

APPENDIX J

**Lake Michigan Air Directors Consortium (LADCO)
Round 5 Modeling Technical Support Document
(Round 5 Photochemical Modeling Based on “Base M”
Emissions Inventory, revised version of “Base K”)**

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Base M Strategy Modeling: Emissions (Revised)

The purpose of this document is to summarize the emission estimates prepared for LADCO's latest (Base M) 2005 base year and 2008, 2009, 2012, and 2018 future year modeling. Base year emissions by state and source sector for Base K (2002) and Base M (2005) are compared in Figure 1. A more detailed state and source sector summary is provided in Attachment 1. Additional emission reports are available on the LADCO website: http://www.ladco.org/tech/emis/r5/round5_reports.htm.

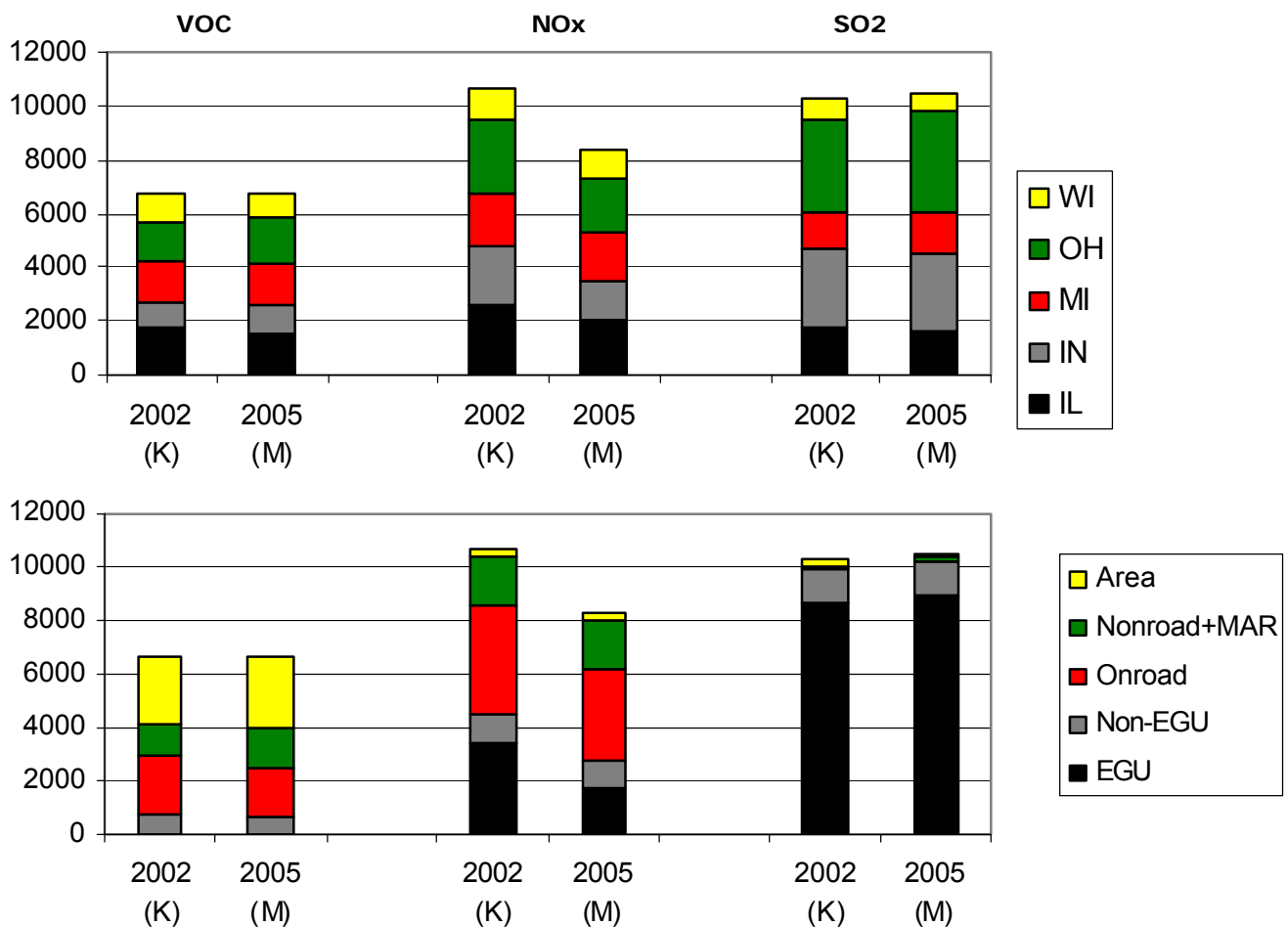


Figure 1. Base K and Base M Emissions for 5-State LADCO Region: VOC, NOx, and SO2 (TPD, July weekday)

Base Year Emissions

In mid-2006, LADCO completed modeling analyses for a 2002 base year and several future year control strategies (LADCO, 2006a and LADCO, 2006b). Following those analyses, a decision was made to conduct additional modeling using a more current base year (2005). Examination of multiple base years provides for a more complete technical assessment. All modeling was conducted in accordance with USEPA modeling guidelines (USEPA, 2007).

For on-road, ammonia, and biogenic sources, 2005 emissions were estimated by emission models. For other sectors in the LADCO States, 2005 emissions were either supplied by a contractor (railroads and commercial marine) or by the States (point sources, area sources, and aircraft). For other sectors in non-LADCO States, a contractor obtained the latest base (2002) and future year emission files (2009, 2018) from the other Regional Planning Organizations (RPOs) (Alpine, 2007a). Specifically, the following versions of these emissions files were used: MANE-VU: Version 3.1, WRAP: Pre2002d, CENRAP: Base F, and VISTAS: Base F. The 2005 emissions were then estimated by linearly interpolating between the 2002 and 2009 emissions.

Further discussion of the development of the 2005 base year emissions is provided below:

On-Road: CONCEPT was run by a contractor using transportation data (e.g., VMT and vehicle speeds) for 24 networks supplied by the state and local planning agencies in the LADCO States and Minnesota (Environ, 2008). These data were first processed with T3 (Travel Demand Modeling [TDM] Transformation Tool) to provide input files for CONCEPT. For some networks, the VMT outputs from T3 were adjusted to match 2005 HPMS data. CONCEPT was then run with meteorological data for a July and January weekday, Saturday, and Sunday (July 15 – 17 and January 16 – 18) to produce link-specific, hourly emission estimates. A spatial plots of emissions for July 15 are provided in Figure 2.

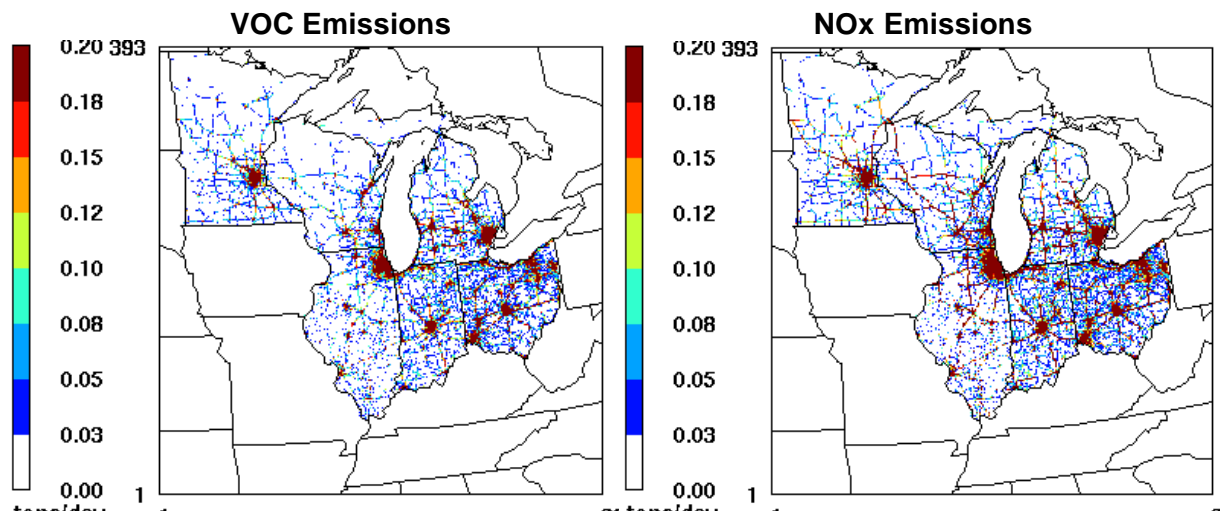


Figure 2. July 15, 2005 motor vehicle emissions for VOC (left) and NOx (right)

For the non-LADCO States, CONCEPT was run by a contractor using RPO-based HPMS county-level data (2002 and 2009) and MOBILE6 inputs (2002) compiled by another contractor (Environ, 2008). HPMS VMT for 2005 were generated by linearly interpolating between the 2002 and 2009 data. The 2002 MOBILE6 inputs were used for the 2005 modeling, with a few adjustments (e.g., fuel sulfur content was set to 30 ppm, as required by the Tier 2/low sulfur regulations). Meteorological data for a July and January weekday, Saturday, and Sunday (July 15 – 17 and January 16 – 18) were used.

For other months (for both LADCO and non-LADCO States), weekday, Saturday, and Sunday emissions were linearly interpolated based on the January and July emissions.

Off-Road: NMIM2005 was run by Grant Hetherington (Wisconsin DNR) to produce emissions for most off-road sectors for the LADCO States plus Minnesota, Iowa, and Missouri. Improved model inputs included local data for construction and agricultural equipment prepared by a contractor were incorporated (E.H. Pechan, 2004), and 2005 gasoline parameters. (Note, model updates prepared by AIR to address evaporative emissions were not included.)

EMS was run by LADCO using Grant Hetherington's NMIM2005 data and, for the non-LADCO States, using emission files supplied by Alpine based on data from the other RPOs to produce weekday, Saturday, and Sunday emissions for each month.

Additional off-road sectors (i.e., commercial marine, aircraft, and railroads [MAR]) were handled separately. Aircraft emissions were supplied by the LADCO States. Updated information for railroads and commercial marine for the LADCO States was prepared by a contractor (Environ, 2007a and Environ 2007b). Table 1 compares the new 2005 emissions with the previous 2002 emission estimates. The new 2005 emissions reflect substantially lower commercial marine emissions and lower locomotive NOx emissions.

EMS was run by LADCO using the contractor and state data and, for the non-LADCO States, using emission files supplied by Alpine based on data from the other RPOs to produce weekday, Saturday, and Sunday emissions for each month.

Table 1. Locomotive and Commercial Marine Emissions for 2002 and 2005 Base Year

	Railroads (TPY)			Commercial Marine (TPY)	
	2002	2005		2002	2005
VOC	7,890	7,625		1,562	828
CO	20,121	20,017		8,823	6,727
NOx	182,226	145,132		64,441	42,336
PM	5,049	4,845		3,113	1,413
SO2	12,274	12,173		25,929	8,637
NH3	86	85		----	----

Area: EMS was run by LADCO using 2005 data supplied by the LADCO States and, for the non-LADCO States, using emission files supplied by Alpine based on data from the other RPOs to produce weekday, Saturday, and Sunday emissions for each month. Special attention was given to two source categories: industrial adhesive and sealant solvent emissions and outdoor wood boilers.

Industrial Adhesives and Sealants: The NEI shows this to be a large VOC emissions category in the LADCO States (i.e., 50,000 TPY). USEPA subsequently determined that "(f)or the Region V states, we no longer believe that there are any activities in the Industrial Adhesives and Sealants category (SCC 2440020000) that have not been inventoried either in the point source Industrial Adhesives and Sealants category or under the Consumer and Commercial Adhesives and Sealants nonpoint category (SCC 2460600000 - all adhesives and sealants)." (USEPA, 2007b). Consequently, this category was omitted from the 2005 regional emissions inventory.

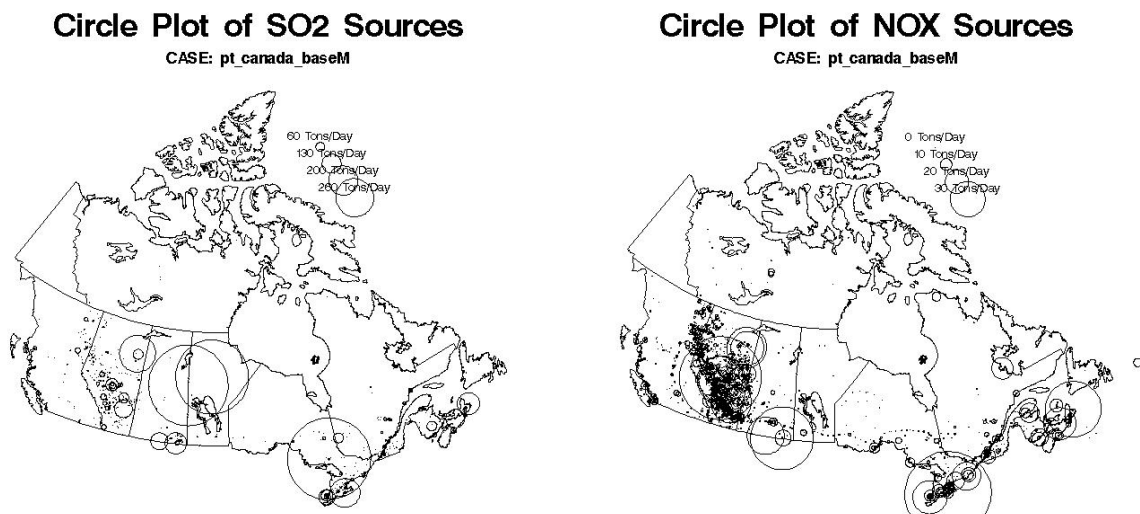
Outdoor Wood Boilers: Over the past several years, the installation and operation of outdoor wood boilers for residential use has increased dramatically in many northern states. Relying on an emission estimation methodology prepared by Bart Sponseller (WDNR, 2006), emissions were calculated by the other states for this category.

EGU Point:EMS was run by LADCO using 2005 data supplied by the LADCO States and, for the non-LADCO States, using emission files supplied by Alpine based on data from the other RPOs to produce weekday, Saturday, and Sunday emissions for each month. 2005 EGU emissions were temporalized for modeling purposes using profiles prepared by Scott Edick (Michigan DEQ) based on CEM data for the period 2004-2006. Profiles were generated for monthly weekday/Saturday/Sunday based on the median hourly emissions for that month, day, and hour of the day for the three years. Over 90% of NOX and SO2 emissions from EGUs in the LADCO states were assigned profiles. In non-Ladco states, the annual EGUs emissions were replaced with the 2005 sum of hourly emissions for all 365 days.

Non-EGU Point: EMS was run by LADCO using 2005 data supplied by the LADCO States and, for the non-LADCO States, using emission files supplied by Alpine based on data from the other RPOs to produce weekday, Saturday, and Sunday emissions for each month. EGUs were removed from this point source file.

Other improvements to the base year inventory included:

Canadian Emissions: Previous modeling inventories for Canadian sources were flawed due to problems with emissions (e.g., LADCO inventories omitted ammonia emissions) or stack parameters (e.g., VISTAS inventories failed to include proper stack parameters, resulting in emissions getting dumped in the surface layer of the model). For Base M, Scott Edick (Michigan DEQ) processed the 2005 Canadian National Pollutant Release Inventory (NPRI – see <http://www.ec.gc.ca/pdb/npri/>). Specifically, a subset of the NPRI data which are relevant to the air quality modeling were reformatted. A number of emission reports are available on the LADCO website (<http://www.ladco.org/tech/emis/basem/canada/index.htm>). Circle plot of point source emissions are presented in Figure 3.



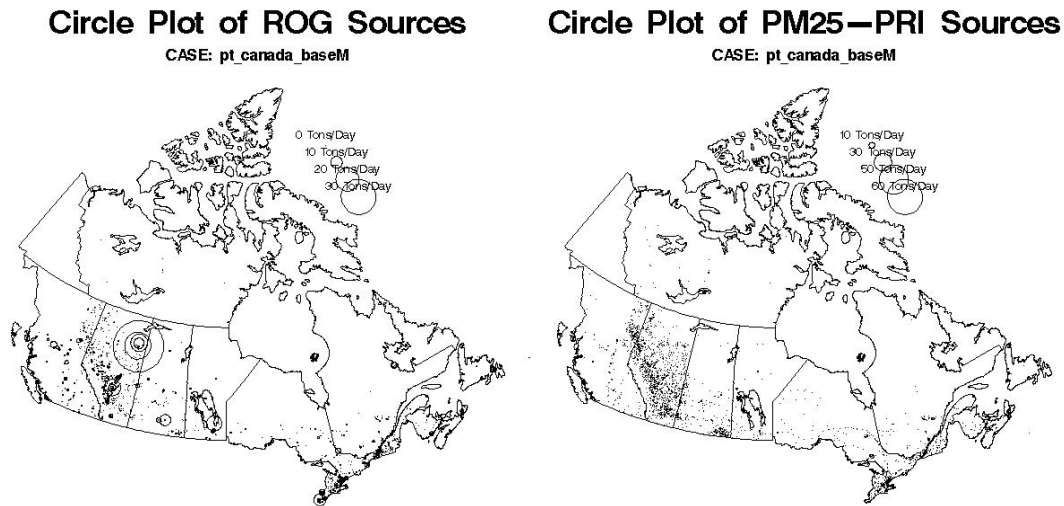


Figure 3. Base year emission plots for Canada

Biogenic Emissions: A contractor provided an updated version of the CONCEPT/MEGAN (Model of Emissions of Gases and Aerosols from Nature – see <http://bai.acd.ucar.edu/Megan/>) biogenics model, which was used to produce base year biogenic emission estimates (Alpine, 2007b). MEGAN includes functions for soil moisture plant stress, a more complete canopy model, full plant growth cycle emissions calculations, and state of the science emission rates.

Subsequent to deliver of the updated CONCEPT/MEGAN code, it was found that more recent data sets and model formulations were available. For the purposes of the Round 5 modeling, LADCO simply scaled the emission estimates from the updated code to reflect these newer data. This resulted in lower emissions for several organic aerosol species and NO_x

Compared to the EMS/BIOME emissions used for Base K, there is more regional isoprene with MEGAN (see Figure 4). Also, with the secondary organic aerosol updates to the CAMx air quality model, Base M includes emissions for monoterpenes and sesquiterpenes, which are precursors of secondary PM_{2.5} organic carbon mass.

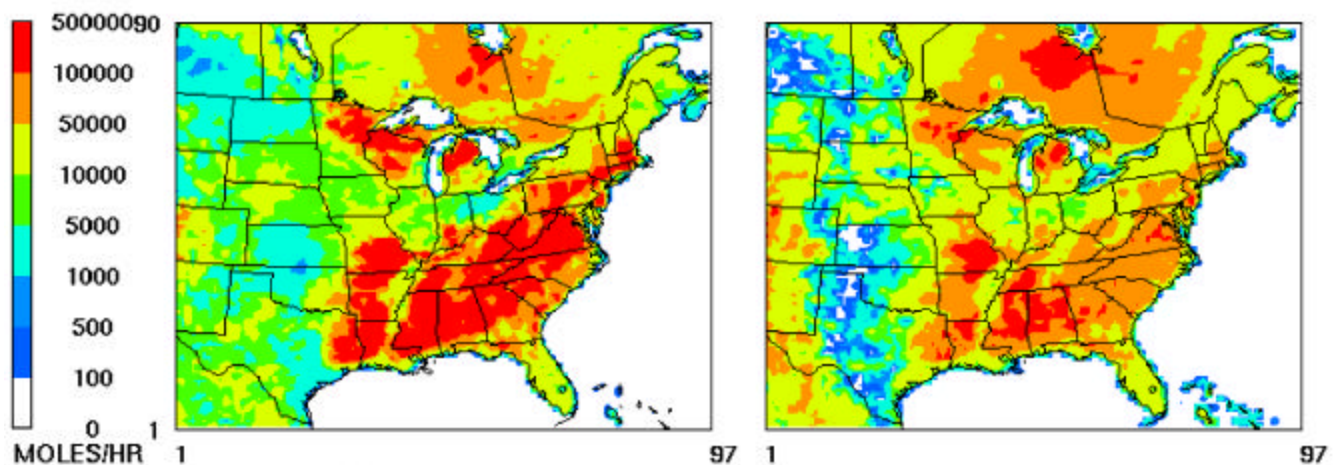


Figure 4. Isoprene emissions for Base M (left) v. Base K (right)

Ammonia Emissions: The CMU-based 2002 (Base K) annual ammonia emissions were projected to 2005 using growth factors from the Round 4 emissions modeling. These annual emissions were then adjusted by applying monthly temporal factors based on the process-based ammonia emissions model (http://www.conceptmodel.org/nh3/nh3_index.html). The model was run for the following list of model farms using 2002 meteorological data: Dairy (California, Wisconsin), Swine (Iowa, Wisconsin), and Beef (Texas, Washington, Wisconsin). Because the model was not complete for the poultry housing model, swine was used in its place given that both use confined operations.

Each model farm's emissions were used to generate monthly average day emissions and a monthly profile. The profiles were applied to geographies most associated with that farm type (e.g., all LADCO states used the Wisconsin farm results). The following figure shows the daily variation in emissions for the model farms.

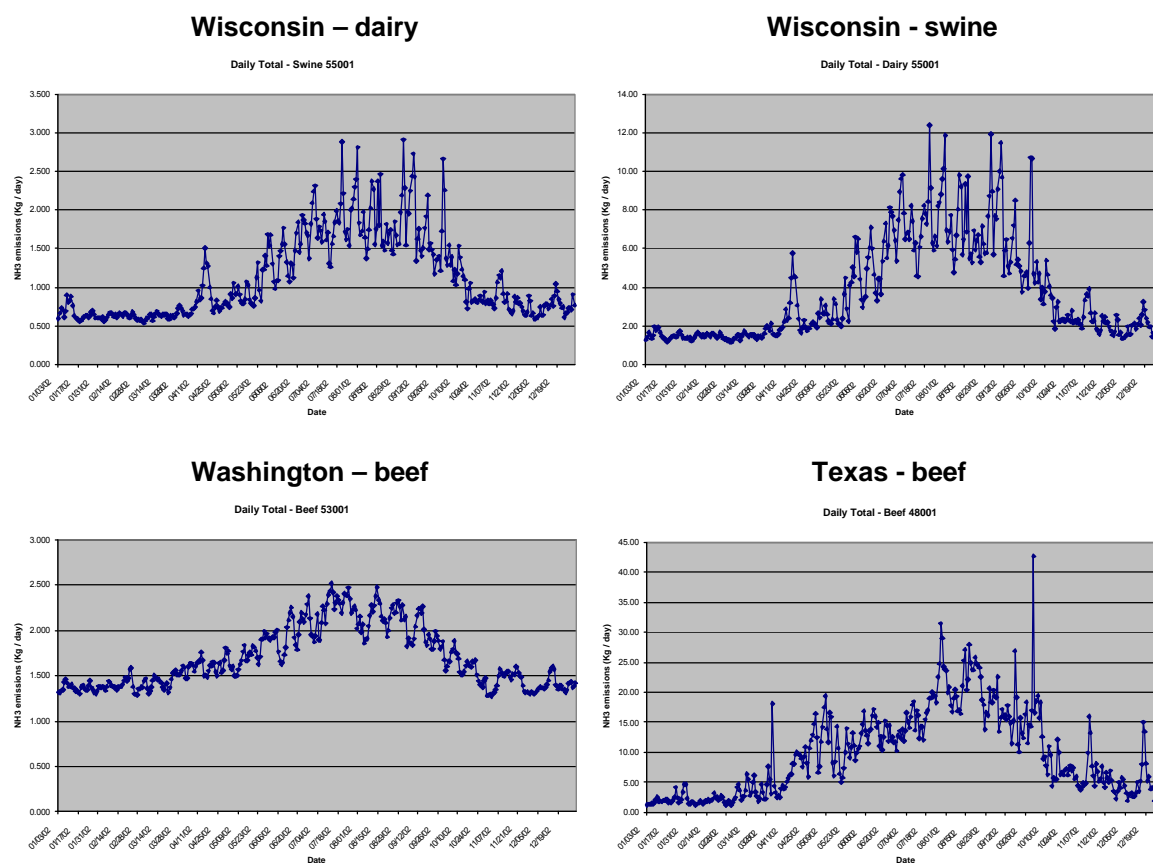


Figure 5. Daily emissions for 2002 for various model farms

A plot of the resulting average daily emissions by state and month is provided in Figure 6.

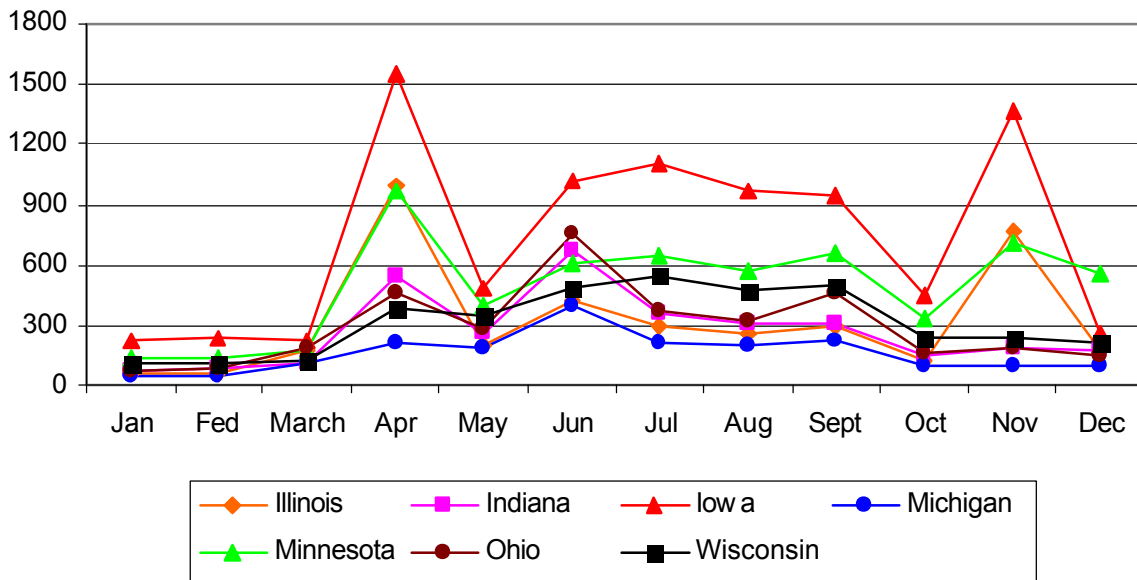


Figure 6. Average daily ammonia emissions for Midwest States by month for 2005

Fires: For Base K, a contractor (EC/R, 2004) developed a 2001, 2002, and 2003 fire emissions inventory for eight Midwest States (five LADCO states plus Iowa, Minnesota, and Missouri), including emissions from wild fires, prescribed fires, and agricultural burns. Projected emissions were also developed for 2010 and 2018 assuming “no smoke management” and “optimal smoke management” scenarios. An early model sensitivity run showed very little difference in modeled $PM_{2.5}$ concentrations. Consequently, the fire emissions were not included in subsequent modeling runs (i.e., they were not in the Base K or Base M modeling inventories).

Future Year Emissions

Complete emission inventories were developed for two future years: 2009 and 2018¹. Source sector emission summaries for the base years (2002 – Base K and 2005 – Base M) and future years are shown in Figure 7. A more detailed state and source sector summary is provided in Attachment 1. Additional emission reports are available on the LADCO website (http://64.27.125.175/tech/emis/r5/round5_reports.htm).

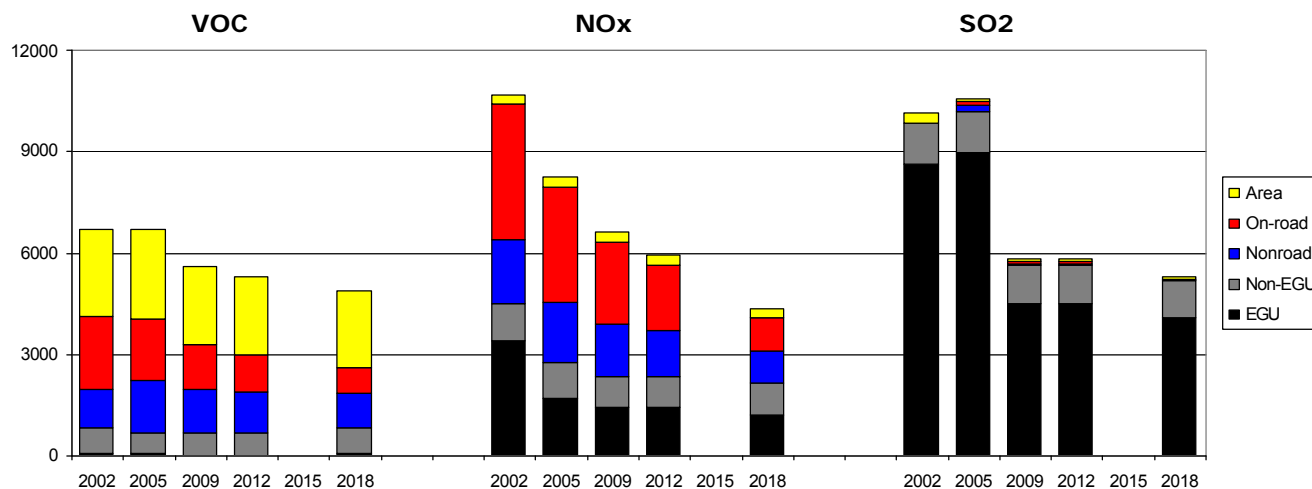


Figure 7. Base year and future year emissions for 5-State LADCO Region (TPD, July weekday)

¹ A 2008 proxy inventory was prepared to support a preliminary 2008 modeling analysis to assess attainment for the basic nonattainment areas (i.e., for areas with a 2009 attainment date, the appropriate panning year is 2008). This inventory reflects the following assumptions:

On-road: scale 2005 base year emissions using the Base K 2002 – 2009 trend (except for the Cincinnati-Dayton area, where 2008 emissions were generated using CONCEPT and 2008 data supplied by the local planning agency)

Off-road and area: scale 2005 base year emissions using the Base K 2002-2009 trend

Point – EGU: use 2005 base year emissions, with slight adjustment (-10%)

Point – Non-EGU: use 2005 base year emissions (note: Base K 2002-2009 trend suggests little change)

Biogenics: use new 2005 base year emissions

A 2012 proxy inventory was prepared to support a preliminary 2012 modeling analysis to assess the effect of further emission reductions from existing controls. This inventory was derived by interpolating between 2009 and 2018 emissions for all sectors, except point sources (for which, the 2009 emissions were used).

For on-road, off-road, and EGU sources, the future year emissions were estimated by models (i.e., CONCEPT, NMIM2005, and IPM, respectively) and then processed by LADCO with EMS. For other sectors (area, MAR, and non-EGU point sources), the future year emissions for the LADCO States were derived by applying growth and control factors to the base year inventory. These factors were developed by a contractor (E.H. Pechan, 2007). Growth factors were based initially on EGAS (version 5.0), and were subsequently modified (for select, priority categories) by examining emissions activity data. For the non-LADCO States, future year emission files were supplied by Alpine based on data from the other RPOs. Due to a lack of information on future year conditions, the biogenic VOC and NO_x emissions, and all Canadian emissions were assumed to remain constant between the base year and future years.

A “base” control scenario was prepared for each future year based on the following “on the books” controls (E.H. Pechan, 2007):

On-Highway Mobile Sources

- Federal motor vehicle emission control program, low sulfur gasoline, and ultra-low sulfur diesel fuel
- Inspection/Maintenance programs (nonattainment areas)
- Reformulated gasoline (nonattainment areas)

Off-Highway Mobile Sources

- Federal control programs incorporated into NONROAD model (e.g., nonroad diesel rule), plus the evaporative Large Spark Ignition and Recreational Vehicle standards
- Heavy-duty diesel (2007) engine standard/Low sulfur fuel
- Federal railroad/locomotive standards
- Federal commercial marine vessel engine standards

Area Sources

- Consumer solvents
- AIM coatings
- Aerosol coatings
- Portable fuel containers

Power Plants

- Title IV (Phases I and II)
- NO_x SIP Call
- Clean Air Interstate Rule
- Clean Air Mercury Rule

Other Point Sources

- VOC 2-, 4-, 7-, and 10-year MACT standards²
- Combustion turbine MACT
- Consent decrees (refineries, ethanol plants, and ALCOA)³

² E.H. Pechan's original control file included EPA-default control factor information. Alternative control factors were developed by Wisconsin for a few MACT categories, and were also applied to the other four LADCO States.

- Other (Illinois and Ohio NOx RACT⁴, and BART in IN and WI)

Further discussion of the development of the future year emissions is provided below:

On-Road: Similar to the base year modeling, CONCEPT was run using transportation data (e.g., VMT and vehicle speeds) supplied by the state and local planning agencies for 2009 and 2018 (Environ, 2008). CONCEPT was only run with meteorological data for a July weekday (July 15). The emissions for Saturday and Sunday were derived by using scaling factors based on the 2005 emissions. The state-level emissions for the five LADCO States plus Minnesota are summarized in Table 2⁵.

For the non-LADCO States, CONCEPT was run by Environ using HPMS county-level data and MOBILE6 inputs compiled by another contractor for VISTAS. Note, the emissions modeling for IA, MO, and OK was redone for 2009 to reflect the state-developed registration distribution data. (The initial modeling for 2009 used national default values for registration distribution assumed by VISTAS' contractor. CENRAP's contractor developed emissions inventories for 2002 and 2018 using the state-developed data. For consistency, Environ's remodeling for these three states for 2009 also used the state-developed data.) Meteorological data for a July weekday (July 15) were used. The emissions for Saturday and Sunday were derived by using scaling factors based on the 2005 emissions.

For other months (for both LADCO and non-LADCO States), January weekday, Saturday, and Sunday emissions were derived based on the July:January ratios for 2005, and then the weekday, Saturday, and Sunday emissions for other months were linearly interpolated based on the January and July emissions.

³ E.H. Pechan's original control file included control factors for three sources in Wayne County, MI. These control factors were not applied in the regional-scale modeling to avoid double-counting with the State's local-scale analysis for PM2.5.

⁴ WI believes that NOx RACT for their sources is already included in the 2005 basecase and EGU "will do" scenario, and IN provided NOx RACT information for inclusion as a no-EGU "may do" scenario.

⁵ For northeastern IL (CATS region), 2009 and 2018 emissions were increases by 9% and 8%, respectively, to reflect newer transportation modeling by CATS.

Table 2. Summary of On-road Emissions (TPD – July 15, 2005)

Year	State	CO-tpd	TOG-tpd	NOx-tpd	PM2.5-tpd	SO2-tpd	NH3-tpd	Sum of VMT
2005	IL	3,684.3	341.5	748.2	12.9	9.6	35.9	344,087,819.6
	IN	3,384.9	282.0	541.1	8.9	11.1	25.7	245,537,231.9
	MI	4,210.3	351.9	722.0	12.4	13.9	35.3	340,834,025.9
	MN	2,569.1	218.7	380.5	6.3	7.6	17.7	170,024,599.7
	OH	6,113.4	679.8	933.6	16.2	18.8	36.5	360,521,068.6
	WI	2,206.0	175.1	457.5	7.8	9.2	19.7	189,123,964.3
Total		22,168.0	2,049.0	3,782.9	64.5	70.2	170.8	1,650,128,709.9
2009	IL	2,824.4	268.0	527.8	10.1	4.2	38.9	372,132,591.1
	IN	2,839.5	234.9	401.9	6.7	2.8	26.1	249,817,026.3
	MI	3,172.0	269.2	500.9	9.2	4.0	37.1	356,347,010.5
	MN	2,256.8	206.3	307.5	5.1	2.3	21.5	204,443,017.8
	OH	4,619.2	423.7	693.5	11.8	4.7	39.5	387,428,127.2
	WI	1,673.4	119.4	322.1	5.7	2.3	20.6	197,729,964.9
Total		17,385.3	1,521.5	2,753.6	48.7	20.3	183.6	1,767,897,737.8
2018	IL	2,084.7	151.5	200.7	6.3	3.7	43.1	413,887,887.3
	IN	2,217.3	138.4	173.0	4.4	2.6	30.2	288,042,232.1
	MI	2,434.3	163.5	204.1	5.9	3.6	40.5	388,128,431.8
	MN	1,799.6	123.1	137.1	3.6	2.2	24.9	237,022,213.7
	OH	3,361.5	242.5	274.1	6.8	4.0	43.1	421,694,093.4
	WI	1,255.5	68.4	138.5	3.9	2.0	22.2	218,277,167.5
Total		13,152.9	887.5	1,127.5	30.8	18.1	203.9	1,967,052,025.8

EGU Point: Future year emissions were based on EPA's IPM3.0 modeling⁶. Three CAIR scenarios were addressed:

5a: EPA's IPM3.0 was assumed as the future year base for EGUs.

5b: EPA's IPM3.0, with several "will do" adjustments identified by the States. These adjustments should reflect a legally binding commitment (e.g., signed contract, consent decree, or operating permit).⁷

5c: EPA's IPM3.0, with several "may do" adjustments identified by the States. These adjustments reflect less rigorous criteria, but should still be some type of public reality (e.g., BART determination or press announcement).

Table 3 summarizes the SO₂ and NO_x emissions for the three scenarios. The individual facilities affected by the "will do" and "may do" adjustments are identified in Attachment 2. The net effect of these adjustments is a small increase in regional SO₂ and NO_x emissions.

Based on initial discussions with USEPA, a decision was made to use the 2010 IPM emissions in the 2009 modeling. USEPA subsequently insisted that 2009 modeling must represent 2009 conditions. Because 2009 and 2010 EGU NO_x emissions are expected to be similar (note: CAIR Phase I compliance date for NO_x is 2009), the Round 5.1 ozone modeling was not redone.

USEPA believes that 2009 and 2010 EGU SO₂ emissions may be significantly different (note: CAIR Phase I compliance date for SO₂ is 2010). In particular, USEPA noted that information on projected scrubber installations identifies several facilities are not expected to be completed until 2010. A model sensitivity run was conducted with adjusted (higher) EGU SO₂ emissions.

⁶ The second set of new IPM runs by EPA were used. These runs were performed at the request of the RPOs and reflect the addition of run years 2012 and 2018, and the use of four load segments for 2032 to decrease model size (instead of six segments). Comparing the results in this run with EPA's initial v3.0, showed small differences. Below is a quick summary of the run year differences.

EPA Base Case for IPM v.3.0

2010: 2009-2012
2015: 2013-2017
2020: 2018-2022
2025: 2023-2027
2032: 2028-2035

Base Case RPO Run for IPM v3.0 (added 2012 and 2018 run years, 2020 run year merged with the 2025 run year, and four load segments used for the 2032 run year)

2010: 2009-2011
2012: 2012-2012
2015: 2013-2017
2018: 2018-2019
2025: 2020-2028
2032: 2029-2035

⁷ Scenario 5b and 5c also reflect changes in Minnesota, Missouri, and North Dakota.

Table 4 provides information from USEPA's Clean Air Markets Division (CAMD) on scrubber installation dates. This information is based on various sources, including company announcements, consent decrees, vendors, and organizations that track scrubber installations. While there may be uncertainty in any projection of control installations, USEPA considers these adequate projections for SIP planning purposes.

USEPA identified six plants which: (1) are projected in IPM3.0 to have scrubbers in place by 2010 (or 2011), but will not be completed by 2009, and (2) are most likely to impact PM_{2.5} air quality in the upper Midwest (see highlighting in Table 4). To reflect uncontrolled (2009) emissions for those facilities (and units), LADCO substituted actual 2005 emissions for the IPM3.0 projected 2010 emissions. The revised (2009) SO₂ emissions for the six facilities (see Table 5) represent a 5-6% increase in domainwide SO₂ emissions.

Table 3. Comparison of EGU Emissions for Base (5a), Will Do (5b), and Will Do (5c) Scenarios

	2010				2018		
SO₂	5a	5b	5c		5a	5b	5c
IL	958	881	881		869	433	433
IN	1033	1318	1318		1036	1194	1194
MI	667	667	667		725	725	725
OH	1326	1410	1410		983	1127	1127
WI	460	460	421		435	499	235
	4444	4736	4697		4048	3978	3714
MN	162	148	148		187	167	157
NO_x	5a	5b	5c		5a	5b	5c
IL	275	247	247		224	195	195
IN	370	372	372		255	266	266
MI	242	242	242		243	243	243
OH	281	305	305		285	310	310
WI	165	164	155		176	172	145
	1333	1330	1321		1183	1186	1159
MN	116	142	142		132	157	125

Table 4. Facilities Anticipating SO2 Controls in 2009 and 2010

State Name	Plant Name	UniqueID_Final	ORIS Code	Unit ID	Capacity MW	Scrubber OnlineYear	Scrubber OnlineMonth
Alabama	Barry	3_B_5	3	5	768	2010	
Alabama	E C Gaston	26_B_5	26	5	861	2010	
Arizona	Cholla	113_B_3	113	3	271	2009	
Florida	Crystal River	628_B_4	628	4	720	2010	
Florida	Crist	641_B_6	641	6	302	2010	
Florida	Crist	641_B_7	641	7	477	2010	
Florida	Crystal River	628_B_5	628	5	717	2009	5
Florida	Deerhaven Generating Station	663_B_B2	663	B2	228	2009	5
Georgia	Bowen	703_B_1BLR	703	1BLR	713	2010	
Georgia	Wansley	6052_B_2	6052	2	892	2009	5
Georgia	Bowen	703_B_2BLR	703	2BLR	718	2009	4
Indiana	Clifty Creek	983_B_1	983	1	217	2010	
Indiana	Clifty Creek	983_B_2	983	2	217	2010	
Indiana	Clifty Creek	983_B_3	983	3	217	2010	
Indiana	Clifty Creek	983_B_4	983	4	217	2010	
Indiana	Clifty Creek	983_B_5	983	5	217	2010	
Indiana	Clifty Creek	983_B_6	983	6	217	2010	
Indiana	Warrick	6705_B_4	6705	4	300	2010	
Kentucky	Big Sandy	1353_B_BSU2	1353	BSU2	800	2009	11
Kentucky	E W Brown	1355_B_1	1355	1	94	2009	1
Kentucky	E W Brown	1355_B_2	1355	2	160	2009	1
Kentucky	E W Brown	1355_B_3	1355	3	422	2009	1
Kentucky	H L Spurlock	6041_B_1	6041	1	315	2009	
Maryland	Brandon Shores	602_B_1	602	1	643	2010	
Maryland	Brandon Shores	602_B_2	602	2	643	2010	
Maryland	Chalk Point LLC	1571_B_1	1571	1	341	2010	
Maryland	Chalk Point LLC	1571_B_2	1571	2	342	2010	
Maryland	Dickerson	1572_B_1	1572	1	182	2010	
Maryland	Dickerson	1572_B_2	1572	2	182	2010	
Maryland	Dickerson	1572_B_3	1572	3	182	2010	
Maryland	Morgantown Generating Plant	1573_B_1	1573	1	624	2009	
Maryland	Morgantown Generating Plant	1573_B_2	1573	2	620	2009	
Michigan	Monroe	1733_B_4	1733	4	775	2009 (2010?)	
Missouri	Sioux	2107_B_1	2107	1	497	2010	
Missouri	Sioux	2107_B_2	2107	2	497	2010	
New Jersey	PSEG Mercer Gen. Station	2408_B_1	2408	1	315.3	2010	
New Jersey	PSEG Mercer Gen. Station	2408_B_2	2408	2	309.9	2010	
New York	AES Westover	2526_B_11	2526	11	21.85	2010	
New York	AES Westover	2526_B_12	2526	12	21.85	2010	
New York	AES Westover	2526_B_13	2526	13	84	2010	
New York	AES Greenidge LLC	2527_B_4	2527	4	26.5	2010	
New York	AES Greenidge LLC	2527_B_5	2527	5	26.5	2010	
NorthCarolina	Cliffside	2721_B_1	2721	1	38	2010	

NorthCarolina	Cliffside	2721_B_2	2721	2	38	2010	
NorthCarolina	Cliffside	2721_B_3	2721	3	61	2010	
NorthCarolina	Cliffside	2721_B_4	2721	4	61	2010	
NorthCarolina	Cliffside	2721_B_5	2721	5	550	2010	
NorthCarolina	G G Allen	2718_B_1	2718	1	161.73	2009	5
NorthCarolina	Roxboro	2712_B_1	2712	1	369	2009	
NorthCarolina	G G Allen	2718_B_2	2718	2	161.73	2009	
NorthCarolina	G G Allen	2718_B_3	2718	3	259.77	2009	
NorthCarolina	G G Allen	2718_B_4	2718	4	274.77	2009	
NorthCarolina	G G Allen	2718_B_5	2718	5	265	2009	
NorthCarolina	Mayo	6250_B_1A	6250	1A	361.5	2009	
NorthCarolina	Mayo	6250_B_1B	6250	1B	361.5	2009	
Ohio	W H Sammis	2866_B_6	2866	6	630	2011	
Ohio	W H Sammis	2866_B_7	2866	7	630	2011	
Ohio	R E Burger	2864_B_7	2864	7	156	2010	
Ohio	R E Burger	2864_B_8	2864	8	156	2010	
Ohio	Kyger Creek	2876_B_1	2876	1	217	2010	
Ohio	Kyger Creek	2876_B_2	2876	2	217	2010	
Ohio	Kyger Creek	2876_B_3	2876	3	217	2010	
Ohio	Kyger Creek	2876_B_4	2876	4	217	2010	
Ohio	Kyger Creek	2876_B_5	2876	5	217	2010	
Ohio	Conesville	2840_B_4	2840	4	780	2009	4
Ohio	Bay Shore	2878_B_4	2878	4	215	2009	
Pennsylvania	Cheswick Power Plant	8226_B_1	8226	1	580	2010	
Pennsylvania	Hatfields Ferry Power Station	3179_B_1	3179	1	530	2009	1
Pennsylvania	Hatfields Ferry Power Station	3179_B_2	3179	2	530	2009	1
Pennsylvania	Hatfields Ferry Power Station	3179_B_3	3179	3	530	2009	1
Pennsylvania	Keystone	3136_B_1	3136	1	850	2009	
Pennsylvania	Keystone	3136_B_2	3136	2	850	2009	
Pennsylvania	PPL Brunner Island	3140_B_1	3140	1	321	2009	
Pennsylvania	PPL Brunner Island	3140_B_2	3140	2	378	2009	
Tennessee	Kingston	3407_B_1	3407	1	135	2010	
Tennessee	Kingston	3407_B_2	3407	2	135	2010	
Tennessee	Kingston	3407_B_3	3407	3	135	2010	
Tennessee	Kingston	3407_B_4	3407	4	135	2010	
Tennessee	Kingston	3407_B_5	3407	5	177	2010	
Tennessee	Kingston	3407_B_6	3407	6	177	2010	
Tennessee	Kingston	3407_B_7	3407	7	177	2010	
Tennessee	Kingston	3407_B_8	3407	8	177	2010	
Tennessee	Kingston	3407_B_9	3407	9	178	2010	
Tennessee	Bull Run	3396_B_1	3396	1	881	2009	1
Texas	Fayette Power Project	6179_B_1	6179	1	598	2009	
Texas	Fayette Power Project	6179_B_2	6179	2	598	2009	
Virginia	Chesterfield	3797_B_5	3797	5	310	2010	
Virginia	Yorktown	3809_B_1	3809	1	159	2010	

Table 5. Summary of Adjusted EGU SO₂ Emissions (TPD)

State	Plant	2010 IPM	2005 BY
Indiana	Clifty Creek	41.41	225.32
Missouri	Ameren Sioux	22.25	141.92
Ohio	Kyger Creek	21.53	197.68
Ohio	Sammis	147.97	305.90
Pennsylvania	Cheswick	11.53	103.98
Tennessee	Kingston	41.15	155.20

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ATTACHMENT 1

Emissions Summaries

	VOC	Base M	BaseK	Base M	BaseK	BaseK	Base M	NOx	Base M	BaseK	Base M	BaseK	BaseK	Base M	SOX	Base M	BaseK	Base M	BaseK	BaseK	Base M	PM2.5	Base M	BaseK	Base M	BaseK	BaseK	Base M
July	2002	2005	2009	2009	2012	2018	2018	2002	2005	2009	2009	2012	2018	2018	2002	2005	2009	2009	2012	2018	2018	2002	2005	2009	2009	2012	2018	2018
Nonroad																												
IL	224	321	164	257	149	130	213	324	333	263	275	224	154	155	31	33	5	5	0.6	0.4	0.4		30		24		14	
IN	125	195	94	160	95	95	128	178	191	142	158	141	141	89	17	19	3	3	3	0.3	0.2		17		13		7	
MI	348	414	307	350	276	222	271	205	239	159	197	133	93	112	19	22	3	3	0.5	0.3	0.3		22		18		11	
OH	222	356	161	294	145	126	238	253	304	195	246	162	109	135	23	29	4	5	0.5	0.3	0.4		27		22		13	
WI	214	238	194	203	175	140	157	145	157	114	129	97	69	77	13	15	2	2	0.3	0.2	0.2		14		12		7	
5-State Total	1133	1524	920	1264	840	713	1007	1105	1224	873	1005	757	566	568	103	118	17	18	4.9	1.5	1.5		110		89		52	
U.S. Total	8463	9815	5442	8448		5244	6581	6041	9060	6057	8120		5832	5100	505	654	117	153		104	13		573		750		475	
MAR																												
IL	10	11	10	10	10	10	6	277	246	201	228	195	186	165	0	22	0	19	0	0	17		7		6		4	
IN	5	5	5	5	5	5	3	123	93	89	87	87	84	65	0.2	8	0.2	7	0.2	0.2	6		2		2		2	
MI	7	7	7	7	7	8	7	114	87	112	82	111	110	65	0.6	21	0.7	14	0.7	0.8	8		3		3		2	
OH	8	7	8	7	8	8	5	177	134	128	126	126	122	94	0.4	14	0.3	12	0.3	0.3	10		4		4		2	
WI	4	4	4	4	4	4	3	79	58	59	54	59	57	41	12.7	8	9.5	6	9.5	8.7	5		2		2		1	
5-State Total	34	34	34	33	34	35	24	770	618	589	577	578	559	430	13.9	73	10.7	58	10.7	10	46		18		17		11	
U.S. Total	307	317	321	157	329	346	334	4968	4515	4002	1813	3964	3919	3812	620	512	509	122	509	503	290		147		57		165	
OtherArea																												
IL	679	675	688	594	700	738	582	62	48	68	48	70	73	49	11	11	12	16	12	13	16		40		64		69	
IN	354	391	365	358	373	398	384	62	56	65	58	67	69	59	158	32	150	32	151	153	32		2		2		2	
MI	518	652	516	562	520	541	549	49	49	52	50	53	54	51	71	29	68	29	68	68	28		111		114		120	
OH	546	604	550	506	558	593	487	50	93	59	108	60	62	108	22	6	34	15	35	35	14		19		35		34	
WI	458	315	467	290	474	506	293	32	37	34	37	34	35	37	9	17	9	13	10	10	13		11		12		12	
5-State Total	2555	2637	2586	2310	2625	2776	2295	255	283	278	301	284	293	304	271	95	273	105	276	279	103		183		227		237	
U.S. Total	17876	21093	18638	18683		20512	24300	3856	4899	4100	4220		4418	5357	2075	2947	2062	2559		2189	2709		2735		2621		2570	
On-Road																												
IL	446	341	314	268	260	197	151	890	748	578	528	474	300	201		9		4		3			13		10		6	
IN	405	282	237	235	193	150	138	703	541	425	402	313	187	173		11		3		2			9		7		2	
MI	522	351	335	269	303	217	163	926	722	680	501	619	385	204		14		4		3			12		9		3	
OH	574	680	365	424	340	238	242	1035	934	609	693	512	270	274		18		4		4			16		12		4	
WI	238	175	144	119	117	88	68	481	457	303	322	226	118	138		9		2		2			8		6		2	
5-State Total	2185	1829	1395	1315	1213	890	762	4035	3402	2595	2446	2144	1260	990		61		17		14			58		44		17	
U.S. Total	14263				7825			23499				13170																
EGU																												
IL	9	7	8	6	8	9	7	712	305	227	275	244	231	224	1310	1158	944	958	789	810	869		13		34		77	
IN	6	6	6	6	7	6	6	830	393	406	370	424	283	255	2499	2614	1267	1033	1263	1048	1036		16		73		74	
MI	12	6	11	4	11	12	4	448	393	218	242	219	247	243	1103	1251	1022	667	1031	1058	725		15		25		29	
OH	5	4	6	5	7	7	6	1139	408	330	280	322	271	285	3131	3405	1463	1326	994	701	983		28		94		80	
WI	3	5	3	2	4	4	3	293	213	146	165	139	147	177	602	545	512	460	492	500	435		0		22		25	
5-State Total	35	28	34	23	37	38	26	3422	1712	1327	1332	1348	1179	1184	8645	8973	5208	4444	4569	4117	4048		72		248		285	
U.S. Total	214	140	195	124	197	215	138	14371	10316	7746	7274	7721	7007	6095	31839	34545	20163	16903	17629	14727	14133		685		1131		1571	
Non-EGU																												
IL	313	221	286	218	305	350	258	356	330	334	218	338	343	235	373	423	251	335	257	249	346		16		17		19	
IN	150	130	160	137	170	199	167	238	179	212	175	216	225	178	292	218	270	216	274	290	180		35		36		44	
MI	123	116	115	119	122	139	140	216	240	208	242	214	229	271	162	158	166	148	171	185	163		20		21		25	
OH	77	84	75	87	79	90	104	177	175	157	166	160	167	178	240	289	231	288	210	216	293		27		28		33	
WI	88	84	97	87	104	120	106	98	97	91	93	92	94	81	163	156	154	152	155	156	85		0		0.1		0.1	
5-State Total	751	635	733	648	780	898	775	1085	1021	1002	894	1020	1058	943	1230	1244	1072	1139	1067	1096	1067		98		102		121	
U.S. Total	4087	3877	4409		4700	5378		6446	6730	6129		6435	6952		5759	5630	6093		6340	6970					1444		1777	
IL	1681	1576	1470	1353	1432	1434	1217	2621	2010	1671	1572	1545	1287	1029	1725	1656	1212	1337	1059	1072	1251		119		155		189	
IN	1045	1009	867	901	843	853	826	2134	1453	1339	1250	1248	989	819	2966	2902	1690	1294	1691	1492	1256		81		133		131	
MI	1530	1546	1291	1311	1239	1139	1134	1958	1730	1429	1314	1349	1118	946	1356	1495	1260	865	1271	1312	927		183		190		190	
OH	1432	1735	1165	1323	1137	1062	1082	2831	2048	1478	1619	1342	1001	1074	3416	3761	1732	1650	1240	953	1304		121		195		166	
WI																												

ATTACHMENT 2

“Will Do” and “May Do” EGU Facility Emissions

February 27, 2008

2009 – Difference between base (5a) and “will do” (5b) scenarios

The SAS System

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----- polid=NOX -----									

Obs	cntryid	stid	cyid	fcid	name	polid	aceebase	aceenew	diff
1	US	17	97	097190AAC	MIDWEST GENERAT	NOX	11.54	6.28	-5.266
2	US	17	197	197810AAK	MIDWEST GENERAT	NOX	21.11	9.46	-11.652
3	US	18	73	00008	NIPSCO - R.M. S	NOX	26.50	24.81	-1.691
4	US	18	77	00001	IKEC - CLIFTY C	NOX	11.58	16.42	4.836
5	US	18	89	00117	NIPSCO - DEAN H	NOX	20.51	19.13	-1.384
6	US	27	37	2703700003	NSP dba Xcel En	NOX	8.03	26.74	18.709
7	US	27	61	2706100004	Minnesota Power	NOX	15.43	18.40	2.969
8	US	27	163	2716300005	Xcel Energy - A	NOX	4.21	5.92	1.718
9	US	29	183	0001	AMERENUE-SIOUX	NOX	28.47	12.81	-15.658
10	US	38	55	126	Coal Creek Stat	NOX	30.49	30.36	-0.132
11	US	38	57	12	Leland Olds Sta	NOX	11.32	36.67	25.348
12	US	38	57	125	Stanton Station	NOX	6.11	6.11	0.002
13	US	38	57	13	Antelope Valley	NOX	33.00	36.39	3.385
14	US	38	57	289	Coyote	NOX	35.12	36.95	1.839
15	US	38	59	172	RM Heskett Stat	NOX	5.45	4.72	-0.727
16	US	38	65	165	M R Young Stati	NOX	6.02	71.10	65.081
17	US	39	93	0247030013	AVON LAKE POWER	NOX	3.98	20.54	16.561
18	US	39	129	0165000006		NOX	.	1.69	.
19	US	55	11	606034110	DAIRYLAND POWER	NOX	19.24	18.96	-0.279
20	US	55	21	111003090	Alliant Energy-	NOX	14.23	17.16	2.927
21	US	55	43	122014530	Alliant Energy-	NOX	7.61	7.77	0.160
22	US	55	59	230006260	WIS ELECTRIC PO	NOX	7.39	14.03	6.647
23	US	55	71	436035930	MANITOWOC PUBLI	NOX	2.06	1.80	-0.259
24	US	55	79	241007690	WIS ELECTRIC PO	NOX	15.25	15.41	0.166
25	US	55	79	241007800	WIS ELECTRIC PO	NOX	7.87	6.07	-1.801
26	US	55	117	460033090	WP & L Alliant	NOX	19.06	11.85	-7.215
27	US	55	123	663020930	DAIRYLAND POWER	NOX	10.47	8.52	-1.955
-----							-----	-----	-----
polid							382.05	486.07	102.327

February 27, 2008

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----- polid=SO2 -----
-----
Obs    cntryid   stid    cyid    fcid      name          polid    aceebase    aceenew      diff
28     US       17      97      097190AAC    MIDWEST GENERAT    SO2      49.91      29.27      -20.636
29     US       17     197     197810AAK    MIDWEST GENERAT    SO2      91.90      62.70      -29.198
30     US       18      29      00002        AMERICAN ELECTR    SO2      66.34     102.72      36.389
31     US       18      43      00004        PSI ENERGY - GA   SO2      25.53      66.01      40.488
32     US       18      73      00008        NIPSCO - R.M. S    SO2      82.52      63.71     -18.817
33     US       18     147      00020        INDIANA MICHIGA    SO2      71.67     198.71     127.042
34     US       18     167      00021        PSI ENERGY - WA   SO2      76.09     175.87      99.786
35     US       27      31     2703100001    Minnesota Power    SO2      12.27       5.75      -6.512
36     US       27      61     2706100004    Minnesota Power    SO2      30.76      20.79      -9.968
37     US       27     163     2716300005    Xcel Energy - A    SO2       5.33       7.11       1.777
38     US       29     183      0001        AMERENUE-SIOUX     SO2      22.25       8.34     -13.903
39     US       38      55      126        Coal Creek Stat    SO2      27.45      75.37      47.926
40     US       38      57      12        Leland Olds Sta    SO2     108.15     126.06      17.906
41     US       38      57      125        Stanton Station    SO2      25.29      12.37     -12.922
42     US       38      57      13        Antelope Valley    SO2      26.60      43.72      17.128
43     US       38      57      289        Coyote             SO2      19.26      53.19      33.932
44     US       38      59      172        RM Heskett Stat    SO2       9.23      30.11      20.872
45     US       38      65      165        M R Young Stati    SO2      27.98      82.23      54.249
46     US       39      81     0641160017    W. H. SAMMIS PL    SO2     147.97      55.61     -92.363
47     US       39      93     0247030013    AVON LAKE POWER    SO2       7.62     127.04     119.417
48     US       39     129     0165000006    .                  SO2       .        16.55       .
49     US       55      21     111003090    Alliant Energy-    SO2      61.97      74.80      12.822
50     US       55      43     122014530    Alliant Energy-    SO2      11.49      42.60      31.111
51     US       55      59     230006260    WIS ELECTRIC PO    SO2       7.39      12.34       4.949
52     US       55      71     436035930    MANITOWOC PUBLI    SO2       5.90       9.95       4.050
53     US       55      79     241007690    WIS ELECTRIC PO    SO2      59.72      41.19     -18.535
54     US       55      79     241007800    WIS ELECTRIC PO    SO2      38.79      21.36     -17.433
55     US       55     123     663020930    DAIRYLAND POWER    SO2      19.56       3.79     -15.772
-----
polid                                     1138.93    1569.26    413.785
=====
                                     1520.97    2055.32    516.112

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February 27, 2008

2009 – Difference between “will do” (5b) and “may do” (5c) scenarios

The SAS System

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2008 1

----- polid=NOX -----									

Obs	cntryid	stid	cyid	fcid	name	polid	aceebase	aceenew	diff
1	US	19	139	70-01-011	MUSCATINE POWER	NOX	5.649	3.926	-1.7226
2	US	55	9	405031990	WI PUBLIC SERVI	NOX	9.234	7.786	-1.4476
3	US	55	11	606034110	DAIRYLAND POWER	NOX	18.957	18.994	0.0377
4	US	55	21	111003090	Alliant Energy-	NOX	17.158	17.156	-0.0021
5	US	55	25	113004430	MADISON GAS & E	NOX	3.886	2.639	-1.2470
6	US	55	43	122014530	Alliant Energy-	NOX	7.765	7.756	-0.0091
7	US	55	59	230006260	WIS ELECTRIC PO	NOX	14.034	9.826	-4.2074
8	US	55	71	436035930	MANITOWOC PUBLI	NOX	1.800	0.439	-1.3610
9	US	55	79	241007690	WIS ELECTRIC PO	NOX	15.413	15.435	0.0219
10	US	55	79	241007800	WIS ELECTRIC PO	NOX	6.068	6.072	0.0041
11	US	55	117	460033090	WP & L Alliant	NOX	11.847	11.892	0.0456
12	US	55	123	663020930	DAIRYLAND POWER	NOX	8.517	8.482	-0.0343
-----							120.325	110.404	-9.9218
polid									
----- polid=SO2 -----									

Obs	cntryid	stid	cyid	fcid	name	polid	aceebase	aceenew	diff
13	US	19	139	70-01-011	MUSCATINE POWER	SO2	6.237	11.178	4.9415
14	US	55	9	405031990	WI PUBLIC SERVI	SO2	21.750	18.074	-3.6753
15	US	55	21	111003090	Alliant Energy-	SO2	74.796	74.988	0.1924
16	US	55	25	113004430	MADISON GAS & E	SO2	16.331	0.063	-16.2672
17	US	55	43	122014530	Alliant Energy-	SO2	42.604	42.640	0.0362
18	US	55	59	230006260	WIS ELECTRIC PO	SO2	12.336	9.850	-2.4867
19	US	55	71	436035930	MANITOWOC PUBLI	SO2	9.949	3.001	-6.9477
20	US	55	79	241007690	WIS ELECTRIC PO	SO2	41.189	41.210	0.0207
21	US	55	79	241007800	WIS ELECTRIC PO	SO2	21.360	21.430	0.0699
22	US	55	123	663020930	DAIRYLAND POWER	SO2	3.785	3.716	-0.0694
-----							250.336	226.151	-24.1856
polid									
							370.662	336.554	-34.1074

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APPENDIX K

Public Participation Documents

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LEGAL NOTICE OF PUBLIC HEARING

Redesignation Petition and Maintenance Plan In Association with the Annual Fine Particle (PM_{2.5}) Standard

Central Indiana Area

Notice is hereby given under 40 CFR 51.102 that the Indiana Department of Environmental Management (IDEM) will hold a public hearing on May 17, 2011. The purpose of this hearing is to receive public comment on the Draft Redesignation Petition and Maintenance Plan in association with the Annual Fine Particle (PM_{2.5}) Standard, for the Central Indiana Area. The meeting will convene at 6:00 p.m. (local time) in the Indianapolis-Marion County Library-West Indianapolis Branch, located at 1216 S. Kappes Street, Indianapolis, Indiana. All interested persons are invited and will be given opportunity to express their views concerning the draft documents.

The Central Indiana Fine Particle Nonattainment Area consists of Hamilton, Hendricks, Marion, Morgan and Johnson counties in Indiana. This area was designated as nonattainment for the annual fine particle standard and subject to the requirements of Section 172 of the Clean Air Act (CAA). One of the compliance requirements mandated by Section 172(c) of the CAA, is the development of a plan demonstrating that the area will continue to meet the annual standard for fine particles. This Redesignation Petition and Maintenance Plan is being drafted and submitted consistent with United States Environmental Protection Agency (U.S. EPA) guidance.

Copies of the draft documents will be available on or before April 17, 2011 to any person upon request and at the following locations:

- Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, 100 North Senate, Room N1003, Indianapolis, Indiana.
- Indianapolis-Marion County Library-West Indianapolis Branch, 1216 S. Kappes Street, Indianapolis, Indiana.
- Danville Public Library, 101 South Indiana Street, Danville, Indiana.
- Johnson County Public Library, 401 State Street, Franklin, Indiana.
- Morgan County Public Library, 110 South Jefferson Street, Martinsville, Indiana.
- Noblesville-Southeastern Public Library, One Library Plaza, Noblesville, Indiana.

The draft documents will also be available on the following web page:

<http://www.in.gov/idem/4658.htm>

Oral statements will be heard, but for the accuracy of the record, statements should be submitted in writing. Written statements may be submitted to the attendant designated to receive written comments at the public hearing.

IDEM will also accept written comments through May 19, 2011. Mailed comments should be addressed to:

Central Indiana Area Fine Particle (PM_{2.5}) Redesignation Petition and Maintenance Plan

Scott Deloney, Chief
Programs Branch
Office of Air Quality MC 61-50
100 North Senate Avenue
Indiana Department of Environmental Management
Indianapolis, IN 46206-2251

A transcript of the hearing and all written submissions provided at the public hearing shall be open to public inspection at IDEM and copies may be made available to any person upon payment of reproduction costs. Any person heard or represented at the hearing or requesting notice shall be given written notice of actions resulting from the hearing.

For additional information contact Ms. Sarah Raymond, at the Indiana Department of Environmental Management, Air Programs Branch, Office of Air Quality, Room 1001, Indiana Government Center North, 100 North Senate Avenue, Indianapolis or call (317) 232-8449 or (800) 451-6027 ext. 2-8449 (in Indiana).

Individuals requiring reasonable accommodations for participation in this hearing should contact the IDEM Americans with Disabilities Act (ADA) coordinator at:

Attn: ADA Coordinator
Indiana Department of Environmental Management – Mail Code 50-10
100 North Senate Avenue
Indianapolis, IN 46204-2251

Or call (317) 233-1785 (voice) or (317) 232-6565 (TDD). Please provide a minimum of 72 hours notification.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

Indianapolis Star & News
P.O. Box 145
Indianapolis, Indiana 46204

Date: April 8, 2011

Phone: 317-444-7163
Fax: 317-444-8806
E-Mail: publicnotices@indystar.com

ATTENTION: PUBLIC NOTICES - LEGAL ADVERTISING SECTION

Enclosed please find Indiana Department of Environmental Management Public Hearing Legal Notices(s) concerning a public hearing for the Redesignation Petition and Maintenance Plan In Association with the Annual Fine Particle (PM_{2.5}) Standard for the Central Indiana Area.

PLEASE PRINT ONE TIME on or before APRIL 15, 2011 in order for us to satisfy our statutory requirements.

Please send a notarized form no. 99p and/or publisher's claim, together with the clipping, showing the date of publication and your Federal ID number to:

MAIL TO:

Attn: Catherine Mitchell – Mail Code 61-50
Indiana Department of Environmental Management
100 N. Senate Ave., IGCN, Rm. 1001
Indianapolis, IN 46204

If you have any questions, please call me at 317-234-6530. Thank you.

Sincerely,

Catherine Mitchell
Office of Air Quality

Enclosures

IND DEPT OF ENVIRONMENTAL MANA
MARION COUNTY, INDIANA

To: INDIANAPOLIS NEWSPAPERS
307 N PENNSYLVANIA ST - PO BOX 145
INDIANAPOLIS, IN 46206-0145

PUBLISHER'S CLAIM

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Display Matter - (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set). - number of equivalent lines

Head - Number of lines

Body - Number of lines

Tail - Number of lines

Total number of lines in notice

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State of Indiana
Department of Environmental Management
Office of Air Quality

COMPUTATION OF CHARGES

118.0 lines 2.0 columns wide equals 236.0 equivalent lines at .458
cents per line

\$ 108.09

Additional charge for notices containing rule and figure work (50 per cent of above amount)

Charges for extra proofs of publication (\$1.00 for each proof in excess of two)

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Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

I also certify that the printed matter attached hereto is a true copy, of the same column width and type size, which was duly published in said paper 1 times. The dates of publication being between the dates of:

04/15/2011 and 04/15/2011

Additionally, the statement checked below is true and correct:

☐ Newspaper does not have a Web site.

☒ Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper

☐ Newspaper has a Web site, but due to a technical problem or error, public notice was posted on _____

☐ Newspaper has a Web site but refuses to post the public notice.

Kerney Dodson

DATE: 04/15/2011

Title: Clerk

INDIANAPOLIS STAR AND NEWS, INDIANAPOLIS, IN

LEGAL NOTICE OF PUBLIC HEARING

Redesignation Petition and Maintenance Plan in Association with the Annual Fine Particle (PM2.5) Standard

Central Indiana Area

Notice is hereby given under 40 CFR 51.102 that the Indiana Department of Environmental Management (IDEM) will hold a public hearing on May 17, 2011. The purpose of this hearing is to receive public comment on the Draft Redesignation Petition and Maintenance Plan in association with the Annual Fine Particle (PM2.5) Standard, for the Central Indiana Area. The meeting will convene at 6:00 p.m. (local time) in the Indianapolis-Marion County Library-West Indianapolis Branch, located at 1216 S. Kappes Street, Indianapolis, Indiana. All interested persons are invited and will be given opportunity to express their views concerning the draft documents.

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Copies of the draft documents will be available on or before April 17, 2011 to any person upon request and at the following locations:

- Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, 100 North Senate, Room N1003, Indianapolis, Indiana.
- Indianapolis-Marion County Library-West Indianapolis Branch, 1216 S. Kappes Street, Indianapolis, Indiana.
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- Johnson County Public Library, 401 State Street, Franklin, Indiana.
- Morgan County Public Library, 110 South Jefferson Street, Martinsville, Indiana.
- Noblesville-Southeastern Public Library, One Library Plaza, Noblesville, Indiana.

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<http://www.in.gov/idem/4658.htm>

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IDEM will also accept written comments through May 19, 2011. Mailed comments should be addressed to:

Central Indiana Area Fine Particle (PM2.5) Redesignation Petition and Maintenance Plan

Scott Deloney, Chief
Programs Branch
Office of Air Quality MC 61-50
100 North Senate Avenue
Indiana Department of Environmental
Management
Indianapolis, IN 46206-2251

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Attn: ADA Coordinator
Indiana Department of Environmental
Management - Mail Code 50-10
100 North Senate Avenue
Indianapolis, IN 46204-2251

Or call (317) 233-1785 (voice) or (317) 232-6565 (TDD). Please provide a minimum of 72 hours notification.

(S - 4/15/11 - 5797512)

BEFORE THE INDIANA DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT

PUBLIC HEARING REGARDING
DRAFT REDESIGNATION PETITION
AND MAINTENANCE PLAN
IN ASSOCIATION WITH THE
ANNUAL FINE PARTICLE (PM_{2.5}) STANDARD

COPY

PROCEEDINGS

in the above-captioned matter, before Hearing
Officer Sarah Raymond, taken before me, Lindy L.
Meyer, Jr., a Notary Public in and for the State
of Indiana, County of Shelby, at the Indianapolis
Marion County Public Library, West Indianapolis
Branch, 1216 South Kappes Street, Indianapolis,
Indiana, on Tuesday, May 17, 2011 at 6:10 o'clock
p.m.

William F. Daniels, RPR/CP CM d/b/a
ACCURATE REPORTING OF INDIANA
12922 Brighton Avenue
Carmel, Indiana 46032
(317) 848-0088

1 APPEARANCES:

2 HEARING OFFICER:

3 Sarah Raymond

4 SPEAKERS PRESENT:

5 None

6

7 - - -

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6:10 o'clock p.m.
May 17, 2011

THE HEARING OFFICER: This is a public hearing to solely accept comments concerning the Draft Redesignation Petition and Maintenance Plan in association with the annual fine particles standard for the Central Indiana area. This hearing is being held to conform to the provisions in 40 CFR Part 51 regarding public hearings for State Implementation Plan (SIP) submittals.

My name is Sarah Raymond. I am a Senior Environmental Manager in the Rules and SIP Development Section of the Indiana Department of Environmental Management (IDEM)'s Office of Air Quality. I have been appointed to act as Hearing Officer for this public hearing.

Notice of the time and place of the hearing was given as provided by law by publication in the following newspaper: The Indianapolis Star, Indianapolis, Indiana.

The purpose of this public hearing is to provide interested persons an opportunity to

1 offer comments to the state regarding the Draft
2 Redesignation Petition and Maintenance Plan in
3 association with the annual fine particles
4 standard for the Central Indiana area.

5 Appearance cards have been distributed in
6 the hearing room for all those desiring to be
7 shown appearing on record in this cause. If you
8 have not already filled out the form, please do
9 so and indicate if you are appearing for yourself
10 or on behalf of a group or organization and
11 identify such group or organization. Also, note
12 the capacity in which you appear, such as
13 attorney, officer or authorized spokesperson.

14 Any person who is heard or represented at
15 this hearing or who requests notice may be given
16 written notice of the final action taken on this
17 SIP submittal. Please indicate on the appearance
18 card if you wish to receive this notification.
19 When appearance cards have been completed, they
20 should be handed to me and I will include them
21 with the official record of this proceeding.

22 Oral statements will be heard, but written
23 statements may be handed to me, or mailed to the

1 Office of Air Quality on or before the close of
2 business on May 19th, 2011. A written transcript
3 of this hearing is being made. The transcript
4 will be open for public inspection and a copy of
5 the transcript will be made available to any
6 person upon payment of the copying cost.

7 After the conclusion of this public
8 hearing, I will prepare a written report
9 summarizing the comments received at this hearing
10 and any recommended changes which may need to be
11 made to this document.

12 I would like to introduce the following
13 documents into the record: One, the notice of
14 public hearing; two, the Draft Request for
15 Redesignation and Maintenance Plan under the
16 Annual National Ambient Air Quality Starred
17 (NAAQS) for Fine Particles for the Central
18 Indiana area.

19 Finally, I would like to briefly go over
20 the contents of the draft document. In 1997, the
21 United States Environmental Protection Agency
22 (U.S. EPA) set daily and annual ambient air
23 quality standards for fine particles at 15

1 micrograms per cubic meter on an annual basis and
2 at 65 micrograms per cubic meter on a 24-hour or
3 daily basis.

4 Legal challenges to the new standards for
5 fine particles resulted in delayed implementation
6 of the standard until February 2001, when the
7 Supreme Court upheld the standards and ruled that
8 the U.S. EPA could proceed with implementation of
9 the new standards. Indiana began monitoring for
10 fine particles in 1999.

11 The U.S. EPA originally designated
12 counties under the fine particle standards based
13 on 2001 through 2003 monitoring data in December
14 of 2004. The U.S. EPA designated areas
15 throughout the county -- or country -- as
16 attainment, nonattainment or unclassifiable.

17 However, U.S. EPA withdrew a number of
18 counties identified as nonattainment based on
19 updated monitoring data for 2002 through 2004
20 prior to the effective date of the designations,
21 which was April 5th, 2005, based on the fact that
22 those counties had met the standard at the close
23 of 2004.

1 As required by the Clean Air Act, in 2006
2 U.S. EPA reviewed the annual and daily standards
3 for fine particles to verify that the current
4 NAAQS continue to be protective of human health.
5 Through this detailed review process, the
6 U.S. EPA determined that the 1997 annual standard
7 for fine particles was adequately protective of
8 human health, but that the daily standard needed
9 to be revised.

10 It should be noted that this public
11 hearing is solely related to the Redesignation
12 Petition and Maintenance Plan in association with
13 the annual fine particles standard as it applies
14 to the Central Indiana area.

15 The following information is taken from
16 the U.S. EPA's "Guidelines on Data Handling
17 Conventions for the PM NAAQS,"
18 U.S. EPA 454/R-99-008, April 1999. Three
19 complete years of fine particles monitoring data
20 are required to demonstrate attainment at a
21 monitoring site.

22 The annual ambient air quality standards
23 for fine particles is met at an ambient air

1 quality monitoring site when the three-year
2 average of the annual average of fine-particle
3 concentrations is less than or equal to 15
4 micrograms per cubic meter. When this occurs,
5 according to the U.S. EPA, the area is in
6 compliance with the standard.

7 Three significant digits must be carried
8 in the computations and values are rounded to the
9 nearest .1 micrograms per cubic meter. Decimals
10 of 0.05 or greater are rounded upward and those
11 less than 0.05 are rounded downward. Thus,
12 15.049 micrograms per cubic meter is a largest
13 concentration that is less than or equal to 15.0
14 micrograms per cubic meter.

15 For the purpose of this request, the
16 annual fine particles standard is considered to
17 be 15.0 micrograms per cubic meter. Values at or
18 below 15.0 micrograms per cubic meter meet the
19 standard. Values equal to or greater than 15.1
20 micrograms per cubic meter exceed the standard.

21 The design value represents fine particle
22 concentrations that are below the national
23 ambient air quality standard, thus the area is

1 eligible to be redesignated to attainment under
2 the annual fine particle standard and classified
3 as maintenance.

4 Being classified as a maintenance area
5 means that the state has to ensure that the
6 overall emissions inventory does not exceed the
7 current levels, and that regulatory decisions do
8 not interfere with the area's ability to maintain
9 compliance with the standard.

10 At the conclusion of 2008, the highest
11 design value for the area, based on 2006
12 through 2008 monitoring data, was 14.6 micrograms
13 per cubic meter. Data from 2007 through 2009
14 showed an improvement in air quality with monitor
15 values dropping to 14.3 micrograms per cubic
16 meter. Finally, from 2008 through 2010,
17 monitoring values dropped even further to 13.6
18 micrograms per cubic meter. The design values
19 for all of these years are included in this
20 redesignation SIP.

21 The Central Indiana area has complied with
22 the annual standard for fine particles for three
23 consecutive years, with values that are now well

1 below the standard.

2 Furthermore, photochemical modeling
3 conducted by the State of Indiana, the Midwest
4 Regional Planning Organization, and the U.S. EPA
5 demonstrates that beginning in 2011, the Central
6 Indiana area will benefit greatly from the
7 implementation of U.S. EPA's proposed Clean Air
8 Transport Rule, with projected design values well
9 below the standard and providing for an ample
10 margin of safety.

11 These modeling results are considered to
12 be conservative, as they do not include emission
13 reductions that will occur as a result of several
14 federal control programs, including substantial
15 off-road diesel fuel and engine reductions.

16 To meet the regulatory requirements put
17 forth by U.S. EPA in relation to the NAAQS, IDEM
18 was required to submit an attainment SIP no later
19 than April 5th of 2008. The attainment SIP
20 verifies to the U.S. EPA that the area is on
21 target to meet the annual national ambient air
22 quality standard for fine particles based on
23 monitoring and modeling information.

1 Indiana submitted for parallel processing
2 an attainment SIP for Central Indiana on
3 April 5th, 2008, and a final version was
4 submitted on June 5th, 2008. Due to improvements
5 in air quality, on October 20th, 2009 IDEM
6 submitted a redesignation SIP to U.S. EPA for
7 review and approval, including a maintenance plan
8 horizon of 2020.

9 U.S. EPA has not been able to act on the
10 2009 redesignation SIP due to a Federal Court's
11 remand of the Clean Air Interstate Rule. This
12 remand prevents U.S. EPA from deeming the
13 emission reductions that aided this area in
14 attaining the standard as being permanent and
15 enforceable. As such, U.S. EPA did not wish to
16 proceed with the approval of IDEM's 2009
17 submittal until a replacement rule is in place
18 for the Clean Air Interstate Rule.

19 On July 6th, 2010, U.S. EPA proposed a
20 replacement rule referred to as the Clean Air
21 Transport Rule. This rule will be finalized this
22 summer, and at that time U.S. EPA will be able to
23 proceed with approving redesignations.

1 As for the 2009 submittal, the maintenance
2 plan horizon of 2020 is no longer at least 10
3 years from the date of the potential U.S. EPA
4 approval. As such, IDEM is now submitting this
5 updated redesignation SIP with a maintenance plan
6 horizon of the year 2025 in addition to the
7 submittal from October of 2009.

8 It is important to note that U.S. EPA
9 viewed IDEM's 2009 submittal for the Central
10 Indiana area to be valid until such time that the
11 Clean Air Interstate Rule was remanded. Since
12 that time, air quality has improved even further
13 within the region and a replacement rule for the
14 Clean Air Interstate Rule will soon be in place.

15 IDEM has prepared this Draft Request for
16 Redesignation and Maintenance Plan under the
17 Annual National Ambient Air Quality Standards for
18 Fine Particles for the Central Indiana area
19 consistent with U.S. EPA guidance.

20 The draft petition outlines a
21 demonstration that the area has obtained the
22 standard based on monitored concentrations, and
23 that the reductions in monitored concentrations

1 are attributable to permanent and enforceable
2 regional reductions in precursor emissions,
3 specifically reductions of nitrogen oxides and
4 sulfur dioxide.

5 Furthermore, the draft maintenance plan
6 outlines the following: Regional precursor
7 emissions of oxides of nitrogen and sulfur
8 dioxide will continue to decline in the future;
9 due to existing and future emission controls, the
10 area's air quality is not projected to worsen,
11 and should improve further over time; a
12 commitment for all existing emission controls to
13 remain in place; a commitment to revise the plan
14 within eight years of redesignation; a mobile
15 source budget for transportation conformity
16 purposes; a commitment to adopt and expeditiously
17 implement necessary corrective actions if a
18 warning or action level response is triggered.
19 An action level response is triggered by a
20 violation of the standard, the three-year average
21 of 15.1 micrograms per cubic meter or greater.

22 This concludes my comments regarding the
23 Draft Request for Redesignation and Maintenance

1 Plan under the Annual National Ambient Air
2 Quality standard for Fine Particles for Central
3 Indiana.

4 Before opening this public hearing for
5 comments, may I once again remind you that this
6 hearing pertains solely to the Draft
7 Redesignation Petition and Maintenance Plan in
8 association with the annual fine particle
9 standard for the Central Indiana area, and only
10 comments germane to this matter will be
11 considered as part of the public record.

12 I will be available following this hearing
13 to address any questions you may have that do not
14 pertain to this specific matter.

15 This hearing is now open for public
16 comment. Are there any public comments?

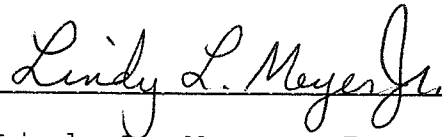
17 (No response.)

18 THE HEARING OFFICER: In the absence
19 of any further comments, these proceedings are
20 hereby concluded and the hearing is adjourned.

21 - - -
22 Thereupon, the proceedings of
23 May 17, 2011 were concluded
at 6:22 o'clock p.m.
- - -

1 CERTIFICATE

2 I, Lindy L. Meyer, Jr., the undersigned
3 Court Reporter and Notary Public residing in the
4 City of Shelbyville, Shelby County, Indiana, do
5 hereby certify that the foregoing is a true and
6 correct transcript of the proceedings taken by me
7 on Tuesday, May 17, 2011 in this matter and
8 transcribed by me.

9
10 

11 Lindy L. Meyer, Jr.,

12 Notary Public in and

13 for the State of Indiana.

14
15 My Commission expires October 27, 2016.
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0	5	appear [1] - 4:12 Appearance [1] - 4:5 appearance [2] - 4:17, 4:19 APPEARANCES [1] - 2:1 appearing [2] - 4:7, 4:9 applies [1] - 7:13 appointed [1] - 3:16 approval [3] - 11:7, 11:16, 12:4 approving [1] - 11:23 April [4] - 6:21, 7:18, 10:19, 11:3 area [16] - 3:8, 4:4, 5:18, 7:14, 8:5, 8:23, 9:4, 9:11, 9:21, 10:6, 10:20, 11:13, 12:10, 12:18, 12:21, 14:9 area's [2] - 9:8, 13:10 areas [1] - 6:14 association [4] - 3:6, 4:3, 7:12, 14:8 ASSOCIATION [1] - 1:6 attaining [1] - 11:14 attainment [6] - 6:16, 7:20, 9:1, 10:18, 10:19, 11:2 attorney [1] - 4:13 attributable [1] - 13:1 authorized [1] - 4:13 available [2] - 5:5, 14:12 Avenue [1] - 1:22 average [3] - 8:2, 13:20	7:14, 9:21, 10:5, 11:2, 12:9, 12:18, 14:2, 14:9 CERTIFICATE [1] - 15:1 certify [1] - 15:5 CFR [1] - 3:9 challenges [1] - 6:4 changes [1] - 5:10 City [1] - 15:4 classified [2] - 9:2, 9:4 Clean [7] - 7:1, 10:7, 11:11, 11:18, 11:20, 12:11, 12:14 close [2] - 5:1, 6:22 CM [1] - 1:21 comment [1] - 14:16 comments [8] - 3:4, 4:1, 5:9, 13:22, 14:5, 14:10, 14:16, 14:19 Commission [1] - 15:15 commitment [3] - 13:12, 13:13, 13:16 complete [1] - 7:19 completed [1] - 4:19 compliance [2] - 8:6, 9:9 complied [1] - 9:21 computations [1] - 8:8 concentration [1] - 8:13 concentrations [4] - 8:3, 8:22, 12:22, 12:23 concerning [1] - 3:5 concluded [2] - 14:20, 14:22 concludes [1] - 13:22 conclusion [2] - 5:7, 9:10 conducted [1] - 10:3 conform [1] - 3:8 conformity [1] - 13:15 consecutive [1] - 9:23 conservative [1] - 10:12 considered [3] - 8:16, 10:11, 14:11 consistent [1] - 12:19 contents [1] - 5:20 continue [2] - 7:4, 13:8 control [1] - 10:14 controls [2] - 13:9, 13:12 Conventions [1] - 7:17 copy [1] - 5:4 copying [1] - 5:6 correct [1] - 15:6 corrective [1] - 13:17 cost [1] - 5:6 counties [3] - 6:12, 6:18, 6:22 country [1] - 6:15 County [3] - 1:14, 1:15, 15:4 county [1] - 6:15 Court [2] - 6:7, 15:3 Court's [1] - 11:10 cubic [13] - 6:1, 6:2, 8:4, 8:9, 8:12, 8:14, 8:17, 8:18,
0.05 [2] - 8:10, 8:11	51 [1] - 3:9 5th [4] - 6:21, 10:19, 11:3, 11:4		
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1 [1] - 8:9 10 [1] - 12:2 1216 [1] - 1:16 12922 [1] - 1:22 13.6 [1] - 9:17 14.3 [1] - 9:15 14.6 [1] - 9:12 15 [2] - 5:23, 8:3 15.0 [3] - 8:13, 8:17, 8:18 15.049 [1] - 8:12 15.1 [2] - 8:19, 13:21 17 [4] - 1:17, 3:1, 14:22, 15:7 1997 [2] - 5:20, 7:6 1999 [2] - 6:10, 7:18 19th [1] - 5:2	65 [1] - 6:2 6:10 [2] - 1:17, 3:1 6:22 [1] - 14:22 6th [1] - 11:19		
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