the proposed recommendation explains that the large coal-fired utilities in these areas have “planned” or “announced” that they will convert units to natural gas or shutdown “in the near future to justify their exclusion from the nonattainment area.”<sup>9</sup> Ohio EPA apparently relied on these unsupported assertions to justify excluding these sources and their local areas from its nonattainment designation analysis.

<sup>7</sup> *Id.* at p. 62.

<sup>8</sup> *Id.*, at p. 61.

<sup>9</sup> *Id.* at 71-72.

Jennifer VanVlerah, Ohio EPA, DAPC

December 5, 2013

ArcelorMittal Comments On Recommended Designations for the 2012 Annual PM<sub>2.5</sub> Standard

That approach is inconsistent with USEPA's Designations Guidance and Ohio EPA's own expressed test regarding how to assess emissions. While USEPA's Designations Guidance allows the consideration of "additional information...on changes to the emission levels that are not reflected in the most recent emissions inventories," such information can only include "emissions reductions due to *permanent and enforceable* emission controls that will be in place before the final designations are issued."<sup>10</sup> Ohio EPA mirrored this requirement in its designation recommendation stating that while emissions data for areas nearby an exceeding monitor are derived from the 2008 and 2011 NEI data, "[e]missions reductions that may occur beyond those in these inventories that are due to *permanent and enforceable emissions controls* that will be in place in time for attainment are also discussed."<sup>11</sup>

Ohio EPA's proposed recommendations do not identify any permit requirement, consent decree or other enforceable obligation that requires the two large Lorain and Lake County power plants highlighted by the Agency to reduce their emissions. Nor has ArcelorMittal been able to identify any obligations beyond unenforceable statements made in press releases. Without permanent and enforceable reductions, these sources must be considered contributors to the PM<sub>2.5</sub> ambient air quality exceedances in Cuyahoga County.<sup>12</sup>

Ohio EPA's exclusion of the areas with the largest nearby sources in Lorain and Lake Counties based on mere projections rather than enforceable, permanent requirements also falls short of what USEPA has required in similar PM<sub>2.5</sub> designations:

- EPA cannot take into account proposed rules like CAIR when designating areas as attainment or nonattainment for the PM<sub>2.5</sub> NAAQS. Since there is no guarantee that proposed rules like CAIR will be implemented, EPA cannot take CAIR into consideration in this process.<sup>13</sup>
- Although the State has indicated that the power plant located in Ashtabula County has reduced its NO<sub>x</sub> and SO<sub>2</sub> emissions, EPA does not have information as to the performance or federal enforceability of those reductions, nor did the State indicate what portion of these emission reductions occurred after the 2001 date for which EPA's emissions data base applies.<sup>14</sup>

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<sup>10</sup> Memo from Gina McCarthy, Assistant Administrator to Regional Administrators, *supra* note 2, p.22 (April 16, 2013).

<sup>11</sup> Ohio's Recommended Designations for the 2012 Annual PM<sub>2.5</sub> Standard, p. 7 (October 2013).

<sup>12</sup> The state implementation plan must provide for attainment of the standard based on PM<sub>2.5</sub> emission reductions from control measures that are permanent and enforceable. See §110(a)(2)(A) which provides that each plan shall include "enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter."

<sup>13</sup> Response to Comments, EPA's Designations and Classifications Of Areas for the Particulate Matter (PM<sub>2.5</sub>) National Ambient Air Quality Standards, Chapter 5, U.S. Environmental Protection Agency (December 17, 2004) at p.5-53.

<sup>14</sup> *Id.* at p. 6-310-11.

Jennifer VanVlerah, Ohio EPA, DAPC

December 5, 2013

ArcelorMittal Comments On Recommended Designations for the 2012 Annual PM<sub>2.5</sub> Standard

- The state has indicated that selective catalytic reduction (“SCR”) equipment has been installed on the DP&L J.M. Stuart Generating Station in Adams County and on the Ohio Power Gavin power plant and the Ohio Valley Electric Corporation Kyger Creek power plant in Gallia County. However, EPA does not have information as to the permanence, federal enforceability, or magnitude of those reductions. It is also unclear whether the NOx emission controls are operated on an annual basis.<sup>15</sup>

Thus, mere assertions that emission reductions are either “planned” or “announced” for the Avon Lake and Eastlake power plants in Lake and Lorain Counties are not sufficient to support Ohio EPA’s proposed nonattainment designation boundary for Cuyahoga County. Without proof of a permanent and federally enforceable reduction, the baseline emissions from 2010 to 2012 for these utilities must be considered in Ohio EPA’s designation determination.

### 3 & 4. Meteorology and Geography

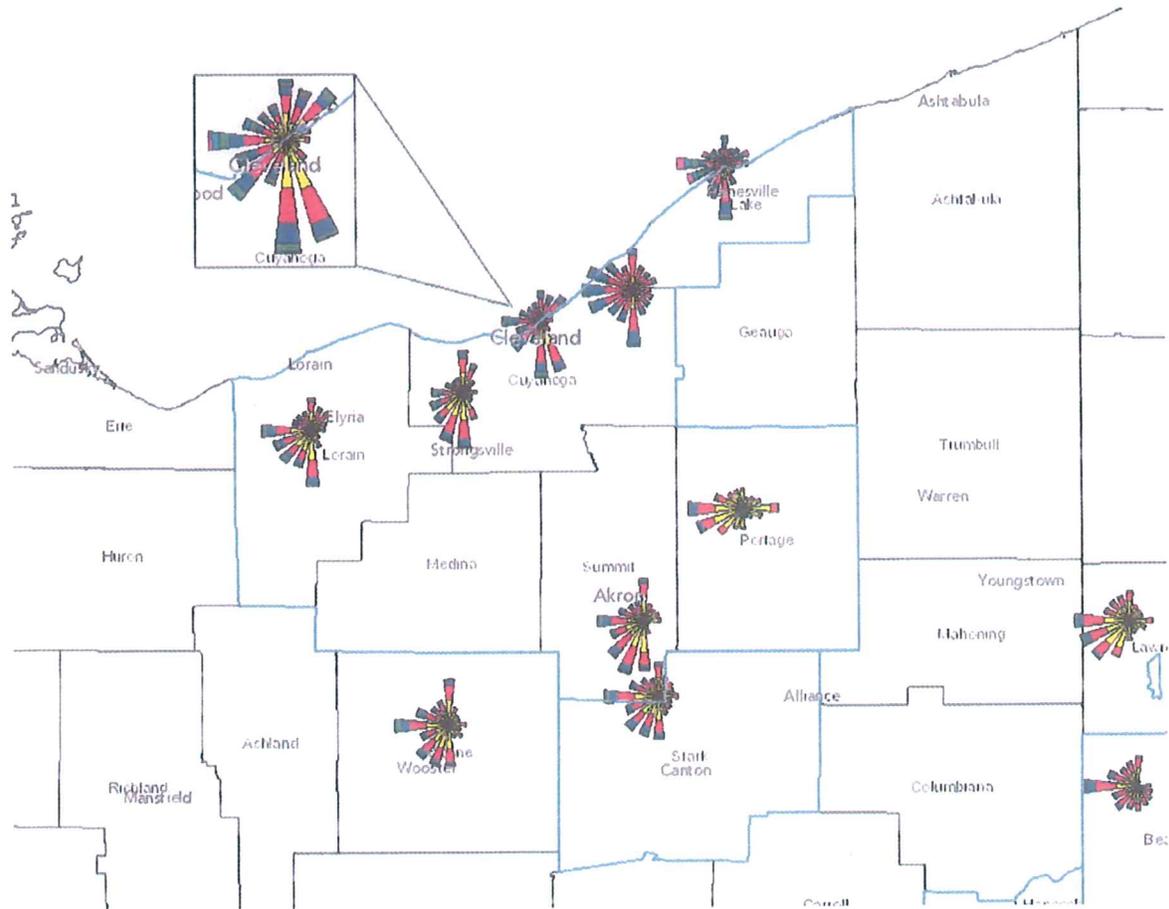
The third and fourth factors, meteorology and geography also support including the areas adjacent to Cuyahoga County with the large utilities in Lorain and Lake Counties in the nonattainment area. As the map below illustrates,<sup>16</sup> prevailing winds blow directly towards Cuyahoga County from Lorain County. And, due to lake effect winds that cause variable conditions near Lake Erie, emissions from Lake County are carried the opposite direction toward the nonattainment monitors in Cuyahoga County in some circumstances. These winds include significant components that are directed towards the monitors that exceed the standard. As Ohio EPA notes, no “geographical or topographical barriers significantly affect[] air pollution transport” from Lake and Lorain Counties to Cuyahoga County.<sup>17</sup>

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<sup>15</sup> *Id.* at p. 6-323.

<sup>16</sup> Wind Roses for the Cleveland-Akron-Lorain Analysis Area, data provided by U.S. EPA’s PM<sub>2.5</sub> Designations Mapping Tool. See Ohio’s Recommended Designations for the 2012 Annual PM<sub>2.5</sub> Standard, p. 81 (October 2013).

<sup>17</sup> *Id.*



### **5. Jurisdictional Boundaries**

Finally, the fifth factor, jurisdictional boundaries, supports including at least part of Lake and Lorain Counties in the nonattainment area. USEPA has consistently included Cuyahoga, Lorain, and Lake Counties in nonattainment areas for PM<sub>2.5</sub>. On January 5, 2005, USEPA published air quality area designations for the 1997 PM<sub>2.5</sub> standard based on data for calendar years 2001-2003. (70 Fed. Reg. 944). USEPA determined that the Cleveland area as defined to include Cuyahoga, Lake Lorain, Medina, Portage and Summit Counties and Ashtabula township in Ashtabula County would be included in the nonattainment area. (70 Fed. Reg. 995).

Similarly, on November 13, 2009, USEPA published air quality area designations for the 2006, 24-hour PM<sub>2.5</sub> standard and defined the area to include Cuyahoga, Lake, Lorain, Medina, Portage and Summit Counties. The Ashtabula Township was not included, but instead was designated as unclassifiable/attainment.

Jennifer VanVlerah, Ohio EPA, DAPC  
December 5, 2013

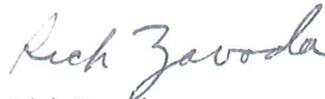
ArcelorMittal Comments On Recommended Designations for the 2012 Annual PM<sub>2.5</sub> Standard

In this case, a similar designation may well be appropriate. However, if Ohio EPA determines that it would be overbroad to include the entirety of Lorain and Lake Counties, it can reasonably decide to include only the townships with the largest contributing sources. This is consistent with past designation practices including USEPA's designation of Ashtabula Township rather than the entirety of Ashtabula County in the Agency's 1997 PM<sub>2.5</sub> designation discussed above. Regardless of how Ohio EPA ultimately structures its designation determination, Ohio EPA must consider and include the areas that contain the major sources that contribute to ambient air quality in the nonattainment area designation.

**Conclusion**

The large coal-fired utilities located just outside of the Cuyahoga County boundary are contributing to ambient air quality in the area exceeding the NAAQS for PM<sub>2.5</sub>. The area containing these sources should be included in the nonattainment area to ensure that the agency has the authority to require federally enforceable emission reductions and to preserve its ability to take full credit for these reductions when preparing the state implementation plan to demonstrate how the Cuyahoga Nonattainment Area will be brought back into attainment. The burden for these emission reductions should not fall solely on local sources when the baseline emissions from nearby coal-fired utilities are contributing significantly to the ambient concentrations that are driving this nonattainment designation. If you have any questions concerning this issue, please do not hesitate to contact me at (330) 659-9163.

Sincerely,



Rich Zavoda  
Regional Manager, Air Quality Program  
Environmental Affairs



December 5, 2013

Ms. Jennifer Van Vlerah  
Ohio EPA, DAPC  
Lazarus Government Center  
P.O. Box 1049  
Columbus, Ohio 43216-1049

***RE: 2012 PM2.5 National Ambient Air Quality Standard (NAAQS) –  
State Nonattainment Designations***

Dear Ms. Van Vlerah:

On behalf of the North American Die Casting Association (“NADCA” or “Association”); please accept these comments as you develop the Ohio EPA’s proposed designations for the 2012 PM2.5 National Ambient Air Quality Standard (“NAAQS”). NADCA is the sole trade and technical association of the die casting industry, representing members from over 350 companies located in every geographic region of the United States. Die casters manufacture a wide range of non-ferrous castings, from automobile engine and transmission parts to intricate components for computers and medical devices. In the U.S., die casters contribute over \$7 billion to the economy annually and provide over 50,000 jobs directly and indirectly.

NADCA and manufacturing groups, representing a broad swath of the industry, objected to the U.S. Environmental Protection Agency (U.S. EPA) actions, believing the NAAQS PM rulemaking is “arbitrary and capricious” and unlikely to achieve its stated benefits. As the State EPA develops its nonattainment area designations under NAAQS, we ask that policymakers take into account the affect these decisions will have on local, regional, and state-wide economies. Nonattainment designations as currently recommended by the State for Montgomery, Cuyahoga, Stark, Jefferson, Butler, Clermont, and Hamilton counties will make manufacturers in those areas less competitive.

Since the establishment of the 15 µg/m<sup>3</sup> standard, data shows risks from PM2.5 exposure have declined, while the 24-hour “supplementary” protection standard continues to provide protection to children and other sensitive subpopulations. For example, scientific data demonstrates a decade-long downward trend in PM2.5 concentrations in the St. Louis area as we have in other regions. This decline is expected to continue due to effective control measures that are already in place in the metropolitan area. Although it is the U.S. EPA setting the new standards, the Clean Air Act gives states and local governments the “primary responsibility” to prevent and control air pollution. This is why a state’s determination of attainment vs. nonattainment is so fundamental to the future of manufacturing in the local community.

All Ohio manufacturers, including NADCA members, provide over 638,400 jobs at roughly 15,212 facilities in the State. These employees, their families, and supporting businesses will see a significant impact on their operations whether or not they work in an attainment or nonattainment area. While either designation carries with it significant economic burdens and disputed public health benefits, nonattainment status can cripple the local manufacturing community.

Regardless of their merit, regulations that go beyond this standard will add unnecessary cost and complexity without furthering the goals that Congress set forth in the Clean Air Act. For this reason and those stated below, NADCA asks the State of Ohio to closely consider the impact a nonattainment designation will have on local manufacturing businesses, their employees, and the ability to expand production while adding jobs.

An April 2013 survey conducted by NADCA found that of all respondents, 66% have job openings and 95% face severe or moderate challenges recruiting qualified employees to fill those positions. Nationwide, manufacturers have 600,000 skilled job openings according to a study by Deloitte and the Manufacturing Institute. This shocking data clearly indicates manufacturing in America is expanding and employers in Ohio are ready to hire more people and increase production at their facilities. However, should the State and U.S. EPA designate certain areas as nonattainment zones; manufacturers will face numerous obstacles to expanding their operations and hiring more employees.

As you know, Ohio manufacturers are not only competing with businesses in neighboring states such as Indiana, Michigan, and Pennsylvania, but also against foreign businesses who do not face the same restrictions as U.S. manufacturers. The NAAQS PM2.5 regulations are far more stringent than standards in other industrialized nations. For example, European Union annual PM2.5 standard is 25 µg/m<sup>3</sup> and set an average exposure indicator (“AEI”) reduced to 18 µg/m<sup>3</sup> by 2020. Japan, a major competitor for U.S. automotive suppliers, applies an annual PM2.5 standard of 15 µg/m<sup>3</sup>. The Manufacturers Alliance for Productivity and Innovation (MAPI) states that U.S. manufacturers face a 20% competitive disadvantage against foreign competitors. The arbitrary and capricious standards set under NAAQS PM will place American manufacturers even further behind overseas companies.

#### **A Roadblock to Growing Jobs and Businesses**

The State of Ohio can control much of its own economic destiny by deciding whether to designate an area as nonattainment. Should the State make such a designation, whether in the Cuyahoga, Hamilton, or another county, a series of additional requirements will apply to businesses located within the zone. When it comes to attracting new businesses to the State and opening new manufacturing facilities, this will have a significant negative impact. NADCA believes that state governments should do all they can to foster an environment which encourages manufacturing in America, not erect self-imposed barriers.

Should the State choose to move forward with nonattainment designations, under 40 CFR part 81, subpart C, the federal government then places multiple stringent conditions on businesses before the company may be allowed to construct or modify an existing facility. The goal is to control the source’s total emissions, either by requiring emission offsets from existing sources to counteract the new emissions or the installation of pollution control equipment.

Die casters like NADCA members are in an even more unique situation. The structure of a typical die casting machine does not allow for an emissions capture apparatus in a cost effective manner nor in a way which will likely achieve the stated goals under NAAQS. Regardless of the technical feasibility of additional controls, a January 2003 study of the die casting industry showed an “analysis of samples taken from a die cast machine suggest very little if any residue is exhausted out into the environment.”

The greatest concern to NADCA members and manufacturers is the potential requirement that a manufacturer cap production at a certain level in order to meet national air quality standards. What this means to a typical manufacturer is that they cannot hire more employees, purchase new equipment, or expand their existing facilities – all of which are essential to local, regional, and national economic growth. At a time when the country is slowly emerging from the Great Recession, policymakers, whether in Washington or state capitals, should find ways to support these employers, especially when current policy is already working.

In a 2012 MIT study titled, “The Effects of Environmental Regulation on the Competitiveness of U.S. Manufacturing,” researchers found that there is a direct connection between a decline in manufacturing productivity and companies located in a nonattainment area. According to the report, “this corresponds to an annual economic cost from the regulation of manufacturing plants of roughly \$21 billion in 2010 dollars.”

#### **Establishing Boundaries – Picking Winners and Losers**

Among the most consequential decisions a state can make is determining the boundaries for a nonattainment area. Per federal guidelines, even if a community is outside the primary subject zone, a state may include that region in the nonattainment area if the government determines it contributes pollution to a nonattainment zone. Policymakers should not assume primary and secondary attainment areas are the same for designation purposes. This assumption unnecessarily restricts manufacturing growth.

Among the greatest threats to domestic manufacturing is a state establishing a larger nonattainment area than originally prescribed. Federal guidelines also make it more difficult for local communities with a significant manufacturing presence to meet national air quality standards on their own. We believe both the state and public are better served in this instance with an “unclassified” designation which will preserve jobs and allow businesses to compete more fairly.

The State has more than one metropolitan area which regulators can classify as “urban concentration”. As with any major city, vehicle miles traveled and mobile sources of emissions contribute to ozone and PM2.5 release more than in a rural community. Emissions from non-stationary sources released in a certain region can unfairly lead to a nonattainment classification for this community. These mobile sources can result in to restrictions placed on local businesses who will struggle to attract new employees and employers to the region. State designations will lead to arbitrary boundaries drawn, leaving government officials to decide the winners and losers.

Take for example the St. Louis metropolitan area. The State of Missouri analyzed the impact of additional controls in that region. The State concluded that,

“Even if areas in Missouri were to be included in a nonattainment area as a result of the violating monitors in the Illinois portion of the St. Louis MSA, few if any new controls in Missouri...would actually be required for the area. This means there would be no net air quality benefit by designating areas in Missouri nonattainment based on these violating monitors.”

Accordingly, areas of Ohio which border other heavy manufacturing states such as Indiana and Pennsylvania, will be “penalized” for emissions generated from outside the Ohio borders. Yet, designation of nonattainment in these areas will unduly place manufacturers within the State’s boundaries at a significant disadvantage over neighboring states. This will ultimately lead to more manufacturers leaving Ohio and discourage new businesses from investing and opening factories which create jobs in the Buckeye State.

Another critical factor in a major metropolitan zone is freight and other transportation which does not serve the local businesses but are simply "passing through". For example, the Cleveland area is a major transit route for people and cargo headed to areas outside of Cuyahoga County and to other states. Factoring in freight, commercial, passenger, this area of the State is one of the busiest economic zones in the country which brings significant benefits to the local population and state government.

However, this economic activity comes with mobile emissions which count against the local community under NAAQS. As a result, it is this local community who will suffer under a nonattainment designation even though their manufacturers are not responsible for the released emissions. Essentially, this punishes businesses purely based on happenstance and activities completely out of their control. This is yet another reason that if a county attains the secondary NAAQS, the state should designate that area as "attainment". Any other designation would artificially expand the primary zone and unnecessarily capture other locations subjecting them to needless restrictions.

#### **Use of Flawed and Incomplete Data**

The EPA guidelines call on states to use data from the preceding three years or 2010-2012. This date range will include the surge in manufacturing which resulted from manufacturers and consumers rebounding from the Great Recession. In the early recovery period, manufacturers ramped up production to meet pent up demand. The inclusion on this high-production period may produce skewed results.

More consequential however is the use of monitoring data over modeling predictions which typically overestimate ambient concentrations. The use of modeling may lead to an incorrect designation which could cripple the local manufacturing community. The states should not go beyond the criteria set forth under the Clean Air Act and adopt additional methods which could unduly restrict the flexibility provided by the federal government.

The selective use of data and targeting the maximum levels rather than ambient air conditions will lead to incorrect findings. While the EPA rule contains significant technical flaws rendering it arbitrary and capricious, under the Clean Air Act it is ultimately the states that have primary responsibility to prevent and control air pollution.

#### **Conclusion**

The State of Ohio, under the Clean Air Act, has the opportunity to control its own economic destiny and the success of its manufacturers. Therefore, NADCA believes that the state should not designate areas as nonattainment, nor should it include surrounding communities in a nonattainment boundary.

Government officials from President Obama to local representatives recognize that manufacturing is the engine driving the country out from the Great Recession. At a time when businesses are already leaving the state, Ohio should not erect additional barriers to restrict manufacturing job growth.

Thank you for your consideration of these comments and we look forward to working with you to strengthen manufacturing in America.

Sincerely



Daniel Twarog  
President  
North American Die Casting Association