Appendix A

Speciation Profiles for EGU Coal Combustion

Emission Inventory Used for $PM_{2.5}$ Designations Analyses and Other Rulemakings (2004 – 2005)

The base year emission inventory for 2001 that was used for analyses to support the $PM_{2.5}$ designations and other rulemakings was developed in 2003. To estimate the sub-components of direct $PM_{2.5}$ emissions from EGUs, EPA used the NCOAL speciation profile for EGU Coal Combustion. This coal combustion profile categorizes $PM_{2.5}$ components as follows:

Primary organic carbon:	20.0%
Primary elemental carbon:	1.0%
Primary sulfate:	16.0%
Primary nitrate:	0.5%
Primary other inorganics:	6.25%

This speciation profile was based on the best available EGU coal combustion data that was gathered as part of work independently performed by a consultant to EPA with considerable emission inventory expertise. The profile was derived from information in peer-reviewed studies. It estimates carbonaceous material as making up 21% of direct $PM_{2.5}$ emissions from EGUs. The objective of the contractor work product was to obtain and document improved speciation profiles for the major $PM_{2.5}$ sources in the inventory. The reference for documentation on this profile (which includes revised profiles for other sectors as well) is:

Memorandum from William Hoden, Pacific Environmental Services, to Mr. Ron Ryan, EPA, Recommendations for the Update and Improvement of Existing $PM_{2.5}$ Split Factors, September 29, 2003. The memorandum is available at:

http://www.epa.gov/ttn/chief/emch/speciation/pm2.5split_task2_finalmemo.pdf

Emission Inventory Used for PM NAAQS Analyses (2005-2006)

In 2005, after the $PM_{2.5}$ designations process was finalized and emission inventory information was being prepared for analyses in support of the PM NAAQS review, EPA concluded that certain modifications were needed to improve the stationary source $PM_{2.5}$ inventory. Emission inventory work by EPA in support of analyses for the PM NAAQS rulemaking proposed in 2005 and finalized in 2006 indicated that it would be more appropriate to use a broader set of speciation profiles for EGUs. EPA concluded that the EGU profile used in 2004 should continue to be used but that it would be most appropriate only for plants that burn primarily lignite coal. EPA also concluded that for many eastern U.S. plants that burn bituminous coal rather than lignite coal, another

existing EGU speciation profile would be more appropriate to use at this time because it was more representative of the typical emissions resulting from combustion of the types of coal used by most EGUs, particularly those in the eastern U.S, than the previously used profile. This existing coal combustion profile "22001" was used to develop modeling inventories for analyses supporting the Heavy Duty Diesel Rule and Nonroad Rule. This coal combustion profile categorizes $PM_{2.5}$ components as follows:

Primary organic carbon:	1.07%
Primary elemental carbon:	1.83%
Primary sulfate:	11.90%
Primary nitrate:	0.00%
Primary other inorganics:	85.20%

This emissions profile estimates carbonaceous material as making up 2.9% of direct $PM_{2.5}$ emissions from EGUs.

The coal combustion profile(code 22001) used for the PM NAAQS analyses was based on peer-reviewed studies and documented in the SPECIATE database for speciation profiles, version 3.2. See: http://www.epa.gov/ttn/chief/software/speciate/index.html.

Base Year 2002 Emission Inventory (Developed in 2007)

In 2007, EPA moved to a 2002 base year emission inventory platform. To estimate the sub-components of direct $PM_{2.5}$ emissions from EGUs, EPA employed a newly revised "EGU Coal Combustion" speciation profile "92084" that had been under development as part of the SPECIATE 4.0 database revision. EPA issued the revised SPECIATE 4.0 database in January 2007. It includes a total of 4080 PM and 2019 total organic carbon speciation profiles, and includes revised profiles for certain types of EGUs. The revised speciation profiles are based on peer-reviewed studies and the project was coordinated by an independent EPA contractor with considerable expertise in emission profiles. SPECIATE 4.0 replaces the prior version of the SPECIATE version 3.2 released in November 2002. The revised EGU coal combustion profile "92084," which is now applied in all the counties you identified in your petition, indicates that carbonaceous $PM_{2.5}$ emissions are lower than those EPA estimated for the designations process, but higher than those EPA used in the interim and to which you referred in your letter (about 75% higher).

This coal combustion profile categorizes $PM_{2.5}$ components as follows:

Primary organic carbon:	3.16%
Primary elemental carbon:	1.88%
Primary sulfate:	12.67%
Primary nitrate:	0.16%
Primary other inorganics:	82.13%

For more information on the revised speciation profiles in SPECIATE 4.0, see: http://www.epa.gov/ttn/chief/software/speciate/index.html.

Appendix B

Background on Weighted Emissions Score

4.0 CONSTRUCTING THE WEIGHTED EMISSIONS SCORE

The emissions of PM2.5-related pollutants are an important factor considered in the designations process. PM2.5 concentrations are formed through complex processes, with contributions both from direct emissions and from multiple secondarily-formed pollutants. In order to compare overall emissions among counties within a metropolitan area, EPA developed a metric called the weighted emissions score. This chapter discusses the methodology used to develop this metric

The first section presents the basis for the weighted emissions score metric. The second section focuses on the calculation method for the Weighted Emissions Score (WES). The WES is based on the urban excess (Chapter 3) and the countywide emissions. The final section describes the sorting method used to determine the cumulative emissions scores which were used to rank metropolitan area and nearby counties in relation to one another.

4.1 Basis and Assumptions

Nonattainment problems are caused by a combination of regional and local emissions. In the designation process, EPA evaluated all the counties in a particular metropolitan area (based on the 1999 and 2003 definitions), plus all counties adjacent to the metropolitan area. For each metro area with a violating monitor, the emissions from this set of counties were evaluated for their contribution to nearby, or "local," PM2.5 concentrations. Because PM2.5 components such as sulfates and nitrates are formed through atmospheric processes and can be transported many miles, sources of emissions outside the set of counties comprised of the metropolitan area and adjacent counties were considered to affect the regional concentration for a particular site.

For the purposes of developing a simplified emissions metric, only the pollutants SO2, NOx, direct carbon, and direct crustal emissions were considered in the methodology. Ammonia is recognized as a key pollutant in the formation of ammonium sulfate and nitrate. However, for the purposes of developing this metric, it was assumed that ammonia emissions were associated with the formation of ammonium sulfate (through reactions with SO2) and ammonium nitrate (through reactions with NOx). Similarly, some volatile organic compounds are recognized as precursors to secondary aerosol formation, and others participate in the formation of ozone which is an important element in the oxidation of sulfur and nitrogen oxides and related atmospheric chemistry processes. However, because of the lack of speciated VOC inventories and the uncertainty about what proportion of VOC emissions in a particular county might participate in PM formation most directly, VOCs also were not included in the weighted emissions score methodology. The county emissions used in this analysis were taken from the 2001 National Emission Inventory, version 3.

4.2 Calculating the Weighted Emissions Scores

Step 1. The counties to be analyzed in relation to each metro area were first identified. These counties included the counties in the 1999 C/MSA, those included the 2003 metro area definition, and any counties adjacent to those in either the 1999 or 2003 definitions.

Step 2. For each metropolitan area, the urban excess PM2.5 mass was calculated according to the methodology described in chapter 3. According to this methodology, the regional concentration is subtracted from the urban concentration for sulfates, nitrates, direct carbon, and direct inorganic (or "crustal") PM2.5. The resulting concentrations, when added together, comprise the estimated urban excess PM2.5 for the area.

Step 3. The percentage that each PM2.5 component comprises of the total urban excess mass is then calculated. These percentages varied from metro area to metro area, and they served as a factor for "weighting" emissions of the pollutants associated with each PM2.5 component.

Step 4. The next step involves calculating, for each pollutant, the percentage of CMSA emissions attributable to each county.

Step 5. The county's percentage of CMSA emissions for the four pollutants was then multiplied by the corresponding PM2.5 component percentage of urban excess mass.

The calculation of the weighted emissions score is represented by the following formula:

[(County SO2 tons / CMSA SO2 tons) *
(% sulfate comprises of urban excess PM2.5)]

+ [(County NOx tons / CMSA NOx tons) *
(% nitrate comprises of urban excess PM2.5)]

+ [(County carbon tons / CMSA carbon tons) *
(% carbon comprises of urban excess PM2.5)]

+[(County crustal tons / CMSA crustal PM2.5 tons) *
(% crustal PM2.5 comprises of urban excess PM2.5)]

Step 6. This score was calculated for each county in the CMSA, and then the county scores were sorted from highest to lowest. The sum of these CMSA county scores was 100.

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1 Myoseon Jang, N.M. Czoschke, S. Lee, and R.M. Kamens. "Heterogeneous Atmospheric Aerosol Production by Acid Catalyzed Particle-Phase Reactions." Science, Volume 298, 25 October 2002, pp. 874-877.

Step 7. The weighted emissions score was then calculated for the other counties identified in step 1 that were outside of the 1999 metro area boundary. In the formula above, the CMSA emissions totals for each pollutant were used as the denominator in the equation. In this way, adjacent counties were compared with CMSA counties in a consistent manner. These "adjacent" counties were then sorted from highest to lowest to identify which of these counties had higher relative contributions to local PM2.5.

4.3. Comparing Weighted Emissions Scores Among Counties

The weighted emissions score was developed as a basic analytical tool used to compare emissions across multiple counties in a metropolitan area. It should be regarded simply as one way to assess multiple emissions all contributing to the "emissions" factor identified in EPA guidance. In addition, the weighted emissions score was not given more significance than the other factors in the analytical process. The assessment of potential nonattainment area counties was based on all of the information available to the Agency for all of the factors identified in EPA guidance. Final decisions on attainment and nonattainment areas were based on the collective assessment of all of the nine technical factors. EPA recognizes that there are particular uncertainties associated with this metric. However, EPA believes that it serves as a useful tool for comparing county emissions of multiple pollutants in a simplified way.

Appendix C

Docket Item EPA-HQ-OAR-2003-0061-0732

Air Quality Modeling to Assess Power Plant Impacts

January 20, 2006

MEMORANDUM TO DOCKET OAR-2003-0061

Subject: Air Quality Modeling to Assess Power Plant Impacts (January 2006 Update)

From: Brian Timin, EPA Office of Air Quality Planning and Standards
Richard Damberg, EPA Office of Air Quality Planning and Standards

Background. The purpose of this memorandum is to describe air quality modeling conducted by EPA to support the fine particle standards designation process. The modeling was designed to provide general estimates of potential air quality impacts of individual power plants outside of metropolitan areas on violating monitors within the areas.

The modeling was conducted with the CMAQ air quality model, which was used by EPA to support the final Clean Air Interstate Rule.[1] Three model runs were performed, one base case run, one run in which eight power plants in the eastern U.S. were "zeroed-out" (i.e. their pollutant emissions were assumed to be zero), and a third run in which twenty-nine power plants in the eastern U.S. were "zeroed-out." By assessing the difference in PM2.5 concentrations at specific locations, one can roughly estimate the contribution from specific sources to a nearby area with an air quality problem.

The emissions inventory and meteorological inputs to the modeling process were based on 2001 data. The model was run for a full year with a horizontal grid resolution of 36 kilometers. The model output from the base case and zero-out case were postprocessed using the Speciated Modeled Attainment Test (SMAT) methodology that was developed and refined as part of the CAIR modeling. The SMAT documentation is contained in the CAIR docket[2].

In the eight-source run, eight large power plants adjacent to potential nonattainment areas (see attached map on page 5) were selected for the analysis because they are located at least 80-100 miles from any other plant, and at least 80-100 miles from any other nonattainment area-power plant pair. It was intended that by evaluating sources located at this distance from each other, the air quality "contribution" observed for each nonattainment area in the zero-out runs

[1]Documentation of the CMAQ PM2.5 modeling for the 2001 base case was contained in a Notice of Data Availability for the Clean Air Interstate Rule in August 2004. The documentation is contained in EPA docket number OAR-2003-0053 in documents 1714, 1715, 1716, 1718, and 1719. Additional information on the air quality modeling conducted for the final CAIR rule can be found in "Technical Support Document for the Final Clean Air Interstate Rule - Air Quality Modeling" (docket number OAR-2003-0053, item 2151).

[2]Docket number OAR-2003-0053-1907

could be reasonably attributed primarily to the nearby power plant.

Results. Table 1 below provides the eight power plant - metro area pairs, emissions levels, and estimated annual average PM2.5 reduction from the zero-out run. Annual average PM2.5 reductions in nearby nonattainment areas ranged from three-tenths to seven tenths of a microgram/per cubic meter. An additional attachment includes estimated air quality changes at 2001-3 violating monitors resulting from both the 8-source and 29-source zero-out runs.

Table 1.

Power Plant Location and Emissions							
ST	**County**	**SO2 (tons/yr)**	**NOX (tons/yr)**	**PM2.5 (tons/yr)**	**Nearby Metro Area**	**Distance from Facility to Monitor (mi)**	**PM2.5 Reduction from Zero-Out Run (ug/m3)**
AL	Jackson	42,788	26,242	2513	Chattanooga, TN	26	-0.56
GA	Putnam	65,517	33,439	3356	Atlanta, GA	79	-0.35
IN	Gibson	148,330	44,060	8731	Evansville, IN	27	-0.62
KY	Mercer	49,101	7,719	2762	Lexington, KY	21	-0.55
OH	Coshocton	96,741	22,096	5234	Columbus, OH	60	-0.36
PA	Armstrong	159,730	19,296	9512	Pittsburgh, PA	20	-0.69
TN	Roane	90,291	26,166	4370	Knoxville, TN	27	-0.71
WV	Mason	39,294	14,405	1930	Charleston, WV	42	-0.42

Uncertainties. We acknowledge that there are a number of uncertainties associated with conducting this type of an analysis. The PM2.5 impacts were largely from secondary PM2.5 (mostly sulfate). As such, the impacts from the eight power plants are regional in nature and may overlap to some degree. Therefore, the predicted impacts to nearby metropolitan areas as shown in the Table 1 above cannot be solely attributed to a single plant. Examination of the raw model outputs on a daily basis, however, shows individual plumes of PM2.5 (primary PM2.5 and PM2.5 species) from each of the power plants. These plumes can have a direct impact on a daily basis at each of the eight metropolitan areas. When averaged over the full year, the results show a sizable impact on the annual average PM2.5 in all eight metropolitan areas. Based on the information evaluated, it can be assumed that the nearest plants have the largest impacts on the nearby metropolitan area.

The modeling was conducted at 36 km resolution. The hourly plume rise was calculated for each point source so that the emissions are put into the "correct" vertical layer (there are 14 vertical layers). But the emissions are emitted into the entire grid cell in each hour. An

alternative treatment of point source plumes is called "plume-in-grid." With a plume-in-grid treatment, point source emissions remain in a concentrated plume until the plume grows to approximately the size of the grid cell. Plume-in-grid has not been used in this analysis. We do not know if the use of plume-in-grid would provide more accurate results. An aerosol chemistry version of plume-in-grid treatment was recently put into the CMAQ model, but it has not been fully tested and evaluated.

EPA in the past has discouraged the use of photochemical grid models for the purpose of examining the impact of single sources because of the potential to underestimate the impacts from individual point sources due to the dilution of emissions within a grid cell. Therefore, the modeling conducted for this analysis should be used with great caution. The modeling was not used for the purpose of measuring the exact quantitative contribution from individual power plants. The model results were used to provide a qualitative judgement as to the likelihood of local PM2.5 contributions from large nearby power plants. We have made no judgments regarding the significance of the numerical results in Table 1, but they qualitatively indicate that large power plants are likely to have an impact on nearby metropolitan areas. This impact therefore contributes to nonattainment in these areas.

The statute does not require modeling for designation determinations, and we do not believe that modeling is necessary to make designation decisions. Based upon available emissions data and other information relevant to the considerations described in our designations guidance for PM2.5, we had sufficient information to evaluate whether an area contributed to violations in a nearby area. Although not necessary, the modeling discussed in this memorandum served to confirm our conclusion that individual large sources could contribute to violations in a nearby area.

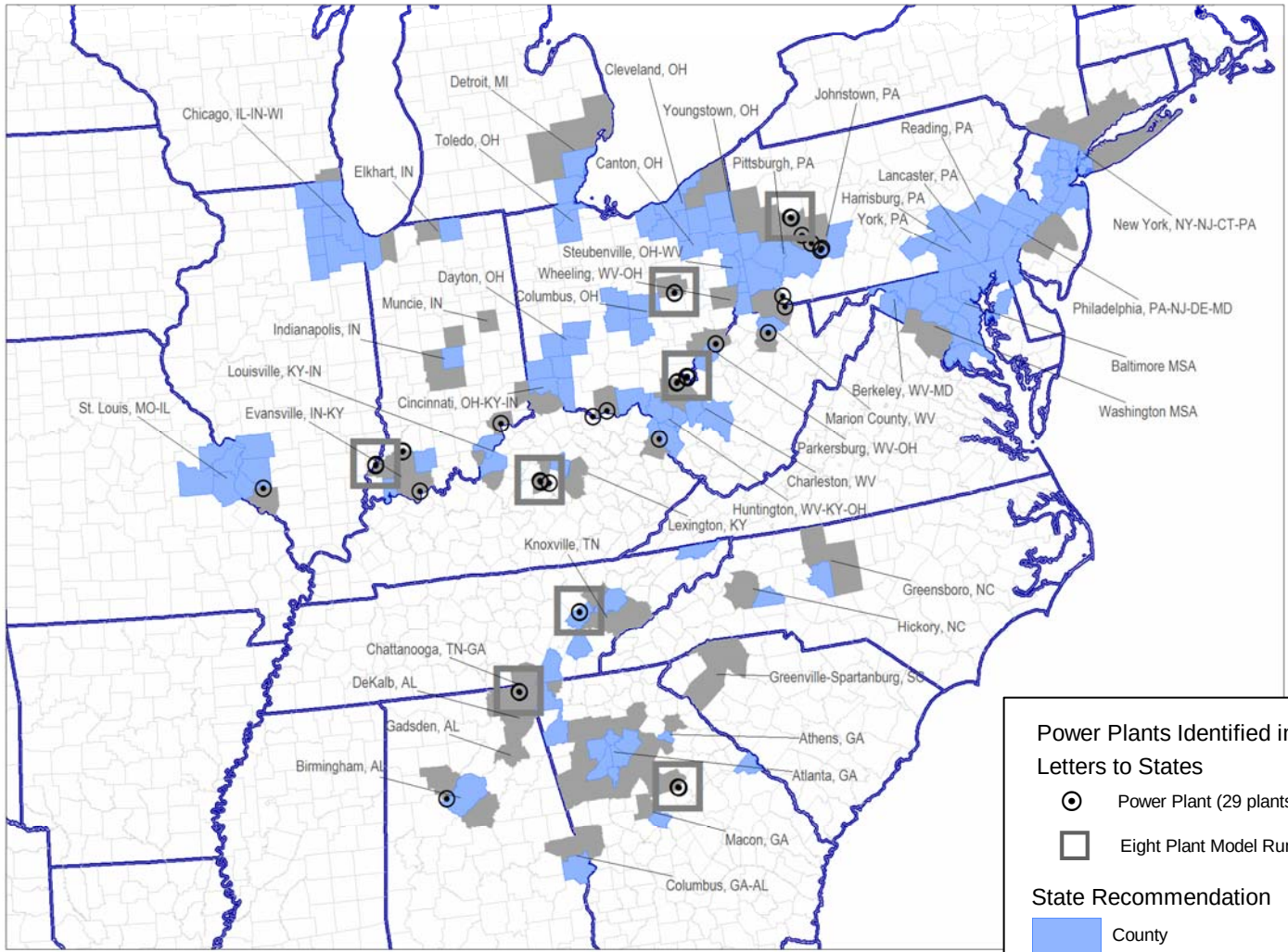
Conclusion. Despite the uncertainties described above, it is our technical judgment that this analysis is useful supporting information to demonstrate that power plants with similar emission levels and located at similar distances from a violating monitor can be assumed to noticeably contribute to annual average air quality concentrations in a nearby metropolitan area.

EGU Zero-out CMAQ Model Results

Example Annual Average and Daily Average Impacts From Eight Power Plants

December 16, 2004

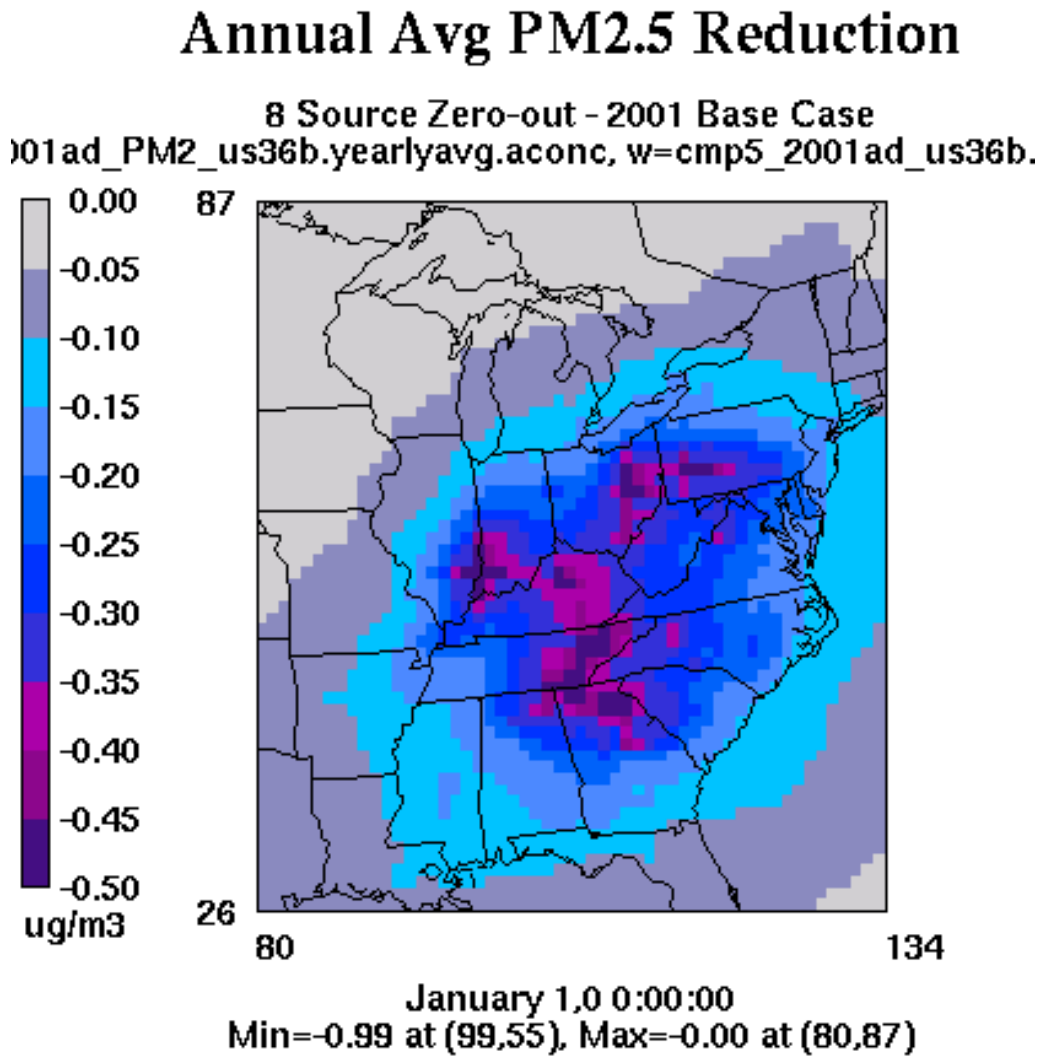
Counties Identified in June 2004 Letters Regarding Potential Partial County Boundaries for Power Plants



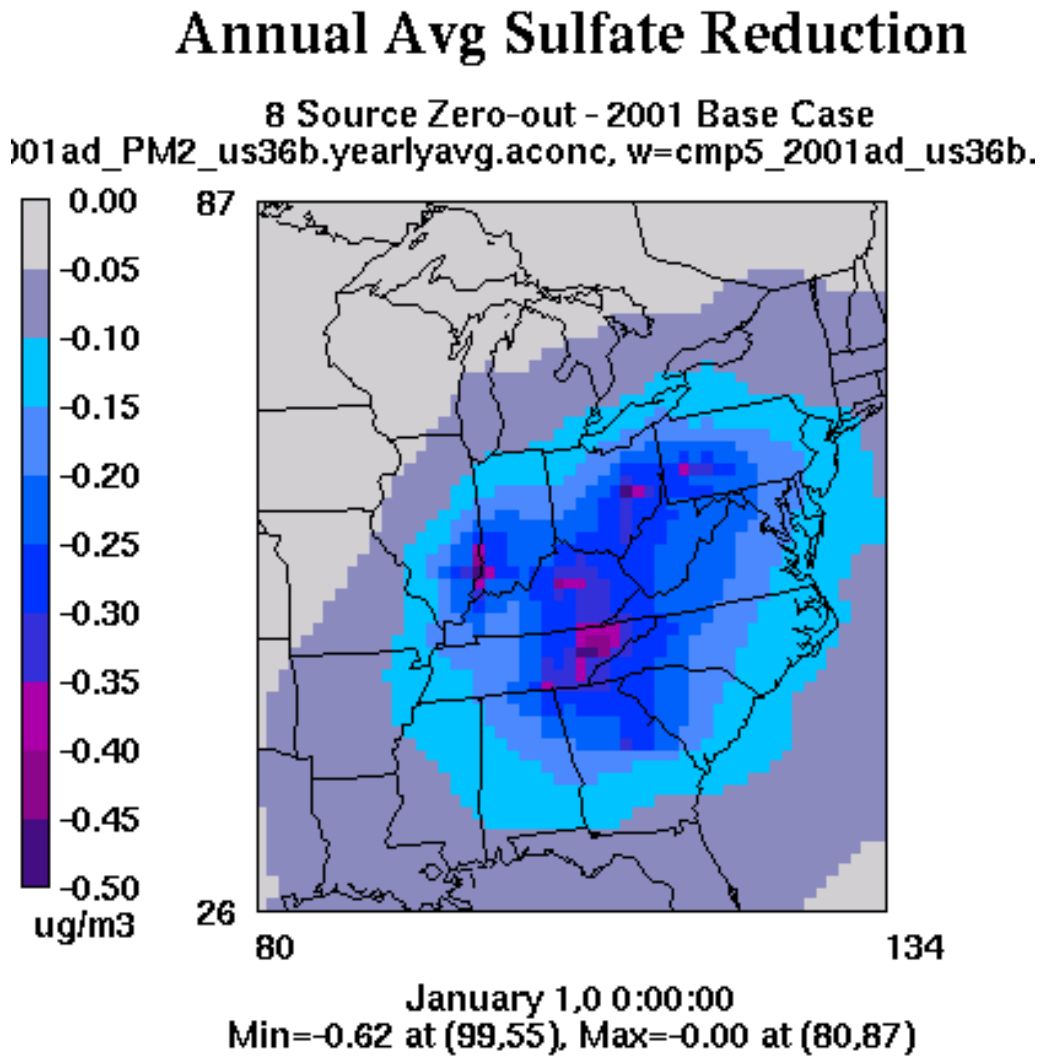
Power plants located in the square boxes are those that were "zeroed-out" in 8-source run

Annual Average Example Results

Absolute (ug/m3) modeled annual average reduction in PM2.5 from 8 EGU sources

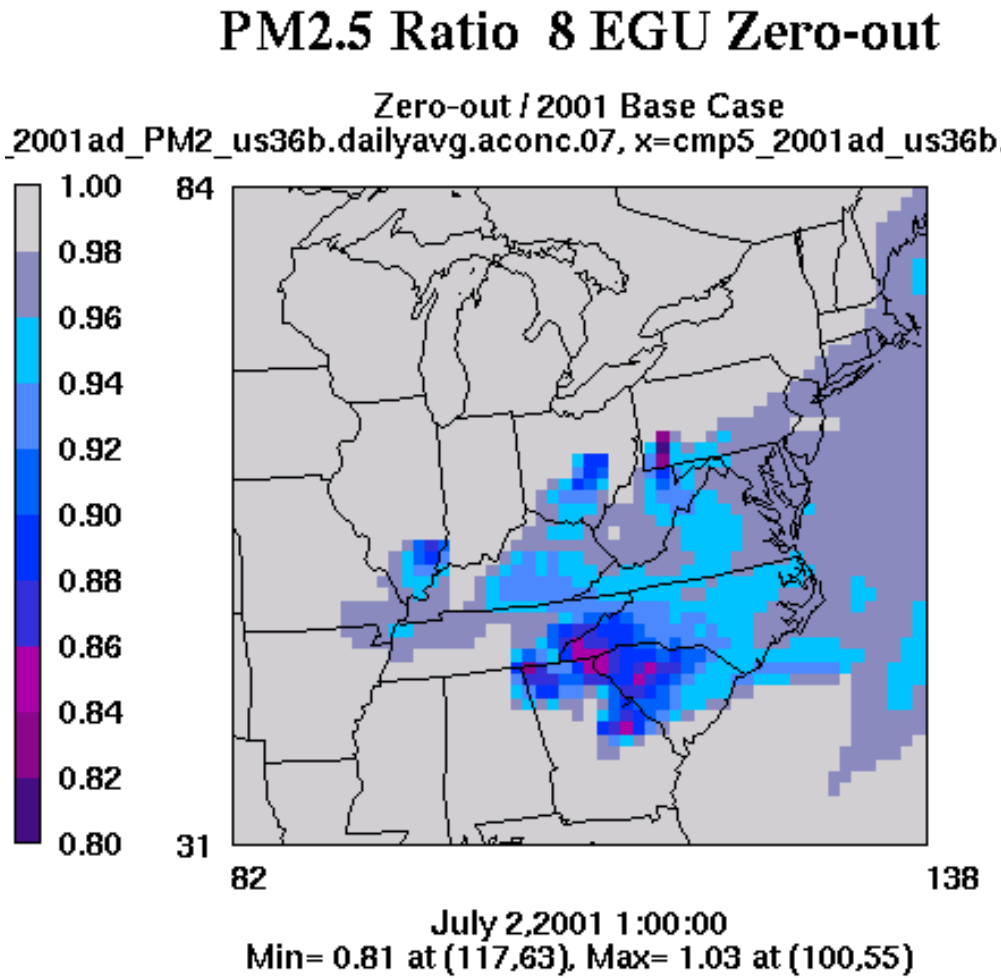


Absolute (ug/m3) modeled annual average reduction in sulfate from 8 EGU sources



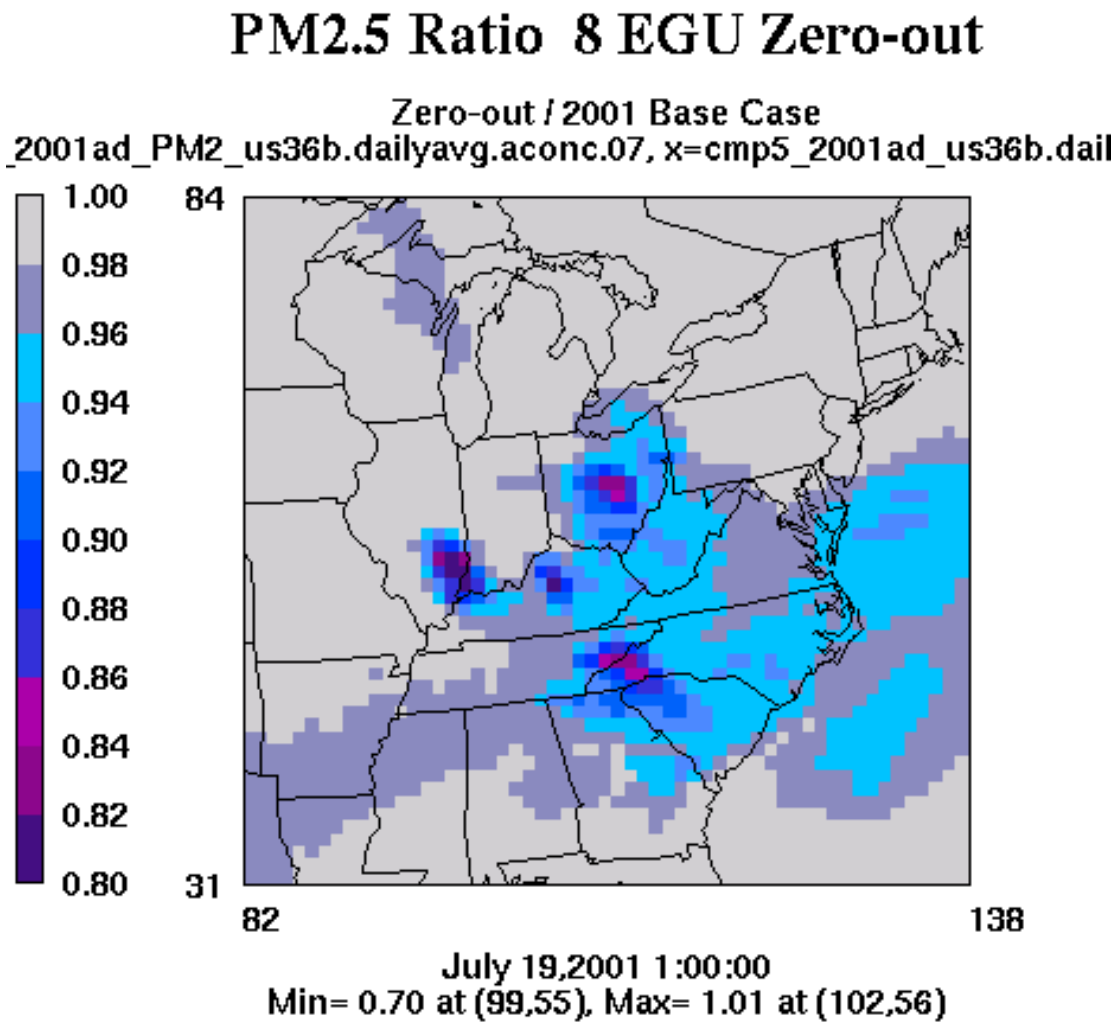
Selected Daily Average Example Results

Daily average PM2.5: Ratio of 8 EGU zero-out case to 2001 base case
July 2, 2001



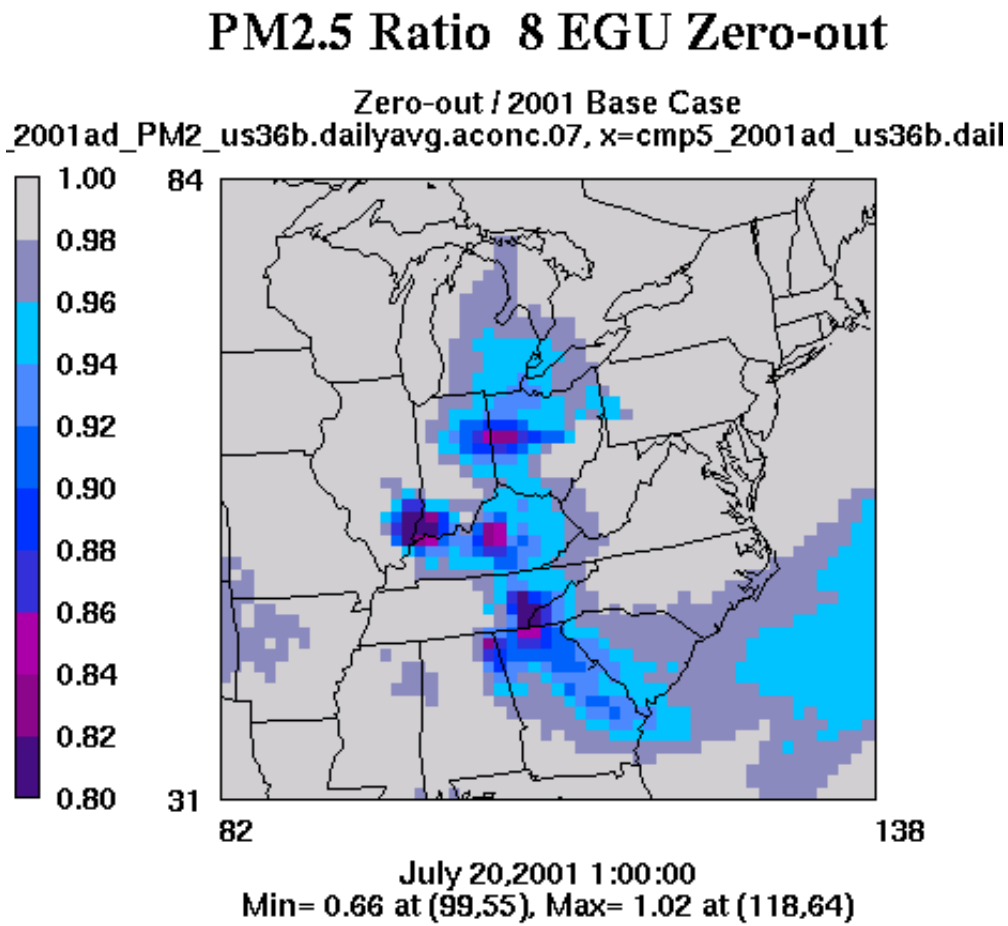
(e.g. a ratio of 0.90 indicates a 10% reduction in daily average PM2.5 due to elimination of the EGU emissions)

Daily average PM2.5: Ratio of 8 EGU zero-out case to 2001 base case
July 19, 2001



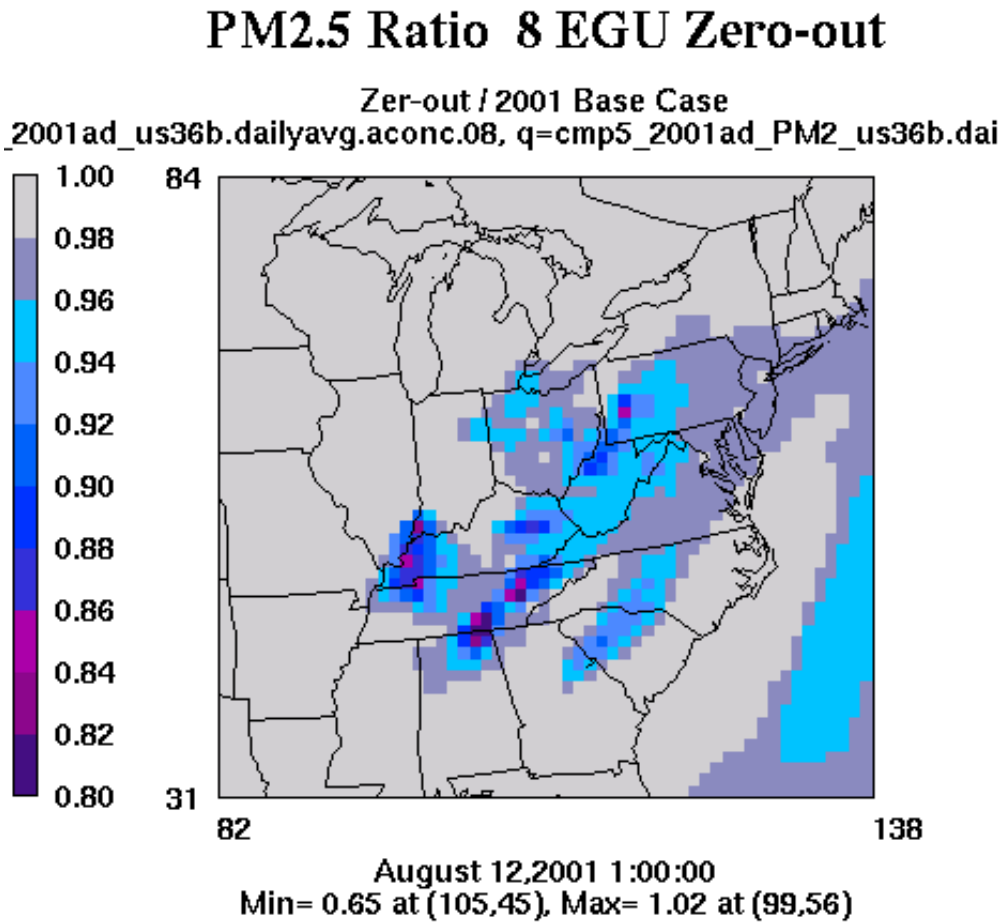
Daily average PM2.5: Ratio of 8 EGU zero-out case to 2001 base case

July 20, 2001



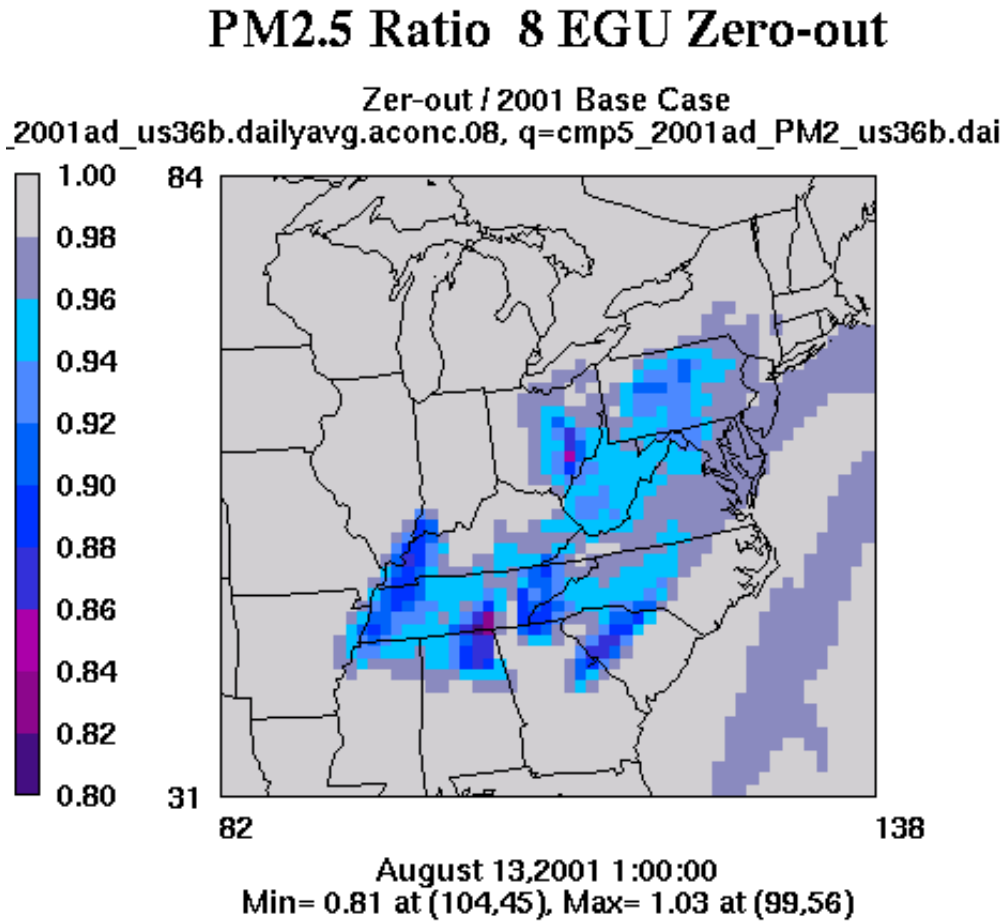
Daily average PM2.5: Ratio of 8 EGU zero-out case to 2001 base case

August 12, 2001



Daily average PM2.5: Ratio of 8 EGU zero-out case to 2001 base case

August 13, 2001



RESULTS OF 8-SOURCE AND 29-SOURCE ZERO-OUT MODELING RUNS

State Name	County Name	MSA/CMSA	AIRS Monitor Site Code	Base Case Avg 99-03 Ambient Design Value (ug/m3)	2001 8-Source Zero Out Design Value (ug/m3)	2001 29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)
Alabama	Jefferson Co	Birmingham, AL	010730023	19.05	18.79	18.38	0.26	0.67
Alabama	Jefferson Co	Birmingham, AL	010732003	19.05	18.78	18.22	0.27	0.83
Alabama	Russell Co	Columbus, GA-AL	011130001	16.71	16.41	16.13	0.30	0.58
Connecticut	New Haven Co	New Haven-Bridgeport-Stamf	090090018	16.68	16.56	16.29	0.12	0.39
Delaware	New Castle Co	Philadelphia-Wilmington-Atlan	100031012	15.29	15.01	14.36	0.27	0.93
Delaware	New Castle Co	Philadelphia-Wilmington-Atlan	100032004	16.42	16.20	15.67	0.22	0.74
District of Columbi	District of Columbia	Washington-Baltimore, DC-MI	110010041	16.25	15.96	15.23	0.30	1.02
District of Columbi	District of Columbia	Washington-Baltimore, DC-MI	110010043	15.51	15.22	14.51	0.29	1.00
Georgia	Bibb Co	Macon, GA	130210007	16.43	16.11	15.83	0.32	0.60
Georgia	Clarke Co	Athens, GA	130590001	17.07	16.64	16.26	0.43	0.81
Georgia	Clayton Co	Atlanta, GA	130630091	17.52	17.19	16.91	0.33	0.61
Georgia	Cobb Co	Atlanta, GA	130670003	17.12	16.77	16.47	0.35	0.66
Georgia	DeKalb Co	Atlanta, GA	130890002	16.86	16.56	16.29	0.30	0.57
Georgia	DeKalb Co	Atlanta, GA	130892001	17.66	17.33	17.05	0.33	0.60
Georgia	Floyd Co		131150005	16.78	16.46	16.17	0.32	0.61
Georgia	Fulton Co	Atlanta, GA	131210032	17.38	17.08	16.82	0.30	0.56
Georgia	Fulton Co	Atlanta, GA	131210039	19.52	19.21	18.95	0.31	0.57
Georgia	Gwinnett Co	Atlanta, GA	131350002	16.34	16.06	15.81	0.28	0.53
Georgia	Walker Co	Chattanooga, TN-GA	132950002	15.73	15.22	14.84	0.51	0.90
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170310014	16.36	16.26	16.14	0.10	0.22
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170310022	16.74	16.64	16.52	0.10	0.22
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170310050	16.75	16.67	16.54	0.09	0.21
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170310052	18.00	17.89	17.75	0.11	0.25
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170310057	15.97	15.87	15.75	0.10	0.22
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170310076	15.97	15.88	15.77	0.09	0.20
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170312001	16.41	16.31	16.19	0.10	0.22
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170313301	16.52	16.42	16.31	0.10	0.21
Illinois	Cook Co	Chicago-Gary-Kenosha, IL-IN	170316005	16.66	16.55	16.43	0.11	0.23
Illinois	Madison Co	St. Louis, MO-IL	171191007	17.41	17.24	17.04	0.17	0.37

State Name	County Name	MSA/CMSA	AIRS Monitor Site Code	Base Case Avg 99-03 Ambient Design Value (ug/m3)	2001 8-Source Zero Out Design Value (ug/m3)	2001 29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)
Illinois	St. Clair Co	St. Louis, MO-IL	171630010	16.87	16.69	16.49	0.18	0.38
Indiana	Clark Co	Louisville, KY-IN	180190006	16.91	16.50	15.94	0.41	0.97
Indiana	Dubois Co		180372001	16.03	15.54	14.95	0.49	1.08
Indiana	Elkhart Co	Elkhart-Goshen, IN	180390003	15.32	15.16	14.94	0.16	0.37
Indiana	Lake Co	Chicago-Gary-Kenosha, IL-IN	180890006	15.48	15.38	15.27	0.10	0.21
Indiana	Lake Co	Chicago-Gary-Kenosha, IL-IN	180890026	17.76	17.60	17.43	0.16	0.33
Indiana	Marion Co	Indianapolis, IN	180970078	16.73	16.41	16.04	0.32	0.69
Indiana	Marion Co	Indianapolis, IN	180970079	15.84	15.52	15.15	0.32	0.69
Indiana	Marion Co	Indianapolis, IN	180970083	16.88	16.56	16.18	0.33	0.70
Indiana	Vanderburgh Co	Evansville-Henderson, IN-KY	181630006	15.46	14.95	14.56	0.51	0.90
Indiana	Vanderburgh Co	Evansville-Henderson, IN-KY	181630012	15.38	14.76	14.39	0.62	0.99
Indiana	Vanderburgh Co	Evansville-Henderson, IN-KY	181630016	15.60	15.08	14.69	0.52	0.91
Kentucky	Fayette Co	Lexington, KY	210670014	16.37	15.82	15.12	0.55	1.25
Kentucky	Jefferson Co	Louisville, KY-IN	211110044	17.08	16.70	16.16	0.38	0.91
Kentucky	Jefferson Co	Louisville, KY-IN	211110048	16.63	16.24	15.69	0.39	0.94
Kentucky	Jefferson Co	Louisville, KY-IN	211110051	15.44	15.07	14.55	0.37	0.89
Maryland	Anne Arundel Co	Washington-Baltimore, DC-MI	240031003	15.59	15.32	14.66	0.27	0.93
Maryland	Baltimore Co	Washington-Baltimore, DC-MI	240053001	15.20	14.96	14.36	0.24	0.84
Maryland	Baltimore city	Washington-Baltimore, DC-MI	245100007	15.31	15.01	14.21	0.30	1.10
Maryland	Baltimore city	Washington-Baltimore, DC-MI	245100035	16.26	16.01	15.38	0.25	0.88
Maryland	Baltimore city	Washington-Baltimore, DC-MI	245100040	17.18	16.92	16.27	0.26	0.91
Maryland	Baltimore city	Washington-Baltimore, DC-MI	245100049	15.53	15.29	14.68	0.24	0.85
Michigan	Monroe Co	Detroit-Ann Arbor-Flint, MI	261150005	15.34	15.17	14.88	0.17	0.45
Michigan	Wayne Co	Detroit-Ann Arbor-Flint, MI	261630001	16.34	16.17	15.83	0.18	0.51
Michigan	Wayne Co	Detroit-Ann Arbor-Flint, MI	261630015	17.82	17.63	17.28	0.19	0.54
Michigan	Wayne Co	Detroit-Ann Arbor-Flint, MI	261630016	15.68	15.50	15.17	0.18	0.51
Michigan	Wayne Co	Detroit-Ann Arbor-Flint, MI	261630033	19.63	19.43	19.08	0.20	0.54
Michigan	Wayne Co	Detroit-Ann Arbor-Flint, MI	261630036	17.31	17.13	16.77	0.19	0.54
Missouri	St. Louis city	St. Louis, MO-IL	295100087	15.44	15.27	15.07	0.17	0.37
New Jersey	Union Co	New York-Northern New Jerse	340390004	15.94	15.76	15.35	0.18	0.60

State Name	County Name	MSA/CMSA	AIRS Monitor Site Code	Base Case Avg 99-03 Ambient Design Value (ug/m3)	2001 8-Source Zero Out Design Value (ug/m3)	2001 29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)
New York	Bronx Co	New York-Northern New Jerse	360050080	15.99	15.85	15.50	0.15	0.49
New York	New York Co	New York-Northern New Jerse	360610056	17.56	17.41	17.05	0.16	0.52
New York	New York Co	New York-Northern New Jerse	360610062	16.68	16.49	16.07	0.18	0.60
North Carolina	Catawba Co	Hickory-Morganton-Lenoir, NC	370350004	16.33	15.91	15.41	0.42	0.91
North Carolina	Davidson Co	Greensboro--Winston-Salem--	370570002	16.60	16.28	15.78	0.33	0.82
Ohio	Butler Co	Cincinnati-Hamilton, OH-KY-IN	390170003	16.79	16.49	16.00	0.30	0.78
Ohio	Butler Co	Cincinnati-Hamilton, OH-KY-IN	390170016	15.68	15.33	14.76	0.35	0.91
Ohio	Butler Co	Cincinnati-Hamilton, OH-KY-IN	390170017	15.32	15.03	14.55	0.29	0.77
Ohio	Cuyahoga Co	Cleveland-Akron, OH	390350013	17.82	17.50	17.01	0.33	0.82
Ohio	Cuyahoga Co	Cleveland-Akron, OH	390350027	17.16	16.84	16.37	0.32	0.78
Ohio	Cuyahoga Co	Cleveland-Akron, OH	390350038	19.26	18.91	18.41	0.34	0.85
Ohio	Cuyahoga Co	Cleveland-Akron, OH	390350045	17.07	16.75	16.27	0.32	0.80
Ohio	Cuyahoga Co	Cleveland-Akron, OH	390350060	17.96	17.64	17.17	0.32	0.79
Ohio	Cuyahoga Co	Cleveland-Akron, OH	390350065	16.78	16.46	15.98	0.32	0.80
Ohio	Franklin Co	Columbus, OH	390490024	17.24	16.88	16.24	0.36	1.00
Ohio	Franklin Co	Columbus, OH	390490025	16.66	16.32	15.72	0.34	0.93
Ohio	Franklin Co	Columbus, OH	390490081	16.76	16.43	15.85	0.34	0.91
Ohio	Hamilton Co	Cincinnati-Hamilton, OH-KY-IN	390610014	18.55	18.19	17.61	0.36	0.94
Ohio	Hamilton Co	Cincinnati-Hamilton, OH-KY-IN	390610040	15.93	15.59	15.03	0.35	0.91
Ohio	Hamilton Co	Cincinnati-Hamilton, OH-KY-IN	390610041	16.20	15.83	15.25	0.37	0.95
Ohio	Hamilton Co	Cincinnati-Hamilton, OH-KY-IN	390610042	17.05	16.70	16.13	0.35	0.92
Ohio	Hamilton Co	Cincinnati-Hamilton, OH-KY-IN	390610043	15.72	15.37	14.80	0.35	0.92
Ohio	Hamilton Co	Cincinnati-Hamilton, OH-KY-IN	390617001	16.62	16.26	15.69	0.35	0.92
Ohio	Hamilton Co	Cincinnati-Hamilton, OH-KY-IN	390618001	17.41	17.06	16.52	0.35	0.89
Ohio	Jefferson Co	Steubenville-Weirton, OH-WV	390810016	18.31	17.91	17.07	0.39	1.23
Ohio	Jefferson Co	Steubenville-Weirton, OH-WV	390811001	17.90	17.50	16.65	0.40	1.25
Ohio	Lawrence Co	Huntington-Ashland, WV-KY-(	390870010	16.27	15.83	14.86	0.44	1.41
Ohio	Lucas Co	Toledo, OH	390950024	15.08	14.91	14.61	0.17	0.46
Ohio	Mahoning Co	Youngstown-Warren, OH	390990005	15.78	15.38	14.72	0.40	1.06
Ohio	Montgomery Co	Dayton-Springfield, OH	391130031	15.57	15.25	14.75	0.32	0.83

State Name	County Name	MSA/CMSA	AIRS Monitor Site Code	Base Case Avg 99-03 Ambient Design Value (ug/m3)	2001 8-Source Zero Out Design Value (ug/m3)	2001 29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)
Ohio	Scioto Co		391450013	18.27	17.76	16.73	0.50	1.53
Ohio	Stark Co	Canton-Massillon, OH	391510017	17.85	17.36	16.67	0.49	1.18
Ohio	Stark Co	Canton-Massillon, OH	391510020	16.38	15.90	15.23	0.48	1.15
Ohio	Summit Co	Cleveland-Akron, OH	391530017	16.95	16.56	16.00	0.39	0.95
Ohio	Summit Co	Cleveland-Akron, OH	391530023	16.04	15.67	15.14	0.37	0.90
Pennsylvania	Allegheny Co	Pittsburgh, PA	420030008	15.77	15.34	14.45	0.44	1.32
Pennsylvania	Allegheny Co	Pittsburgh, PA	420030064	21.21	20.77	19.72	0.44	1.49
Pennsylvania	Allegheny Co	Pittsburgh, PA	420031008	16.18	15.49	14.47	0.69	1.71
Pennsylvania	Allegheny Co	Pittsburgh, PA	420031301	16.94	16.50	15.59	0.45	1.36
Pennsylvania	Allegheny Co	Pittsburgh, PA	420033007	17.23	16.79	15.74	0.43	1.49
Pennsylvania	Beaver Co	Pittsburgh, PA	420070014	15.97	15.54	14.79	0.44	1.18
Pennsylvania	Berks Co	Reading, PA	420110009	16.24	15.95	15.25	0.29	0.99
Pennsylvania	Cambria Co	Johnstown, PA	420210011	15.63	15.07	13.70	0.56	1.93
Pennsylvania	Dauphin Co	Harrisburg-Lebanon-Carlisle, I	420430401	15.66	15.29	14.42	0.37	1.24
Pennsylvania	Delaware Co	Philadelphia-Wilmington-Atlan	420450002	15.45	15.24	14.73	0.21	0.72
Pennsylvania	Lancaster Co	Lancaster, PA	420710007	16.99	16.65	15.86	0.34	1.13
Pennsylvania	Philadelphia Co	Philadelphia-Wilmington-Atlan	421010004	15.36	15.15	14.66	0.21	0.71
Pennsylvania	Philadelphia Co	Philadelphia-Wilmington-Atlan	421010047	16.55	16.33	15.82	0.21	0.72
Pennsylvania	Washington Co	Pittsburgh, PA	421250005	15.58	15.20	14.29	0.38	1.29
Pennsylvania	Westmoreland Co	Pittsburgh, PA	421290008	15.56	15.11	13.87	0.45	1.69
Pennsylvania	York Co	York, PA	421330008	16.86	16.53	15.72	0.33	1.14
Tennessee	Hamilton Co	Chattanooga, TN-GA	470650031	17.24	16.68	16.27	0.56	0.97
Tennessee	Hamilton Co	Chattanooga, TN-GA	470654002	16.36	15.82	15.42	0.54	0.94
Tennessee	Knox Co	Knoxville, TN	470930028	16.84	16.15	15.75	0.68	1.09
Tennessee	Knox Co	Knoxville, TN	470931017	18.50	17.79	17.37	0.71	1.13
Tennessee	Knox Co	Knoxville, TN	470931020	16.66	16.04	15.59	0.62	1.07
West Virginia	Berkeley Co	Washington-Baltimore, DC-MI	540030003	16.18	15.81	14.66	0.37	1.52
West Virginia	Brooke Co	Steubenville-Weirton, OH-WV	540090005	16.96	16.58	15.78	0.38	1.19
West Virginia	Cabell Co	Huntington-Ashland, WV-KY-(	540110006	17.23	16.78	15.75	0.45	1.48
West Virginia	Hancock Co	Steubenville-Weirton, OH-WV	540290011	16.30	15.92	15.13	0.38	1.17

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West Virginia	Hancock Co	Steubenville-Weirton, OH-WV	540291004	17.41	17.04	16.25	0.37	1.16
West Virginia	Kanawha Co	Charleston, WV	540390010	15.70	15.29	14.41	0.40	1.29
West Virginia	Kanawha Co	Charleston, WV	540391005	17.75	17.33	16.41	0.42	1.34
West Virginia	Marion Co		540490006	15.58	15.18	14.07	0.40	1.51
West Virginia	Marshall Co	Wheeling, WV-OH	540511002	16.07	15.62	14.63	0.45	1.45
West Virginia	Ohio Co	Wheeling, WV-OH	540690008	15.38	14.93	13.94	0.45	1.44
West Virginia	Wood Co	Parkersburg-Marietta, WV-OH	541071002	16.88	16.43	15.48	0.45	1.40

Appendix D

Additional Detailed Information

from 2004 Air Quality Modeling to Assess Power Plant Impacts

DETAILED INFORMATION REGARDING 8-SOURCE ZERO-OUT MODELING RUN

MSA/CMSA	State Name	County Name	AIRS Monitor Site Code	Base Case Design Value (ug/m3)	8-Source Zero Out Design Value (ug/m3)	29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)	Organic Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Elemental Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Crustal Mass Change: 8-Source Zero Out Run (ug/m3)	Ammonium Sulfate + Ammonium Nitrate Mass Change: 8-Source Zero Out Run (ug/m3)	Amm. Sulfate + Amm. Nitrate Chg as Percent of Total PM2.5 Mass Change for 8-Source Zero Out Run
Athens, GA	Georgia	Clarke Co	130590001	17.07	16.64	16.26	-0.43	-0.81	-0.015	-0.001	-0.008	-0.41	94.6%
Atlanta, GA	Georgia	Clayton Co	130630091	17.52	17.19	16.91	-0.33	-0.61	-0.013	-0.001	-0.003	-0.31	94.6%
Atlanta, GA	**Georgia**	**Cobb Co**	**130670003**	**17.12**	**16.77**	**16.47**	**-0.35**	**-0.66**	**-0.017**	**-0.001**	**-0.005**	**-0.33**	**93.8%**
Atlanta, GA	Georgia	DeKalb Co	130890002	16.86	16.56	16.29	-0.30	-0.57	-0.013	-0.001	-0.003	-0.29	94.5%
Atlanta, GA	Georgia	DeKalb Co	130892001	17.66	17.33	17.05	-0.33	-0.60	-0.014	0.000	-0.004	-0.31	94.4%
Atlanta, GA	Georgia	Fulton Co	131210032	17.38	17.08	16.82	-0.30	-0.56	-0.015	0.000	-0.004	-0.28	93.8%
Atlanta, GA	Georgia	Fulton Co	131210039	19.52	19.21	18.95	-0.31	-0.57	-0.019	0.000	-0.004	-0.29	92.6%
Atlanta, GA	Georgia	Gwinnett Co	131350002	16.34	16.06	15.81	-0.28	-0.53	-0.014	0.000	-0.003	-0.26	93.6%
Birmingham, AL	Alabama	Jefferson Co	010730023	19.05	18.79	18.38	-0.26	-0.67	-0.011	-0.001	-0.005	-0.24	93.3%
Birmingham, AL	Alabama	Jefferson Co	010732003	19.05	18.78	18.22	-0.27	-0.83	-0.011	-0.001	-0.007	-0.25	93.0%
Canton-Massillon, OH	Ohio	Stark Co	391510017	17.85	17.36	16.67	-0.49	-1.18	-0.072	-0.002	-0.012	-0.41	82.6%
Canton-Massillon, OH	Ohio	Stark Co	391510020	16.38	15.90	15.23	-0.48	-1.15	-0.054	-0.002	-0.013	-0.41	85.7%
Charleston, WV	West Virginia	Kanawha Co	540390010	15.70	15.29	14.41	-0.40	-1.29	-0.029	-0.001	-0.008	-0.37	90.7%
Charleston, WV	**West Virginia**	**Kanawha Co**	**540391005**	**17.75**	**17.33**	**16.41**	**-0.42**	**-1.34**	**-0.038**	**-0.001**	**-0.008**	**-0.37**	**88.8%**
Chattanooga, TN-GA	Georgia	Walker Co	132950002	15.73	15.22	14.84	-0.51	-0.90	-0.034	-0.001	-0.018	-0.46	89.6%
Chattanooga, TN-GA	**Tennessee**	**Hamilton Co**	**470650031**	**17.24**	**16.68**	**16.27**	**-0.56**	**-0.97**	**-0.036**	**-0.001**	**-0.019**	**-0.50**	**89.7%**
Chattanooga, TN-GA	Tennessee	Hamilton Co	470654002	16.36	15.82	15.42	-0.54	-0.94	-0.034	-0.001	-0.019	-0.49	90.0%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170310014	16.36	16.26	16.14	-0.10	-0.22	-0.002	0.000	-0.001	-0.10	97.1%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170310022	16.74	16.64	16.52	-0.10	-0.22	-0.002	0.000	-0.001	-0.09	96.9%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170310050	16.75	16.67	16.54	-0.09	-0.21	-0.002	0.000	-0.001	-0.08	96.6%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170310052	18.00	17.89	17.75	-0.11	-0.25	-0.004	0.000	-0.002	-0.11	94.7%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170310057	15.97	15.87	15.75	-0.10	-0.22	-0.002	0.000	-0.001	-0.10	97.3%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170310076	15.97	15.88	15.77	-0.09	-0.20	-0.002	0.000	-0.001	-0.09	96.8%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170312001	16.41	16.31	16.19	-0.10	-0.22	-0.002	0.000	-0.001	-0.09	97.0%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170313301	16.52	16.42	16.31	-0.10	-0.21	-0.002	0.000	-0.001	-0.09	96.8%
Chicago-Gary-Kenosha, IL-I	Illinois	Cook Co	170316005	16.66	16.55	16.43	-0.11	-0.23	-0.002	0.000	-0.001	-0.10	97.1%
Chicago-Gary-Kenosha, IL-I	Indiana	Lake Co	180890006	15.48	15.38	15.27	-0.10	-0.21	-0.002	0.000	-0.001	-0.09	97.2%
Chicago-Gary-Kenosha, IL-I	Indiana	Lake Co	180890026	17.76	17.60	17.43	-0.16	-0.33	-0.012	-0.001	-0.002	-0.15	90.5%
Cincinnati-Hamilton, OH-KY	Ohio	Butler Co	390170003	16.79	16.49	16.00	-0.30	-0.78	-0.024	-0.001	-0.004	-0.27	90.2%
Cincinnati-Hamilton, OH-KY	Ohio	Butler Co	390170016	15.68	15.33	14.76	-0.35	-0.91	-0.016	-0.001	-0.005	-0.33	94.0%
Cincinnati-Hamilton, OH-KY	Ohio	Butler Co	390170017	15.32	15.03	14.55	-0.29	-0.77	-0.019	-0.001	-0.004	-0.27	91.9%
Cincinnati-Hamilton, OH-KY	Ohio	Hamilton Co	390610014	18.55	18.19	17.61	-0.36	-0.94	-0.026	-0.001	-0.005	-0.33	91.4%
Cincinnati-Hamilton, OH-KY	Ohio	Hamilton Co	390610040	15.93	15.59	15.03	-0.35	-0.91	-0.016	-0.001	-0.005	-0.33	93.8%
Cincinnati-Hamilton, OH-KY	Ohio	Hamilton Co	390610041	16.20	15.83	15.25	-0.37	-0.95	-0.016	-0.001	-0.005	-0.35	94.2%
Cincinnati-Hamilton, OH-KY	Ohio	Hamilton Co	390610042	17.05	16.70	16.13	-0.35	-0.92	-0.021	-0.001	-0.005	-0.32	92.5%
Cincinnati-Hamilton, OH-KY	Ohio	Hamilton Co	390610043	15.72	15.37	14.80	-0.35	-0.92	-0.016	-0.001	-0.005	-0.33	94.0%
Cincinnati-Hamilton, OH-KY	Ohio	Hamilton Co	390617001	16.62	16.26	15.69	-0.35	-0.92	-0.019	-0.001	-0.005	-0.33	93.1%
Cincinnati-Hamilton, OH-KY	Ohio	Hamilton Co	390618001	17.41	17.06	16.52	-0.35	-0.89	-0.022	-0.001	-0.005	-0.32	92.2%
Cleveland-Akron, OH	Ohio	Cuyahoga Co	390350013	17.82	17.50	17.01	-0.33	-0.82	-0.023	-0.001	-0.015	-0.29	88.1%
Cleveland-Akron, OH	Ohio	Cuyahoga Co	390350027	17.16	16.84	16.37	-0.32	-0.78	-0.021	-0.001	-0.014	-0.28	88.7%
Cleveland-Akron, OH	Ohio	Cuyahoga Co	390350038	19.26	18.91	18.41	-0.34	-0.85	-0.028	-0.001	-0.015	-0.30	87.3%

DETAILED INFORMATION REGARDING 8-SOURCE ZERO-OUT MODELING RUN

MSA/CMSA	State Name	County Name	AIRS Monitor Site Code	Base Case Design Value (ug/m3)	8-Source Zero Out Design Value (ug/m3)	29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)	Organic Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Elemental Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Crustal Mass Change: 8-Source Zero Out Run (ug/m3)	Ammonium Sulfate + Ammonium Nitrate Mass Change: 8-Source Zero Out Run (ug/m3)	Amm. Sulfate + Amm. Nitrate Chg as Percent of Total PM2.5 Mass Change for 8-Source Zero Out Run
Cleveland-Akron, OH	Ohio	Cuyahoga Co	390350045	17.07	16.75	16.27	-0.32	-0.80	-0.020	-0.001	-0.014	-0.28	89.0%
Cleveland-Akron, OH	Ohio	Cuyahoga Co	390350060	17.96	17.64	17.17	-0.32	-0.79	-0.026	-0.001	-0.014	-0.28	87.2%
Cleveland-Akron, OH	Ohio	Cuyahoga Co	390350065	16.78	16.46	15.98	-0.32	-0.80	-0.018	-0.001	-0.014	-0.29	89.6%
Cleveland-Akron, OH	Ohio	Summit Co	391530017	16.95	16.56	16.00	-0.39	-0.95	-0.039	-0.001	-0.011	-0.34	87.0%
Cleveland-Akron, OH	Ohio	Summit Co	391530023	16.04	15.67	15.14	-0.37	-0.90	-0.039	-0.001	-0.010	-0.32	86.7%
Columbus, GA-AL	Alabama	Russell Co	011130001	16.71	16.41	16.13	-0.30	-0.58	-0.019	-0.001	-0.007	-0.28	91.1%
Columbus, OH	**Ohio**	**Franklin Co**	**390490024**	**17.24**	**16.88**	**16.24**	**-0.36**	**-1.00**	**-0.027**	**-0.001**	**-0.005**	**-0.33**	**90.8%**
Columbus, OH	Ohio	Franklin Co	390490025	16.66	16.32	15.72	-0.34	-0.93	-0.028	-0.001	-0.005	-0.31	90.2%
Columbus, OH	Ohio	Franklin Co	390490081	16.76	16.43	15.85	-0.34	-0.91	-0.028	-0.001	-0.005	-0.30	90.0%
Dayton-Springfield, OH	Ohio	Montgomery Co	391130031	15.57	15.25	14.75	-0.32	-0.83	-0.018	-0.001	-0.004	-0.30	93.1%
Detroit-Ann Arbor-Flint, MI	Michigan	Monroe Co	261150005	15.34	15.17	14.88	-0.17	-0.45	-0.013	-0.001	-0.002	-0.15	90.3%
Detroit-Ann Arbor-Flint, MI	Michigan	Wayne Co	261630001	16.34	16.17	15.83	-0.18	-0.51	-0.006	0.000	-0.006	-0.17	93.4%
Detroit-Ann Arbor-Flint, MI	Michigan	Wayne Co	261630015	17.82	17.63	17.28	-0.19	-0.54	-0.007	0.000	-0.006	-0.18	92.8%
Detroit-Ann Arbor-Flint, MI	Michigan	Wayne Co	261630016	15.68	15.50	15.17	-0.18	-0.51	-0.005	0.000	-0.006	-0.17	93.8%
Detroit-Ann Arbor-Flint, MI	Michigan	Wayne Co	261630033	19.63	19.43	19.08	-0.20	-0.54	-0.009	0.000	-0.006	-0.18	91.8%
Detroit-Ann Arbor-Flint, MI	Michigan	Wayne Co	261630036	17.31	17.13	16.77	-0.19	-0.54	-0.006	0.000	-0.006	-0.17	93.3%
Elkhart-Goshen, IN	Indiana	Elkhart Co	180390003	15.32	15.16	14.94	-0.16	-0.37	-0.005	-0.001	-0.002	-0.15	95.0%
Evansville-Henderson, IN-K	Indiana	Vanderburgh Co	181630006	15.46	14.95	14.56	-0.51	-0.90	-0.042	-0.005	-0.016	-0.45	87.5%
Evansville-Henderson, IN-	**Indiana**	**Vanderburgh C**	**181630012**	**15.38**	**14.76**	**14.39**	**-0.62**	**-0.99**	**-0.063**	**-0.007**	**-0.021**	**-0.53**	**85.3%**
Evansville-Henderson, IN-K	Indiana	Vanderburgh Co	181630016	15.60	15.08	14.69	-0.52	-0.91	-0.042	-0.005	-0.017	-0.45	87.7%
Greensboro--Winston-Salen	North Carolina	Davidson Co	370570002	16.60	16.28	15.78	-0.33	-0.82	-0.012	0.000	-0.005	-0.31	94.7%
Harrisburg-Lebanon-Carlisle	Pennsylvania	Dauphin Co	420430401	15.66	15.29	14.42	-0.37	-1.24	-0.027	-0.001	-0.007	-0.33	90.4%
Hickory-Morganton-Lenoir, I	North Carolina	Catawba Co	370350004	16.33	15.91	15.41	-0.42	-0.91	-0.019	-0.001	-0.005	-0.39	94.3%
Huntington-Ashland, WV-KY	Ohio	Lawrence Co	390870010	16.27	15.83	14.86	-0.44	-1.41	-0.038	-0.002	-0.007	-0.39	89.2%
Huntington-Ashland, WV-KY	West Virginia	Cabell Co	540110006	17.23	16.78	15.75	-0.45	-1.48	-0.038	-0.001	-0.007	-0.40	89.7%
Indianapolis, IN	Indiana	Marion Co	180970078	16.73	16.41	16.04	-0.32	-0.69	-0.010	-0.001	-0.004	-0.31	95.5%
Indianapolis, IN	Indiana	Marion Co	180970079	15.84	15.52	15.15	-0.32	-0.69	-0.010	-0.001	-0.004	-0.31	95.3%
Indianapolis, IN	Indiana	Marion Co	180970083	16.88	16.56	16.18	-0.33	-0.70	-0.010	-0.001	-0.004	-0.31	95.4%
Johnstown, PA	Pennsylvania	Cambria Co	420210011	15.63	15.07	13.70	-0.56	-1.93	-0.102	-0.003	-0.025	-0.43	76.9%
Knoxville, TN	Tennessee	Knox Co	470930028	16.84	16.15	15.75	-0.68	-1.09	-0.064	-0.001	-0.010	-0.61	89.0%
Knoxville, TN	**Tennessee**	**Knox Co**	**470931017**	**18.50**	**17.79**	**17.37**	**-0.71**	**-1.13**	**-0.078**	**-0.001**	**-0.010**	**-0.62**	**87.3%**
Knoxville, TN	Tennessee	Knox Co	470931020	16.66	16.04	15.59	-0.62	-1.07	-0.069	-0.001	-0.011	-0.54	87.1%
Lancaster, PA	Pennsylvania	Lancaster Co	420710007	16.99	16.65	15.86	-0.34	-1.13	-0.017	-0.001	-0.004	-0.32	93.8%
Lexington, KY	**Kentucky**	**Fayette Co**	**210670014**	**16.37**	**15.82**	**15.12**	**-0.55**	**-1.25**	**-0.043**	**-0.002**	**-0.009**	**-0.49**	**90.2%**
Louisville, KY-IN	Indiana	Clark Co	180190006	16.91	16.50	15.94	-0.41	-0.97	-0.024	-0.001	-0.006	-0.37	92.1%
Louisville, KY-IN	Kentucky	Jefferson Co	211110044	17.08	16.70	16.16	-0.38	-0.91	-0.029	-0.001	-0.006	-0.35	90.6%
Louisville, KY-IN	Kentucky	Jefferson Co	211110048	16.63	16.24	15.69	-0.39	-0.94	-0.026	-0.001	-0.006	-0.36	91.6%
Louisville, KY-IN	Kentucky	Jefferson Co	211110051	15.44	15.07	14.55	-0.37	-0.89	-0.029	-0.002	-0.008	-0.33	89.5%
Macon, GA	Georgia	Bibb Co	130210007	16.43	16.11	15.83	-0.32	-0.60	-0.013	-0.001	-0.007	-0.29	93.5%
New Haven-Bridgeport-Stan	Connecticut	New Haven Co	090090018	16.68	16.56	16.29	-0.12	-0.39	-0.011	0.000	-0.002	-0.11	89.7%
New York-Northern New Je	New Jersey	Union Co	340390004	15.94	15.76	15.35	-0.18	-0.60	-0.004	0.000	-0.002	-0.17	96.1%

DETAILED INFORMATION REGARDING 8-SOURCE ZERO-OUT MODELING RUN

MSA/CMSA	State Name	County Name	AIRS Monitor Site Code	Base Case Design Value (ug/m3)	8-Source Zero Out Design Value (ug/m3)	29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)	Organic Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Elemental Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Crustal Mass Change: 8-Source Zero Out Run (ug/m3)	Ammonium Sulfate + Ammonium Nitrate Mass Change: 8-Source Zero Out Run (ug/m3)	Amm. Sulfate + Amm. Nitrate Chg as Percent of Total PM2.5 Mass Change for 8-Source Zero Out Run
New York-Northern New Je	New York	Bronx Co	360050080	15.99	15.85	15.50	-0.15	-0.49	-0.004	0.000	-0.002	-0.14	96.2%
New York-Northern New Je	New York	New York Co	360610056	17.56	17.41	17.05	-0.16	-0.52	-0.004	0.000	-0.002	-0.15	96.0%
New York-Northern New Je	New York	New York Co	360610062	16.68	16.49	16.07	-0.18	-0.60	-0.005	0.000	-0.002	-0.18	95.8%
Parkersburg-Marietta, WV-C	West Virginia	Wood Co	541071002	16.88	16.43	15.48	-0.45	-1.40	-0.065	-0.002	-0.012	-0.38	82.7%
Philadelphia-Wilmington-Atl	Delaware	New Castle Co	100031012	15.29	15.01	14.36	-0.27	-0.93	-0.011	-0.001	-0.004	-0.26	94.1%
Philadelphia-Wilmington-Atl	Delaware	New Castle Co	100032004	16.42	16.20	15.67	-0.22	-0.74	-0.009	0.000	-0.003	-0.21	94.1%
Philadelphia-Wilmington-Atl	Pennsylvania	Delaware Co	420450002	15.45	15.24	14.73	-0.21	-0.72	-0.008	0.000	-0.003	-0.20	94.4%
Philadelphia-Wilmington-Atl	Pennsylvania	Philadelphia Co	421010004	15.36	15.15	14.66	-0.21	-0.71	-0.006	0.000	-0.003	-0.20	95.6%
Philadelphia-Wilmington-Atl	Pennsylvania	Philadelphia Co	421010047	16.55	16.33	15.82	-0.21	-0.72	-0.011	0.000	-0.003	-0.20	93.4%
Pittsburgh, PA	Pennsylvania	Allegheny Co	420030008	15.77	15.34	14.45	-0.44	-1.32	-0.027	-0.001	-0.016	-0.39	90.0%
Pittsburgh, PA	Pennsylvania	Allegheny Co	420030064	21.21	20.77	19.72	-0.44	-1.49	-0.056	-0.001	-0.013	-0.37	84.2%
Pittsburgh, PA	**Pennsylvania**	**Allegheny Co**	**420031008**	**16.18**	**15.49**	**14.47**	**-0.69**	**-1.71**	**-0.106**	**-0.004**	**-0.044**	**-0.54**	**77.7%**
Pittsburgh, PA	Pennsylvania	Allegheny Co	420031301	16.94	16.50	15.59	-0.45	-1.36	-0.033	-0.001	-0.016	-0.40	88.7%
Pittsburgh, PA	Pennsylvania	Allegheny Co	420033007	17.23	16.79	15.74	-0.43	-1.49	-0.027	-0.001	-0.013	-0.39	90.4%
Pittsburgh, PA	Pennsylvania	Beaver Co	420070014	15.97	15.54	14.79	-0.44	-1.18	-0.047	-0.002	-0.015	-0.38	85.6%
Pittsburgh, PA	Pennsylvania	Washington Co	421250005	15.58	15.20	14.29	-0.38	-1.29	-0.026	-0.001	-0.012	-0.34	89.8%
Pittsburgh, PA	Pennsylvania	Westmoreland (	421290008	15.56	15.11	13.87	-0.45	-1.69	-0.035	-0.002	-0.019	-0.39	87.6%
Reading, PA	Pennsylvania	Berks Co	420110009	16.24	15.95	15.25	-0.29	-0.99	-0.016	0.000	-0.003	-0.27	93.1%
St. Louis, MO-IL	Illinois	Madison Co	171191007	17.41	17.24	17.04	-0.17	-0.37	-0.006	0.000	-0.003	-0.16	94.4%
St. Louis, MO-IL	Illinois	St. Clair Co	171630010	16.87	16.69	16.49	-0.18	-0.38	-0.006	0.000	-0.003	-0.17	94.9%
St. Louis, MO-IL	Missouri	St. Louis city	295100087	15.44	15.27	15.07	-0.17	-0.37	-0.005	0.000	-0.003	-0.16	95.5%
Steubenville-Weirton, OH-W	Ohio	Jefferson Co	390810016	18.31	17.91	17.07	-0.39	-1.23	-0.061	-0.001	-0.013	-0.32	81.0%
Steubenville-Weirton, OH-W	Ohio	Jefferson Co	390811001	17.90	17.50	16.65	-0.40	-1.25	-0.057	-0.001	-0.013	-0.33	82.2%
Steubenville-Weirton, OH-W	West Virginia	Brooke Co	540090005	16.96	16.58	15.78	-0.38	-1.19	-0.050	-0.001	-0.013	-0.31	83.1%
Steubenville-Weirton, OH-W	West Virginia	Hancock Co	540290011	16.30	15.92	15.13	-0.38	-1.17	-0.042	-0.001	-0.013	-0.32	85.2%
Steubenville-Weirton, OH-W	West Virginia	Hancock Co	540291004	17.41	17.04	16.25	-0.37	-1.16	-0.057	-0.001	-0.012	-0.30	81.1%
Toledo, OH	Ohio	Lucas Co	390950024	15.08	14.91	14.61	-0.17	-0.46	-0.011	-0.001	-0.002	-0.15	91.7%
Washington-Baltimore, DC-I	District of Columbi	District of Colun	110010041	16.25	15.96	15.23	-0.30	-1.02	-0.010	0.000	-0.006	-0.28	94.5%
Washington-Baltimore, DC-I	District of Columbi	District of Colun	110010043	15.51	15.22	14.51	-0.29	-1.00	-0.009	0.000	-0.006	-0.27	94.7%
Washington-Baltimore, DC-I	Maryland	Anne Arundel C	240031003	15.59	15.32	14.66	-0.27	-0.93	-0.011	-0.001	-0.005	-0.26	93.7%
Washington-Baltimore, DC-I	Maryland	Baltimore Co	240053001	15.20	14.96	14.36	-0.24	-0.84	-0.009	0.000	-0.004	-0.22	94.2%
Washington-Baltimore, DC-I	Maryland	Baltimore city	245100007	15.31	15.01	14.21	-0.30	-1.10	-0.011	-0.001	-0.006	-0.29	94.0%
Washington-Baltimore, DC-I	Maryland	Baltimore city	245100035	16.26	16.01	15.38	-0.25	-0.88	-0.010	-0.001	-0.004	-0.24	94.1%
Washington-Baltimore, DC-I	Maryland	Baltimore city	245100040	17.18	16.92	16.27	-0.26	-0.91	-0.012	-0.001	-0.004	-0.24	93.7%
Washington-Baltimore, DC-I	Maryland	Baltimore city	245100049	15.53	15.29	14.68	-0.24	-0.85	-0.010	0.000	-0.004	-0.23	94.2%
Washington-Baltimore, DC-I	West Virginia	Berkeley Co	540030003	16.18	15.81	14.66	-0.37	-1.52	-0.046	-0.001	-0.009	-0.32	84.8%
Wheeling, WV-OH	West Virginia	Marshall Co	540511002	16.07	15.62	14.63	-0.45	-1.45	-0.058	-0.002	-0.018	-0.38	82.9%
Wheeling, WV-OH	West Virginia	Ohio Co	540690008	15.38	14.93	13.94	-0.45	-1.44	-0.050	-0.002	-0.018	-0.38	84.5%
York, PA	Pennsylvania	York Co	421330008	16.86	16.53	15.72	-0.33	-1.14	-0.023	-0.001	-0.005	-0.30	91.5%
Youngstown-Warren, OH	Ohio	Mahoning Co	390990005	15.78	15.38	14.72	-0.40	-1.06	-0.032	-0.001	-0.016	-0.35	87.6%
	Georgia	Floyd Co	131150005	16.78	16.46	16.17	-0.32	-0.61	-0.025	-0.001	-0.007	-0.29	89.8%

DETAILED INFORMATION REGARDING 8-SOURCE ZERO-OUT MODELING RUN

MSA/CMSA	State Name	County Name	AIRS Monitor Site Code	Base Case Design Value (ug/m3)	8-Source Zero Out Design Value (ug/m3)	29-Source Zero Out Design Value (ug/m3)	Estimated Air Quality Change with 8-Source Run (ug/m3)	Estimated Air Quality Change with 29-Source Run (ug/m3)	Organic Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Elemental Carbon Mass Change: 8-Source Zero Out Run (ug/m3)	Crustal Mass Change: 8-Source Zero Out Run (ug/m3)	Ammonium Sulfate + Ammonium Nitrate Mass Change: 8-Source Zero Out Run (ug/m3)	Amm. Sulfate + Amm. Nitrate Chg as Percent of Total PM2.5 Mass Change for 8-Source Zero Out Run
	Indiana	Dubois Co	180372001	16.03	15.54	14.95	-0.49	-1.08	-0.037	-0.005	-0.014	-0.44	88.5%
	Ohio	Scioto Co	391450013	18.27	17.76	16.73	-0.50	-1.53	-0.052	-0.002	-0.010	-0.44	87.4%
	West Virginia	Marion Co	540490006	15.58	15.18	14.07	-0.40	-1.51	-0.041	-0.002	-0.013	-0.34	86.1%

Notes:

1. Counties in BOLD are those with the closest violating monitors to the 8 sources analyzed in this modeling run. These counties are highlighted in table 1 of the January 2005 memo to the PM2.5 designations docket (EPA-HQ-OAR-2003-0061) entitled "Air Quality Modeling to Assess Power Plant Impacts (January 2006 (sic) Update)."

2. The Base Case Design Values used in this modeling is the average of ambient PM2.5 Federal Reference Method monitoring data for the 1999-2003 period.

Appendix E

What-If Analysis:

Comparison of Weighted Emissions Scores

Used in $PM_{2.5}$ Designations Process (Based on 2004 CAIR Inventory)

And Hypothetical Weighted Emissions Scores

Based on 2005 Emission Inventory Data for PM NAAQS Analyses

COMPARISON OF WEIGHTED EMISSIONS SCORES USING CAIR (FEB. 2004) AND PM NAAQS (OCT. 05) VERSIONS OF 2001 EMISSION INVENTORY

AREA	COUNTY	ST	ST FIPS	COU FIPS	Partial county desig in 2005?	Is County On List Provided with Petition?	Feb 04 SO2	Feb 04 NOX	Feb 04 PM2.5 TOTAL CARBON	Feb 04 PM2.5 CRUSTAL	Feb 04 WTD EMISSIONS SCORE	Feb 04 - Rank of Counties in Nonattainment Area		Oct 05 TOTAL CARBON	Oct 05 CRUSTAL	What-if Analysis: Oct 05 Inventory and New Wtd Emiss Score	What-if Analysis: Oct 05 Inventory - Revised Rank of Counties in Nonattainment Area	What-if Analysis: Rank of Counties Using Feb. 04 Inventory vs. Oct. 05 Inventory
Chicago,IL-IN-WI	Cook	IL	17	031			61676	195428	10110	8268	33.0	1		7957	7494	35.0	1	0
Chicago,IL-IN-WI	Lake	IN	18	089			50110	72142	5708	7588	19.5	2		2831	7124	15.2	2	0
Chicago,IL-IN-WI	Will	IL	17	197			80847	37518	1447	4120	11.7	3		1194	4298	12.1	3	0
Chicago,IL-IN-WI	Porter	IN	18	127		YES	21601	41315	2702	5587	9.2	4		2191	5574	9.9	4	0
Chicago,IL-IN-WI	Lake	IL	17	097			14223	24488	2092	1777	6.7	5		1248	1524	5.8	5	0
Chicago,IL-IN-WI	Du Page	IL	17	043			2990	29479	1731	1229	4.9	6		1325	1046	5.1	6	0
Chicago,IL-IN-WI	Kane	IL	17	089			1395	9490	1047	2326	2.8	7		923	2270	3.3	7	0
Chicago,IL-IN-WI	Grundy	IL	17	063	P		6149	9589	563	1235	2.1	8		325	1139	1.8	9	-1
Chicago,IL-IN-WI	Mc Henry	IL	17	111			637	5834	564	1992	1.6	9		595	2008	2.1	8	1
Chicago,IL-IN-WI	Kendall	IL	17	093	P		292	2941	265	961	0.7	10		227	941	0.8	10	0
Cincinnati, OH-KY-IN	Hamilton	OH	39	061			88053	58398	2780	3873	30.3	1		1495	4738	26.8	1	0
Cincinnati, OH-KY-IN	Clermont	OH	39	025			84599	45618	1693	3916	20.0	2		753	4956	15.6	2	0
Cincinnati, OH-KY-IN	Dearborn	IN	18	029	P	YES	56773	31138	900	2121	11.4	3		370	2651	8.7	6	-3
Cincinnati, OH-KY-IN	Butler	OH	39	017			13204	19735	956	1752	9.9	4		747	1774	11.9	3	1
Cincinnati, OH-KY-IN	Boone	KY	21	015		YES	14717	15794	721	1068	7.7	5		563	1198	9.1	5	0
Cincinnati, OH-KY-IN	Warren	OH	39	165			895	7565	743	1063	6.9	6		655	1016	9.4	4	2
Cincinnati, OH-KY-IN	Kenton	KY	21	117			1573	8365	415	301	4.2	7		319	262	5.0	7	0
Cincinnati, OH-KY-IN	Campbell	KY	21	037			860	5294	285	260	2.8	8		220	239	3.4	8	0
Cleveland, OH	Cuyahoga	OH	39	035			15440	52547	3216	1808	28.0	1		2273	1439	27.3	1	0
Cleveland, OH	Lorain	OH	39	093			35677	31826	1212	2007	17.1	2		886	2279	17.1	2	0
Cleveland, OH	Lake	OH	39	085			53219	24531	1074	1570	16.2	3		658	1929	15.7	3	0
Cleveland, OH	Summit	OH	39	153			16264	27641	1511	1066	14.8	4		814	814	12.7	4	0
Cleveland, OH	Ashtabula	OH	39	007	P	YES	14985	16470	870	1098	9.7	5		832	1262	10.8	5	0
Cleveland, OH	Portage	OH	39	133			1643	9120	712	794	6.0	6		559	729	6.1	6	0
Cleveland, OH	Medina	OH	39	103			527	7132	526	788	4.6	7		553	796	5.6	7	0
Columbus, OH	Franklin	OH	39	049			6435	41541	2084	2098	48.2	1		1563	1871	44.5	1	0
Columbus, OH	Coshocton	OH	39	031	P	YES	97412	24560	1385	3733	30.9	2		464	4923	17.6	3	-1
Columbus, OH	Licking	OH	39	089			1054	7815	909	1701	17.1	3		976	1734	21.0	2	1
Columbus, OH	Delaware	OH	39	041			676	6088	573	1277	11.2	4		522	1248	12.0	4	0
Columbus, OH	Fairfield	OH	39	045			1301	6556	507	1098	10.4	5		416	1059	10.2	5	0
Evansville, IN-KY	Gibson	IN	18	051	P	YES	148808	46937	1767	6093	76.3	1		801	7188	75.9	1	0
Evansville, IN-KY	Warrick	IN	18	173		YES	102206	28647	1655	4940	52.3	2		612	5985	50.6	2	0
Evansville, IN-KY	Spencer	IN	18	147	P	YES	57983	38521	1107	3124	49.5	3		395	3954	48.0	3	0
Evansville, IN-KY	Pike	IN	18	125	P	YES	63626	28567	745	2209	39.4	4		231	2829	38.1	4	0
Evansville, IN-KY	Vanderburgh	IN	18	163			1421	9538	1550	1337	17.5	5		708	1029	17.5	5	0
Evansville, IN-KY	Dubois	IN	18	037			1694	5665	1037	995	11.3	6		748	918	14.3	6	0
Huntington, WV-KY-OH	Gallia	OH	39	053	P	YES	164984	61079	2171	6238	141.4	1		450	8432	95.6	1	0
Huntington, WV-KY-OH	Adams	OH	39	001	P	YES	125136	52992	1435	3973	102.4	2		429	5378	76.2	2	0
Huntington, WV-KY-OH	Mason	WV	54	053	P	YES	70053	31327	899	2162	60.0	3		301	2853	44.9	3	0
Huntington, WV-KY-OH	Lawrence	KY	21	127	P	YES	56066	21265	745	1718	48.3	4		224	2307	34.9	5	-1
Huntington, WV-KY-OH	Cabell	WV	54	011			5155	27903	1318	774	40.3	5		1060	807	40.9	4	1
Huntington, WV-KY-OH	Boyd	KY	21	019			11740	13478	689	1242	25.2	6		515	1230	24.0	6	0
Huntington, WV-KY-OH	Scioto	OH	39	145			2790	5566	400	559	12.5	7		332	609	13.0	7	0
Huntington, WV-KY-OH	Wayne	WV	54	099			1023	6485	317	199	9.6	8		277	185	10.4	8	0

COMPARISON OF WEIGHTED EMISSIONS SCORES USING CAIR (FEB. 2004) AND PM NAAQS (OCT. 05) VERSIONS OF 2001 EMISSION INVENTORY

AREA	COUNTY	ST	ST FIPS	COU FIPS	Partial county desig in 2005?	Is County On List Provided with Petition?	Feb 04 SO2	Feb 04 NOX	Feb 04 PM2.5 TOTAL CARBON	Feb 04 PM2.5 CRUSTAL	Feb 04 WTD EMISSIONS SCORE	Feb 04 - Rank of Counties in Nonattainment Area		Oct 05 TOTAL CARBON	Oct 05 CRUSTAL	What-if Analysis: Oct 05 Inventory and New Wtd Emiss Score	What-if Analysis: Oct 05 Inventory - Revised Rank of Counties in Nonattainment Area	What-if Analysis: Rank of Counties Using Feb. 04 Inventory vs. Oct. 05 Inventory
Huntington, WV-KY-OH	Lawrence	OH	39	087			841	4399	293	379	8.6	9		241	366	8.9	9	0
Indianapolis, IN	Marion	IN	18	097			49549	52848	4891	4429	50.6	1		1942	3829	43.2	1	0
Indianapolis, IN	Hamilton	IN	18	057		YES	5215	9251	730	1635	8.0	2		489	1606	9.2	2	0
Indianapolis, IN	Morgan	IN	18	109			17343	8303	554	1362	7.0	3		354	1429	7.7	3	0
Indianapolis, IN	Hendricks	IN	18	063			773	5802	593	1596	5.7	4		382	1495	6.5	4	0
Indianapolis, IN	Johnson	IN	18	081			338	5165	416	918	4.4	5		251	843	4.8	5	0
Johnstown, PA	Indiana	PA	42	063	P	YES	158311	52550	2428	6868	626.6	1		715	9102	564.2	1	0
Johnstown, PA	Cambria	PA	42	021			8716	8287	679	804	68.4	2		410	711	60.9	2	0
Louisville, KY-IN	Jefferson	KY	21	111			62526	81398	2817	3816	51.5	1		1782	4112	51.5	1	0
Louisville, KY-IN	Floyd	IN	18	043			47796	10282	954	2301	16.4	2		317	2858	8.9	4	-2
Louisville, KY-IN	Clark	IN	18	019			484	4960	725	773	12.2	3		449	676	12.0	2	1
Louisville, KY-IN	Jefferson	IN	18	077	P	YES	39599	33990	549	1368	11.2	4		241	1710	8.3	5	-1
Louisville, KY-IN	Bullitt	KY	21	029			343	3463	433	379	7.3	5		367	359	9.8	3	2
Parkersburg, WV-OH	Washington	OH	39	167			173312	37020	2415	6711	82.2	1		706	8798	63.0	1	0
Parkersburg, WV-OH	Pleasants	WV	54	073	P	YES	68264	23398	823	1411	30.1	2		399	1807	34.3	3	-1
Parkersburg, WV-OH	Wood	WV	54	107			6514	6943	591	482	17.8	3		528	472	37.0	2	1
Pittsburgh, PA	Armstrong	PA	42	005	P	YES	191070	26670	2701	7726	60.3	1		775	10213	53.9	1	0
Pittsburgh, PA	Greene	PA	42	059	P	YES	186481	31832	2548	7223	59.2	2		583	9729	52.0	2	0
Pittsburgh, PA	Allegheny	PA	42	003	P		61168	81166	4570	4576	46.6	3		2917	5132	46.7	3	0
Pittsburgh, PA	Beaver	PA	42	007			40380	39564	1368	2900	21.3	4		604	3416	19.4	4	0
Pittsburgh, PA	Lawrence	PA	42	073	P	YES	35620	13065	681	1833	13.2	5		469	1881	13.5	5	0
Pittsburgh, PA	Westmoreland	PA	42	129			3593	18461	1533	1564	10.7	6		1002	1354	10.9	6	0
Pittsburgh, PA	Washington	PA	42	125			8221	22097	1190	1505	10.6	7		796	1545	10.9	7	0
Pittsburgh, PA	Butler	PA	42	019			4798	9706	806	1224	6.4	8		624	1154	7.2	8	0
St, Louis, MO-IL	St Louis	MO	29	189			30400	53358	3456	2897	27.4	1		2142	2574	24.2	1	0
St, Louis, MO-IL	Madison	IL	17	119			69938	37593	1563	4425	16.8	2		1276	4702	17.2	2	0
St, Louis, MO-IL	St Louis (City)	MO	29	510			14647	27193	1214	958	11.0	3		817	846	10.2	4	-1
St, Louis, MO-IL	Jefferson	MO	29	099			52671	13612	1160	3291	10.4	4		973	3401	11.0	3	1
St, Louis, MO-IL	St Charles	MO	29	183			40596	25793	896	2415	10.2	5		641	2449	9.9	5	0
St, Louis, MO-IL	Franklin	MO	29	071			45216	15482	918	2864	9.1	6		724	3237	9.2	6	0
St, Louis, MO-IL	Randolph	IL	17	157	P	YES	23984	33023	559	1863	8.9	7		427	2051	8.7	7	0
St, Louis, MO-IL	St Clair	IL	17	163			4471	11813	863	1996	6.8	8		666	1907	6.8	8	0
Wheeling, WV-OH	Marshall	WV	54	051			113921	44521	1319	3417	65.0	1		443	4441	58.2	1	0
Wheeling, WV-OH	Belmont	OH	39	013		YES	51374	13036	734	1667	29.5	2		387	2184	32.4	2	0
Wheeling, WV-OH	Ohio	WV	54	069			514	3609	192	135	5.5	3		169	134	9.4	3	0

* Note: The PM2.5 designation for Clark County, KY (in the Lexington, KY area) was changed from nonattainment to attainment prior to the effective date of designations in April 2005 because the area had no violating monitors based on 2002-2004 da