



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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July 20, 2009

Mr. Bharat Mathur
Acting Regional Administrator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3950

Re: Technical Addendum for the Request for
Redesignation and Maintenance Plan for
Ozone Attainment in the 8-Hour Ozone
Nonattainment Area for Lake and Porter
Counties, Indiana

Dear Mr. Mathur:

The Indiana Department of Environmental Management (IDEM) has prepared this technical addendum to the Request for Redesignation and Maintenance Plan for Ozone Attainment in the 8-Hour Ozone Nonattainment Area for Lake and Porter Counties, Indiana (Redesignation Request and Maintenance Plan) to validate the original SIP quality Lake Michigan Air Directors Consortium (LADCO) Round 5 ozone modeling results for the Clean Air Interstate Rule (CAIR). The final Request for Redesignation and Maintenance Plan was submitted to the United States Environmental Protection Agency (U.S. EPA) on June 5, 2009.

On July 11, 2008, the U.S. Court of Appeals, for the District of Columbia Circuit, vacated U.S. EPA's CAIR in its entirety. Based on the implications of the court's ruling, LADCO in cooperation with IDEM has conducted SIP quality Round 5 ozone modeling to determine the air quality impacts associated with CAIR controls not being in place on Electrical Generating Units (EGUs) in the Midwest region. The 2009 modeled result confirms that all counties in the nonattainment area did attain the National Ambient Air Quality Standard (NAAQS) for ozone of 0.08 ppm by June 15, 2009 without CAIR. Table 1 shows the LADCO Round 5 non-CAIR ozone modeling results for the year 2018. These results further demonstrate that the area will maintain compliance with the 1997 ozone standard well into the future without CAIR in place.

On December 23, 2008, the D.C. Circuit Court remanded CAIR without vacatur, directing U.S. EPA to revise the CAIR rule in the future. The future version of CAIR (Replacement Rule) will result in similar or greater emission reductions than assumed within the emission inventories and modeling (based on what the rule would address in response to the court's opinion). U.S. EPA and LADCO modeling for future year design values with or without CAIR consistently show that existing and future improvements in air quality in the region due to declining emissions resulting from permanent and enforceable control measures will ensure continued compliance (maintenance) with the standard.

Table 1

LADCO's Round 5 Modeling Results for 2018								
				Scenario A	Scenario B	Scenario C	Scenario A - Scenario C	Scenario B - Scenario C
ST	Monitor	County	Site	FYDV	FYDV	FYDV	Difference	Difference
IN	180890022	Lake	Gary	73.0	72.5	72.3	0.7	0.2
IN	180890030	Lake	Whiting	74.8	74.3	74.2	0.6	0.1
IN	180892008	Lake	Hammond	73.3	72.7	72.6	0.7	0.1
IN	181270024	Porter	Ogden Dunes	72.8	72.3	72.1	0.7	0.2
IN	181270026	Porter	Valparaiso	70.5	69.8	69.7	0.8	0.1
IL	170310032	Cook	Cheltenham	70.0	69.5	69.4	0.6	0.1
IL	170314201	Cook	Northbrook	70.4	69.9	69.9	0.5	0
IL	170317002	Cook	Evanston	73.3	72.9	72.7	0.6	0.2
IL	170971007	Lake	Illinois Beach	72.2	71.8	71.7	0.5	0.1
WI	550290004	Door	Door Co.	76.5	75.6	75.5	1.0	0.1
WI	550590019	Kenosha	Chiwaukee	77.8	77.2	77.0	0.8	0.2
WI	550610002	Kewaunee	Kewaunee	71.4	70.7	70.5	0.9	0.2
WI	550710007	Manitowoc	Manitowoc	73.9	73.2	73.1	0.8	0.1
WI	550890009	Ozaukee	Harrington Beach	73.9	73.2	73.1	0.8	0.1
WI	551010017	Racine	Racine	72.8	72.3	72.1	0.7	0.2
WI	551170006	Sheboygan	Sheboygan	76.9	76.0	75.9	1.0	0.1

Scenario A: 2007 Continuous Emissions Monitor (CEM)-based emissions were projected for all states in the modeling domain based on Energy Information Administration (IEA) growth rates by state (North American Electric Reliability Council region) and fuel type. The assumed growth rates for the Midwest States were: MAIN (IL, IA, MO, WI): 8.8% (2007-2018); ECAR (IN, KY, MI, OH): 13.5% (2007-2018); and MAPP (MN): 15.1% (2007-2018). No control was applied. The annual emissions were temporalized based on profiles derived from 2004-2006 CEM data.

Scenario B: Scenario A emissions for the LADCO States and select neighboring states (e.g., MN, IA, MO, KY, TN, and WV) were adjusted by applying legally enforceable controls (i.e., emission reductions required by a Consent Decree, state rule, or permit). Only those legally enforceable controls identified (and justified) by the States were applied. The States also supplied the appropriate control factors.

Scenario C: For the years 2009 and 2012, Scenario A emissions for all states were adjusted by applying all planned SO₂ and NO_x controls based on the July 10 CAMD list (i.e., 90% reduction for scrubbers, 95% reduction for SCRs). Because the July 10 Clean Air Markets Division list only includes controls generally out to 2011, additional SO₂ and NO_x controls for the year 2018 were assumed for all Best Available Retrofit Technology-eligible EGUs in the five LADCO States plus MN, IA, MO, KY, TN, and MO (i.e., 90% reduction for scrubbers, 95% reduction for SCRs). All Scenario B controls were included in Scenario C.

These modeling results validate the original Redesignation Request and Maintenance Plan because the SIP quality modeling demonstrates that national and local emission control strategies phased-in or implemented by 2008-2009 are more than sufficient to ensure the area maintains compliance well into the future.

Enclosed for your information, please find a copy of LADCO's Regional Air Quality Analysis for Ozone, PM_{2.5} and Regional Haze: Final Technical Support Document (Supplement), September 12, 2008.

Table 2 (to be considered an update to Table 4.1 on Page 19 of the Redesignation Request and Maintenance Plan) has been revised to back out any projected emissions reductions associated with CAIR EGU control measures. Table 2 clearly illustrates that regional VOC and NO_x emissions will continue to decline even without CAIR control measures in place.

Table 2

Comparison of 2006 Estimated and 2020 Projected Emission Estimates in Lake and Porter Counties, Indiana (tons per summer day)							
	2006	2020 with CAIR	Change with CAIR	Percent Change with CAIR	2020 with out CAIR	Change with out CAIR	Percent Change with out CAIR
NO_x	223.86	154.86	-69.00	-30.82	165.91	-57.09	-25.50%
VOC	83.57	69.42	-14.15	-16.93	69.93	-13.64	-16.32%

The transportation conformity budgets for the year 2020 contained within Section 5 of the Redesignation Request and Maintenance Plan includes a 5% margin of safety. For VOC, this represents a +.29 tons per summer day difference, and for NO_x, the difference is +.9 tons per summer day. Once these adjustments are applied to the 2020 total emissions data without CAIR, the 2020 total emission projections remain below the base year (2006) emissions for VOC and NO_x, which demonstrates that the transportation conformity budgets contained within Section 5 remain adequate to preserve maintenance.

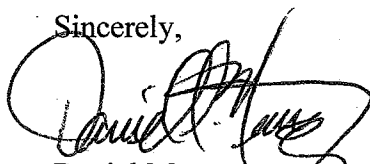
The U.S. EPA NO_x SIP Call required twenty-two states to adopt rules that would result in significant emission reductions from large EGUs, industrial boilers, and cement kilns in the eastern United States. Indiana adopted this rule in 2001. The result is that significant reductions have occurred regionally and upwind within the Northwest Indiana nonattainment area because of the number of affected units within the region. Indiana's NO_x SIP Call rule will remain in effect regardless of the uncertainty of the CAIR replacement rule. Indiana's ozone season NO_x requirements for EGUs are outlined within 326 IAC 24-3-1. Indiana will only revise this portion of our CAIR rule should a CAIR replacement program alter the ozone season requirements at the federal level.

U.S. EPA and LADCO modeling for future year design values consistently show that for all of the monitors in Indiana, existing and future improvements in air quality in the region, due to declining emissions resulting from permanent and enforceable control measures, will ensure continued compliance (maintenance) with the standard. Furthermore, because this area is subject to significant transport of pollutants, significant regional NO_x and SO₂ reductions will ensure continued compliance (maintenance) with the standard with an increasing margin of safety. Therefore, the Northwest Indiana area is eligible to be classified consistent with other counties in the nation that measure air quality that meets the annual NAAQS for fine particles.

IDEM believes that this technical addendum in conjunction with the previously submitted Redesignation Request and Maintenance Plan satisfies Indiana's obligation under Section 172(c) of the Clean Air Act to demonstrate how the area attained, and will continue to attain, the NAAQS for 8-hour ozone by the attainment date.

Therefore, IDEM requests that U.S. EPA proceed with final review and approval of the Request for Redesignation and Maintenance Plan for Ozone Attainment in the 8-Hour Ozone Nonattainment Area for Lake and Porter Counties, Indiana. If you have any questions or need additional information, please feel free to contact me at (317) 232-8222 or Ms. Christine Pedersen, Section Chief at (317) 233-5684 or cpederse@idem.in.gov.

Sincerely,



Daniel Murray
Assistant Commissioner
Office of Air Quality

DM/sd/skr

Attachments

LADCO Regional Air Quality Analyses for Ozone, PM_{2.5} and Regional Haze: Final Technical Support Document (Supplement), September 12, 2008

cc: Ed Doty, U.S. EPA Region 5
Steve Rosenthal, U.S. EPA Region 5
John Mooney, U.S. EPA Region 5
Cheryl Newton, U.S. EPA Region 5
Pat Morris, U.S. EPA Region 5
Scott Deloney, IDEM
Christine Pedersen, IDEM
Sarah Raymond, IDEM

Regional Air Quality Analyses for Ozone, PM2.5, and Regional Haze: Final Technical Support Document (Supplement), September 12, 2008

The purpose of this paper is to summarize a new modeling analysis performed by the Lake Michigan Air Directors Consortium (LADCO) to address the effect of the recent court decision vacating EPA's Clean Air Interstate Rule (CAIR). This new modeling is intended to supplement the LADCO Technical Support Document ("Regional Air Quality Analyses for Ozone, PM2.5, and Regional Haze: Final Technical Support Document", April 25, 2008), which summarizes the air quality analyses conducted by LADCO and its contractors to support the development of State Implementation Plans for ozone, PM2.5, and regional haze in the States of Illinois, Indiana, Michigan, Ohio, and Wisconsin.

Compared to the previous LADCO modeling (Round 5.1), the new modeling shows similar results for ozone, but much more nonattainment for PM2.5 and higher visibility levels for regional haze. Specifically, the new modeling shows:

Ozone: Attainment of the 0.08 ppm standard by 2009 everywhere in the region, except Holland, MI, and nonattainment of the 0.075 ppm standard through at least 2018.

PM2.5: Widespread nonattainment of annual (15 ug/m³) and daily (35 ug/m³) standards.

Haze: Higher visibility levels on the 20% worst visibility days in 2018 in Class I areas in the eastern U.S., resulting in most areas being above the glide path.

Background: On July 11, 2008, the U.S. Court of Appeals for D.C. Circuit vacated EPA's CAIR rule (cite). The reductions in NOx and SO2 emissions associated with this rule were a key part of the LADCO States' attainment demonstrations for ozone and PM2.5 and the reasonable progress determinations for regional haze. LADCO's previous modeling (Round 5.1) relied on EGU emission projections from EPA's IPM3.0 analysis, which assumed implementation of Phases I and II of CAIR. For this new modeling, alternative EGU emission projections were developed, which did not rely on CAIR (or IPM).

Model Set-Up: The new modeling was performed consistent with LADCO's previous modeling (Round 5.1):

Model Version: CAMx v4.50beta_deposition

Future Years: 2009, 2012, 2018

Runs: (a) Ozone: Summer 2005 meteorology with 12 km grids
(b) PM2.5 and haze: Full year 2005 meteorology with 36 km grids

Emission Scenarios: The new modeling assumed the same set of "on the books" controls as in LADCO's previous modeling (Round 5.1) for all sectors, except EGUs. In light of the CAIR decision, three new EGU scenarios were prepared:

Scenario A: 2007 CEM-based emissions were projected for all states in the modeling domain based on EIA growth rates by state (NERC region) and fuel type. The assumed growth rates for the Midwest States were: MAIN (IL, IA, MO, WI): 8.8% (2007-2018); ECAR (IN, KY, MI, OH): 13.5% (2007-2018); and MAPP (MN): 15.1% (2007-2018). No control was applied. The annual emissions were temporalized based on profiles derived from 2004-2006 CEM data. (Note, these are the same temporal profiles used in Round 5.1.)

Scenario B. Scenario A emissions for the LADCO States and select neighboring states (e.g., MN, IA, MO, KY, TN, and WV) were adjusted by applying legally enforceable controls (i.e., emission reductions required by a Consent Decree, state rule, or permit). Only those legally enforceable controls identified (and justified) by the States were applied. The States also supplied the appropriate control factors. A table summarizing the Scenario B controls is provided in Appendix I.

Scenario C. For the years 2009 and 2012, Scenario A emissions for all states were adjusted by applying all planned SO₂ and NO_x controls based on the July 10 CAMD list (i.e., 90% reduction for scrubbers, 95% reduction for SCRs). Because the July 10 CAMD list only includes controls generally out to 2011, additional SO₂ and NO_x controls for the year 2018 were assumed for all BART-eligible EGUs in the five LADCO State plus MN, IA, MO, KY, TN, and MO list (i.e., 90% reduction for scrubbers, 95% reduction for SCRs).¹ All Scenario B controls were included in Scenario C. A table summarizing the Scenario C controls is provided in Appendix II.

Table 1 and Figure 1 provide a summary of the 5-state regional NO_x and SO₂ emissions for each scenario and future year. (Note, the CAIR emissions included here are based on EPA's IPM3.0 modeling.) Several comments on the emissions should be noted:

Summer NO_x

- There is little difference between the three alternative scenarios and CAIR. This suggests that summer ozone concentrations for the alternative scenarios are likely to be similar to those predicted with CAIR (i.e., Round 5.1).

Annual NO_x:

- There is a significant change in emissions between scenarios, mostly during the non-summer months.
- Scenario B reflects application of NO_x controls in several states (e.g., IL, OH, WI).
- Because there are relatively few SCRs (in the LADCO States) on the CAMD list, Scenario C results in only a small emissions decrease compared to Scenario B.
- Assumed BART controls result in a significant emissions decrease.

Annual SO₂

- There is a significant change in emissions between scenarios.
- Scenario B reflects application of SO₂ controls in several states (e.g., IL, OH, WI).
- Because there are several FGDs (in the LADCO States) on the CAMD list, Scenario C results in a large emissions decrease compared to Scenario B.
- Assumed BART controls result in a significant emissions decrease (i.e., even lower emissions than the IPM-estimated CAIR emissions).

¹ A subsequent analysis was conducted with the following inventory changes: (a) 95% reduction for scrubbers, 90% reduction for SCRs (consistent with EPA's default assumptions for IPM), and (b) revisions provided for a few plants in Indiana and Minnesota. The changes resulted in a relatively small difference in the regional NO_x and SO₂ emissions (e.g., about a 2% NO_x increase and about a 1-2% decrease in SO₂). To assess the impact of the changes, PM_{2.5} modeling was conducted with the new Scenario B and Scenario C emissions for 2012. The modeling showed little change in the predicted PM_{2.5} concentrations.

Figure 1. Regional NOx and SO2 Emissions

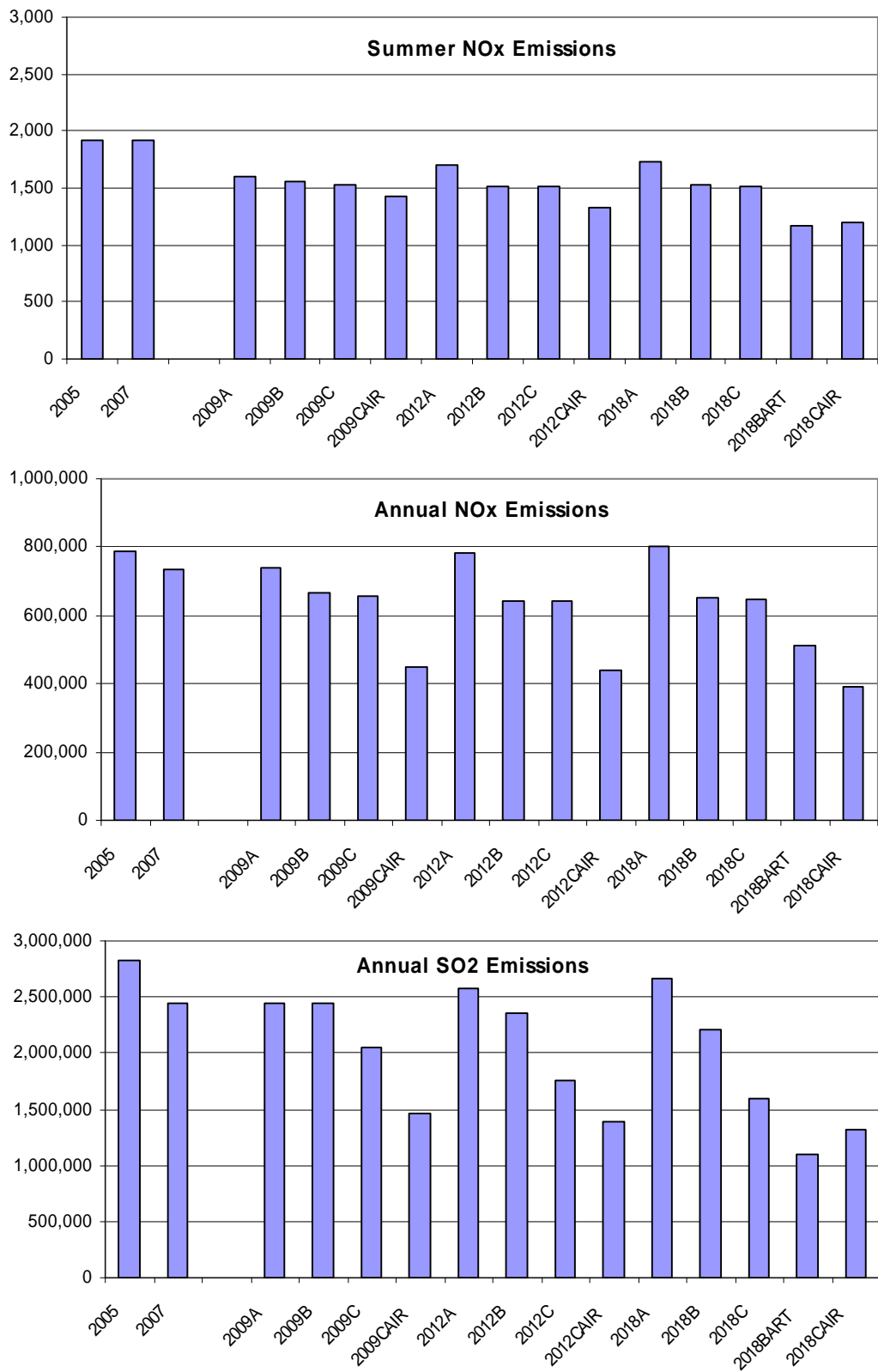


Table 1. Regional NOx and SO2 Emissions

Summer NOx Emissions (TPD)																
	2005	2007		2009 A	2009 B	2009 C	2010 CAIR	2012 A	2012 B	2012 C	2012 CAIR	2018 A	2018 B	2018 C	2018 C-BART	2018 CAIR
IL	305	305		311	311	311	275	340	236	236	266	333	227	227	219	224
IN	393	393		376	376	374	384	393	393	390	368	410	386	383	292	264
MI	393	393		350	350	350	242	366	366	366	229	377	377	377	260	243
OH	408	408		395	355	335	285	423	351	351	290	431	366	366	230	290
WI	413	413		167	160	160	238	184	170	170	177	183	168	168	168	177
	1,912	1,912		1,599	1,552	1,530	1,424	1,706	1,516	1,513	1,330	1,734	1,524	1,521	1,169	1,198
Annual NOx Emissions (TPY)																
	2005	2007		2009 A	2009 B	2009 C	2010 CAIR	2012 A	2012 B	2012 C	2012 CAIR	2018 A	2018 B	2018 C	2018 C-BART	2018 CAIR
IL	126,786	121,006		124,917	124,917	124,917	83,224	137,438	81,989	81,989	82,248	135,983	79,771	79,771	63,590	69,958
IN	214,727	203,493		203,776	203,776	201,947	133,188	212,790	212,790	210,877	125,541	221,950	212,805	210,810	177,027	90,415
MI	120,332	112,484		112,478	112,478	112,478	83,117	117,621	117,621	117,621	77,897	122,447	122,447	122,447	89,444	79,543
OH	255,554	240,351		240,016	173,071	164,911	94,346	251,065	172,514	172,514	97,679	261,644	179,737	179,737	125,762	95,678
WI	71,414	54,582		56,540	54,065	54,065	53,032	62,266	57,759	57,759	56,480	61,812	56,952	56,952	56,952	56,158
	788,812	731,917		737,727	668,307	658,317	446,908	781,179	642,673	640,760	439,845	803,837	651,712	649,717	512,774	391,752
Annual SO2 Emissions (TPY)																
	2005	2007		2009 A	2009 B	2009 C	2010 CAIR	2012 A	2012 B	2012 C	2012 CAIR	2018 A	2018 B	2018 C	2018 C-BART	2018 CAIR
IL	326,598	273,467		281,028	281,028	281,028	295,516	309,209	196,238	194,746	267,110	305,364	106,638	105,152	82,351	275,716
IN	866,964	722,301		721,252	721,252	619,486	374,335	754,323	754,323	558,567	379,144	786,551	764,065	559,945	426,695	359,915
MI	350,694	343,487		343,140	343,140	315,326	227,296	358,879	358,879	301,062	233,204	373,964	373,964	313,677	178,680	242,853
OH	1,100,510	960,820		959,466	959,466	693,438	427,145	1,003,633	897,099	572,807	370,532	1,045,945	819,770	481,623	333,740	315,560
WI	181,426	137,562		142,007	142,007	133,738	139,181	156,659	144,818	133,592	139,203	155,818	144,027	132,849	77,214	127,073
	2,826,192	2,437,638		2,446,892	2,446,892	2,043,017	1,463,473	2,582,703	2,351,356	1,760,775	1,389,192	2,667,641	2,208,463	1,593,245	1,098,679	1,321,116

Modeling Results: Several tables summarizing the modeling results are provided:

Table 2 - future year ozone and PM_{2.5} concentrations for key monitors in the LADCO region

Table 3 - number of monitoring sites greater than the National Ambient Air Quality Standards (NNAQS)

Table 4 – visibility levels for Class I areas in the eastern U.S.

Note, given that Scenario B and BART controls were only applied in an 11-state Midwest region, the validity of the results for other Class I areas in the eastern U.S. may be questionable. The Scenario C controls, on the other hand, cover all states and are, thus, likely valid in other Class I areas.

Spatial plots of the future year ozone and PM_{2.5} concentrations are provided in Figures 2 – 4.

Based on these results, the following key findings should be noted:

Ozone

- There is little change from the previous LADCO modeling (Round 5.1 with CAIR)
- The modeling shows attainment of the 0.08 ppm (85 ppb) standard by 2009, except Holland. (Note, Holland does meet this standard by 2012.)
- The modeling shows nonattainment of the 0.075 ppm (75 ppb) standard through 2018.

PM_{2.5} - Annual

- There is a significant change from the previous LADCO modeling (Round 5.1 with CAIR)
- The modeling shows extensive nonattainment of the annual standard.

PM_{2.5} - Daily

- There is a significant change from the previous LADCO modeling (Round 5.1 with CAIR)
- The modeling shows extensive nonattainment of the daily standard.

Haze

- There is a significant change from the previous LADCO modeling (Round 5.1 with CAIR)
- The modeling shows higher visibility levels in 2018 for the 20% worst visibility days (average about 0.5 deciviews for the northern Class I areas). The resulting visibility levels in the northern Class I areas (except Voyageurs) are above the glide path.

Table 2a. Ozone Modeling Results

		2005	2009				2012				2018				
			Round 5 without CAIR			Round 5 with CAIR	Round 5 without CAIR			Round 5 with CAIR	Round 5 without CAIR				Round 5 with CAIR
Site	Site ID	Base Year	Scen. A	Scen. B	Scen.C		Scen. A	Scen. B	Scen.C		Scen. A	Scen. B	Scen.C	Scen.C-BART	
Lake Michigan Area															
Chiwaukee	550590019	84.7	82.2	82.2	82.0	82.3	81.1	80.8	80.6	80.9	77.2	77.2	77.0	76.0	76.2
Racine	551010017	80.3	77.8	77.8	77.5	77.5	76.6	76.2	76.1	76.1	72.9	72.3	72.1	71.1	71.2
Milwaukee-Bayside	550890085	82.7	79.9	79.9	79.7	79.8	78.5	78.0	78.0	78.0	74.3	73.6	73.4	72.4	72.7
Harrington Beach	550890009	83.3	80.1	80.1	79.9	80.1	78.6	78.1	78.0	78.3	73.9	73.2	73.1	72.2	72.5
Manitowoc	550710007	85.0	80.8	80.8	80.7	80.8	79.0	78.5	78.4	78.6	73.9	73.2	73.1	72.0	72.5
Sheboygan	551170006	88.0	84.1	84.0	83.9	84.0	82.2	81.7	81.5	81.8	76.9	76.0	75.9	74.8	75.4
Kewaunee	550610002	82.7	78.2	78.2	78.0	78.1	76.4	75.9	75.7	75.9	71.3	70.7	70.5	69.4	69.9
Door County	550290004	88.7	84.1	84.1	83.9	83.9	82.0	81.4	81.3	81.5	76.5	75.6	75.5	74.2	74.7
Hammond	180892008	77.7	76.2	76.2	76.0	75.4	75.6	75.3	75.2	74.6	73.2	72.7	72.6	71.7	71.6
Whiting	180890030	79.3	77.8	77.8	77.7	77.0	77.2	76.9	76.8	76.2	74.8	74.3	74.2	73.2	73.1
Michigan City	180910005	77.0	74.5	74.5	74.3	73.9	73.3	72.9	72.8	72.5	69.7	69.2	69.1	68.1	68.1
Ogden Dunes	181270020	78.3	76.3	76.3	76.2	75.6	75.5	75.1	75.0	74.5	72.9	72.3	72.1	71.2	70.8
Holland	260050003	90.0	85.7	85.7	85.5	85.3	83.5	83.1	82.9	82.8	78.2	77.5	77.3	76.0	76.1
Jenison	261390005	82.0	76.8	76.8	76.7	76.0	75.1	74.6	74.5	74.5	70.2	69.6	69.5	67.9	68.7
Muskegon	261210039	85.0	80.6	80.6	80.5	80.5	78.6	78.2	78.1	78.0	73.5	72.8	72.8	71.5	71.9
Indianapolis Area															
Noblesville	189571001	82.7	78.3	78.3	78.1	78.1	76.1	75.9	75.7	75.6	70.2	69.9	69.8	68.9	68.7
Fortville	180590003	78.0	74.1	74.1	73.9	73.9	71.9	71.8	71.7	71.4	66.7	66.5	66.3	65.4	65.1
Fort B. Harrison	180970050	78.7	75.4	75.3	75.2	75.1	73.8	73.6	73.6	73.2	70.6	70.3	70.2	69.3	69.1
Detroit Area															
New Haven	260990009	86.0	82.4	82.3	82.1	81.4	81.4	81.2	81.1	80.2	78.1	77.8	77.7	76.5	76.1
Warren	260991003	84.0	82.4	82.3	82.2	81.3	82.1	81.8	81.7	80.7	79.7	79.4	79.3	78.0	77.6
Port Huron	261470005	82.7	78.2	78.2	78.1	77.5	76.5	76.3	76.2	75.5	72.6	72.5	72.3	70.9	70.9
Cleveland Area															
Ashtabula	390071001	89.0	84.2	84.1	83.9	83.4	82.0	81.8	81.6	81.0	76.8	76.5	76.4	74.8	75.1
Geauga	390550004	79.3	75.8	75.8	75.6	74.7	74.0	73.8	73.7	72.7	69.5	69.2	69.1	67.6	67.3
Eastlake	390850003	86.3	83.1	83.1	82.9	81.9	81.8	81.6	81.5	80.5	78.2	78.0	77.8	76.5	76.2
Akron	391530020	83.7	79.1	79.1	79.0	78.1	76.9	76.7	76.6	75.6	70.9	70.6	70.4	68.7	68.7
Cincinnati Area															
Wilmington	390271002	82.3	77.3	77.4	77.1	77.5	75.3	75.2	74.8	74.9	70.1	69.9	69.5	67.1	68.3
Sycamore	390610006	84.7	81.5	81.4	81.1	81.9	80.4	80.2	79.8	80.3	76.4	76.0	75.7	73.5	74.6
Lebanon	391650007	87.7	82.8	82.8	82.4	83.0	80.8	80.7	80.3	80.7	75.4	75.1	74.8	72.6	74.2
Columbus Area															
London	390970007	79.7	75.0	75.0	74.8	75.0	73.0	72.8	72.7	72.6	68.1	67.8	67.6	65.9	66.3
New Albany	390490029	86.3	82.1	82.1	81.9	81.8	80.2	80.0	79.9	79.6	74.7	74.3	74.2	73.3	73.0
Franklin	290490028	80.3	76.7	76.6	76.5	75.9	75.1	74.9	74.8	74.1	70.5	70.2	70.1	70.2	69.0
St. Louis Area															
W. Alton (MO)	291831002	86.3	81.1	81.2	81.1	81.0	80.0	79.9	79.9	78.6	76.9	76.8	76.7	74.2	74.9
Orchard (MO)	291831004	87.0	82.1	82.1	82.0	82.0	80.9	80.8	80.7	80.0	77.7	77.6	77.4	75.2	76.2
Sunset Hills (MO)	291890004	82.3	79.2	79.2	79.1	78.7	78.3	78.1	78.1	77.1	75.3	75.2	75.1	73.0	73.9
Arnold (MO)	290990012	82.3	77.8	77.8	77.7	77.2	76.7	76.6	76.5	75.6	73.6	73.4	73.4	71.3	72.0
Margaretta (MO)	295100086	83.0	79.8	79.8	79.7	79.3	78.8	78.7	78.6	77.9	75.7	75.6	75.5	73.7	74.4
Maryland Heights (MO)	291890014	87.3	85.4	85.4	85.3	84.0	84.3	84.1	84.0	81.7	81.1	80.9	80.8	78.4	78.1

Table 2b. PM_{2.5} Modeling Results (Annual)

		2005		2009					2012					2018				
				Round 5 without CAIR			Round 5 with CAIR		Round 5 without CAIR			Round 5 with CAIR		Round 5 without CAIR				Round 5 with CAIR
Site	Site ID	Base Year		Scen. A	Scen. B	Scen.C			Scen. A	Scen. B	Scen.C			Scen. A	Scen. B	Scen.C	Scen.C-BART	
Illinois																		
Chicago - Washington HS	170310022	15.2		14.9	14.8	14.5	14.1		14.8	14.7	14.2	14.0		15.0	14.6	14.2	13.7	13.9
Chicago - Mayfair	170310052	15.8		15.1	15.1	14.8	14.4		15.1	14.9	14.5	14.2		15.1	14.7	14.3	13.7	13.9
Chicago - Springfield	170310057	15.0		14.6	14.6	14.3	13.9		14.6	14.4	14.0	13.8		14.8	14.4	14.0	13.4	13.7
Chicago - Lawndale	170310076	14.9		14.5	14.5	14.2	13.8		14.5	14.3	13.9	13.7		14.7	14.3	13.9	13.3	13.6
Blue Island	170312001	14.8		14.4	14.4	14.0	13.7		14.4	14.2	13.8	13.6		14.5	14.1	13.7	13.2	13.4
Summit	170313301	15.2		14.9	14.9	14.6	14.2		14.9	14.7	14.3	14.0		15.0	14.6	14.3	13.7	13.9
Cicero	170316005	15.5		15.1	15.1	14.8	14.4		15.1	14.9	14.5	14.3		15.2	14.9	14.4	13.9	14.2
Granite City	171191007	16.7		16.3	16.2	15.9	15.1		16.1	16.0	15.3	14.9		15.9	15.6	14.9	14.2	14.3
E. St. Louis	171630010	15.6		15.2	15.2	14.8	14.1		15.0	14.9	14.3	13.9		14.9	14.6	14.0	13.3	13.4
Indiana																		
Jeffersonville	180190005	16.4		15.8	15.7	14.8	13.8		15.8	15.6	14.5	13.7		16.0	15.5	14.3	13.7	13.4
Jasper	180372001	15.2		14.3	14.2	13.4	12.4		14.2	14.0	13.0	12.2		14.3	13.9	12.8	12.1	11.8
Gary	180890031	15.6		13.9	13.9	13.5	13.0		13.8	13.6	13.1	12.8		13.7	13.4	12.9	12.3	12.4
Indy-Washington Park	180970078	15.3		14.4	14.4	13.6	12.8		14.3	14.2	13.2	12.6		14.3	13.9	12.9	12.2	12.0
Indy-W 18th Street	180970081	16.0		15.1	15.1	14.3			15.0	14.9	13.9			15.0	14.6	13.5	12.8	
Indy- Michigan Street	180970083	15.9		15.0	15.0	14.2	13.4		14.9	14.8	13.8	13.1		14.9	14.5	13.5	12.8	12.6
Michigan																		
Allen Park	261630001	14.5		11.0	14.0	13.5	13.0		14.0	13.8	13.2	12.8		13.9	13.6	13.0	12.4	12.4
Southwest HS	261630015	15.9		15.3	15.3	14.8	14.2		15.2	15.0	14.4	13.9		15.1	14.8	14.1	13.5	13.5
Linwood	261630016	14.6		14.1	14.1	13.6	13.1		14.0	13.9	13.3	12.8		13.9	13.6	13.0	12.5	12.5
Dearborn	261630033	17.5		17.0	17.0	16.4	15.8		16.9	16.7	16.0	15.5		16.8	16.4	15.7	15.1	15.1
Wyandotte	261630036	14.7		14.2	14.1	13.6	13.1		14.1	13.9	13.3	12.8		14.0	13.7	13.0	12.4	12.5
Ohio																		
Middletown - Bonita	390170003	16.2		15.3	15.2	14.3	13.5		15.2	15.0	13.9	13.2		15.2	14.8	13.7	13.0	12.8
Fairfield	390170016	15.8		15.1	15.0	14.1	13.1		15.1	14.9	13.7	12.9		15.2	14.7	13.5	12.8	12.5
Cleveland-28th Street	390350027	15.4		14.9	14.9	14.3	13.5		14.7	14.5	13.9	13.2		14.6	14.2	13.5	12.8	12.7
Cleveland-St. Tikhon	390350038	17.4		16.7	16.7	16.0	15.2		16.5	16.3	15.6	14.8		16.3	16.0	15.2	14.4	14.3
Cleveland-Broadway	390350045	16.5		15.9	15.8	15.2	14.4		15.6	15.5	14.8	14.0		15.5	15.1	14.4	13.6	13.5
Cleveland-GT Craig	390350060	17.1		16.5	16.4	15.8	15.0		16.3	16.1	15.4	14.6		16.1	15.7	15.0	14.2	14.1
Newburg Hts - Harvard Ave	390350065	16.0		15.4	15.3	14.7	14.0		15.2	15.0	14.3	13.6		15.1	14.7	14.0	13.2	13.1
Columbus - Fairgrounds	390490024	15.3		14.6	14.5	13.7	12.9		14.4	14.1	13.2	12.6		14.2	13.8	12.8	12.2	12.0
Columbus - Ann Street	390490025	15.1		14.4	14.3	13.5	12.7		14.2	13.9	13.1	12.4		14.1	13.6	12.6	12.0	11.9
Cincinnati - Seymour	390610014	17.3		16.6	16.5	15.5	14.5		16.5	16.3	15.1	14.3		16.6	16.2	14.9	14.2	13.8
Cincinnati - Taft Ave	390610040	15.5		14.8	14.7	13.8	12.8		14.8	14.6	13.4	12.6		14.9	14.5	13.2	12.5	12.2
Cincinnati - 8th Ave	390610042	16.9		12.0	16.1	15.0	14.0		16.1	15.9	14.7	13.8		16.2	15.7	14.4	13.7	13.4
Sharonville	390610043	15.6		14.9	14.8	13.9	12.9		14.9	14.7	13.5	12.7		14.9	14.5	13.3	12.6	12.3
Norwood	390617001	16.2		15.5	15.4	14.4	13.4		15.4	15.2	14.0	13.2		15.5	15.1	13.8	13.1	12.8
St. Bernard	390618001	17.6		16.8	16.7	15.7	14.7		16.7	16.5	15.3	14.4		16.8	16.4	15.1	14.3	14.0
Steubenville	390810016	15.8		14.5	14.4	13.5	12.8		14.3	14.2	13.1	12.5		14.8	14.5	13.3	12.9	12.7
Mingo Junction	390811001	16.5		15.2	15.2	14.3	13.5		15.0	14.9	13.8	13.2		15.6	15.2	14.0	13.6	13.4
Ironton	390870010	15.2		14.8	14.6	13.6	12.8		14.6	14.4	13.2	12.5		14.8	14.1	12.8	12.4	12.3
Dayton	391130032	15.5		14.9	14.8	14.0	13.2		14.8	14.6	13.6	12.9		14.8	14.3	13.3	12.6	12.4
New Boston	391450013	14.7		12.0	14.0	13.0	12.1		14.1	13.8	12.5	11.9		14.2	13.6	12.2	11.7	11.6
Canton - Dueber	391510017	16.3		15.7	15.6	14.8	14.0		15.5	15.3	14.4	13.6		15.4	14.9	14.0	13.3	13.3
Canton - Market	391510020	14.6		11.0	14.1	13.3	12.6		13.9	13.7	12.9	12.3		13.9	13.5	12.6	12.0	11.9
Akron - Brittain	391530017	15.1		14.6	14.5	13.8	13.0		14.4	14.2	13.4	12.7		14.3	13.8	13.0	12.3	12.3
Akron - W. Exchange	391530023	14.3		13.7	13.7	13.0	12.3		13.6	13.3	12.6	12.0		13.4	13.0	12.2	11.6	11.5

Table 2c. PM_{2.5} Modeling Results (Daily)

			2005		2009					2012					2018				
					Round 5 without CAIR			Round 5 with CAIR		Round 5 without CAIR			Round 5 with CAIR		Round 5 without CAIR				Round 5 with CAIR
Key Site	County	Site ID	Base Year		Scen. A	Scen. B	Scen.C			Scen. A	Scen. B	Scen.C			Scen. A	Scen. B	Scen.C	Scen. C - BART	
Illinois																			
Chicago - Washington HS	Cook	170310022	36.6		36	36	36	36		36	36	37	36		37	36	37	37	35
Chicago - Mayfair	Cook	170310052	40.3		37	37	37	36		37	36	37	36		38	37	37	37	36
Chicago - Springfield	Cook	170310057	37.4		34	34	33	32		35	34	33	32		36	34	33	33	31
Chicago - Lawndale	Cook	170310076	38.1		35	35	35	35		36	35	36	35		36	35	36	36	34
McCook	Cook	170311016	43.0		39	39	39	39		40	39	40	39		40	40	41	40	38
Blue Island	Cook	170312001	37.7		35	35	35	34		36	35	36	34		36	35	36	36	33
Schiller Park	Cook	170313103	41.6		40	40	40	39		40	40	40	39		41	40	40	39	39
Summit	Cook	170313301	40.2		38	38	39	38		39	38	39	38		39	38	39	39	37
Maywood	Cook	170316005	39.2		38	38	38	38		38	38	39	38		39	38	39	39	37
Granite City	Madison	171191007	39.2		36	36	35	33		36	35	34	33		36	35	35	33	32
E. St. Louis	St. Clair	171630010	33.7		31	31	30	28		31	30	29	28		31	30	30	29	28
Indiana																			
Jeffersonville	Clark	180190005	38.4		35	33	31	29		35	34	32	31		37	35	34	33	31
Jasper	Dubois	180372001	36.2		32	32	30	28		32	32	30	29		33	31	31	30	28
Gary - IITRI	Lake	180890022	39.0		35	35	35	34		35	34	35	34		36	36	36	35	35
Gary - Burr School	Lake	180890026	39.0		34	34	34	33		34	34	35	34		34	34	34	34	32
Gary	Lake	180890031	35.2		29	28	26	24		28	28	24	24		29	28	27	27	27
Indy-West Street	Marion	180970043	38.0		34	34	33	33		35	35	34	33		36	35	34	34	33
Indy-English Avenue	Marion	180970066	38.0		34	34	32	32		35	34	33	32		35	34	33	33	32
Indy-Washington Park	Marion	180970078	36.6		33	33	32	31		33	33	32	31		34	33	32	32	32
Indy-W 18th Street	Marion	180970081	38.3		33	33	31	31		33	33	32	31		34	33	32	32	31
Indy- Michigan Street	Marion	180970083	36.0		32	32	29	28		32	31	29	28		32	31	29	29	29
Michigan																			
Luna Pier	Monroe	261150005	38.9		34	34	32	32		34	34	32	32		34	33	32	31	31
Oak Park	Oakland	261250001	39.9		38	38	37	36		38	37	37	36		38	37	37	36	35
Port Huron	St. Clair	261470005	39.6		36	35	35	34		35	35	35	34		35	35	34	33	33
Ypsilanti	Washtenaw	261610008	39.5		37	37	36	35		37	36	36	35		37	36	36	35	34
Allen Park	Wayne	261630001	38.6		36	36	36	35		36	35	35	34		36	35	35	34	33
Southwest HS	Wayne	261630015	40.1		36	36	36	35		36	35	35	35		36	35	35	34	33
Linwood	Wayne	261630016	43.0		40	40	40	39		40	40	40	39		40	39	39	39	38
E 7 Mile	Wayne	261630019	41.0		39	39	39	38		39	39	39	38		39	38	38	38	37
Dearborn	Wayne	261630033	43.9		41	41	41	40		41	41	41	40		41	40	40	40	39
Wyandotte	Wayne	261630036	37.2		36	36	36	35		35	35	35	35		35	35	35	35	34
Newberry	Wayne	261630038	42.7		39	39	39	38		39	38	38	37		39	38	38	37	36
FIA	Wayne	261630039	39.7		35	34	34	33		35	34	34	33		35	34	33	33	31
Ohio																			
Middleton	Butler	390170003	39.3		33	32	29	28		33	33	29	28		34	32	29	28	27
Fairfield	Butler	390170016	37.1		32	31	29	27		31	30	28	28		32	30	29	28	27
	Butler	390170017	40.8		33	32	30	29		33	33	30	29		33	32	30	29	28
Cleveland-28th Street	Cuyahoga	390350027	36.9		34	34	33	32		34	33	33	32		34	33	33	31	31
Cleveland-St. Tikhon	Cuyahoga	390350038	44.2		40	40	37	36		40	39	36	35		40	38	36	35	34
Cleveland-Broadway	Cuyahoga	390350045	38.8		35	35	33	31		35	34	32	30		35	34	31	29	29
Cleveland-GT Craig	Cuyahoga	390350060	42.1		39	39	38	37		39	38	38	37		39	38	37	36	35
Newburg Hts - Harvard Ave	Cuyahoga	390350065	38.9		35	35	33	31		35	34	32	30		36	35	32	31	30
Columbus - Fairgrounds	Franklin	390490024	38.5		34	34	33	33		34	33	32	32		34	34	33	32	31
Columbus - Ann Street	Franklin	390490025	38.5		34	33	31	31		33	33	31	31		34	33	31	31	30
Cincinnati	Hamilton	390610006	40.6		33	33	30	27		33	32	29	28		34	32	29	28	27

Table 2c. PM_{2.5} Modeling Results (Daily)

			2005		2009				2012				2018				
					Round 5 without CAIR			Round 5 with CAIR	Round 5 without CAIR			Round 5 with CAIR	Round 5 without CAIR				Round 5 with CAIR
Key Site	County	Site ID	Base Year		Scen. A	Scen. B	Scen.C		Scen. A	Scen. B	Scen.C		Scen. A	Scen. B	Scen.C	Scen. C - BART	
Cincinnati - Seymour	Hamilton	390610014	38.4		33	33	28	26	33	32	27	25	33	31	29	25	24
Cincinnati - Taft Ave	Hamilton	390610040	36.7		31	30	26	24	31	30	26	24	32	29	26	24	23
Cincinnati - 8th Ave	Hamilton	390610042	37.3		32	32	30	28	32	31	29	28	33	31	29	28	27
Sharonville	Hamilton	390610043	36.0		32	31	30	28	32	31	29	28	32	31	29	28	27
Norwood	Hamilton	390617001	38.8		34	33	32	30	33	33	31	30	34	33	31	30	29
St. Bernard	Hamilton	390618001	40.6		35	35	32	30	35	34	31	30	35	33	32	31	29
Steubenville	Jefferson	390810016	40.7		36	35	32	29	35	34	30	28	37	35	31	29	28
Mingo Junction	Jefferson	390811001	42.0		37	37	33	30	37	36	32	30	38	36	32	30	30
Dayton	Montgomery	391130032	37.8		34	33	31	30	33	33	31	30	34	33	31	31	30
Canton - Dueber	Stark	391510017	38.6		33	32	30	28	33	31	30	28	33	30	29	28	27
Akron - Brittain	Summit	391530017	38.1		33	33	31	30	33	32	31	30	33	32	30	29	29
Wisconsin																	
Green Bay - Est High	Brown	550090005	37.1		35	34	35	35	34	35	35	34	33	33	33	32	32
Madison	Dane	550250047	36.4		33	33	32	32	33	32	32	31	32	31	30	29	29
Milwaukee-Health Center	Milwaukee	550790010	38.7		35	35	35	35	35	35	35	34	35	34	34	34	33
Milwaukee-SER Hdqs	Milwaukee	550790026	37.4		34	34	34	34	34	34	34	34	34	34	34	34	33
Milwaukee-Virginia FS	Milwaukee	550790043	39.9		37	37	37	36	37	36	37	36	36	36	37	36	36
Milwaukee- Fire Dept Hdqs	Milwaukee	550790099	37.8		34	34	33	33	34	33	33	32	34	33	33	33	32
Waukesha	Waukesha	551330027	35.5		32	32	32	31	32	32	32	31	32	31	31	30	29

Table 3. Modeling Results: Number of Sites > NAAQS

Ozone (85 ppb)		Round 5 without CAIR				Round 5 w/ CAIR
2009	Baseyear	Scen. A	Scen. B	Scen. C	Scen. C-BART	
IL	0	0	0	0	----	0
IN	0	0	0	0	----	0
MI	3	1	1	1	----	1
OH	4	0	0	0	----	0
WI	2	0	0	0	----	0
Total	9	1	1	1		1
2012						
IL	0	0	0	0	----	0
IN	0	0	0	0	----	0
MI	3	0	0	0	----	0
OH	4	0	0	0	----	0
WI	2	0	0	0	----	0
Total	9	0	0	0		0
2018						
IL	0	0	0	0	0	0
IN	0	0	0	0	0	0
MI	3	0	0	0	0	0
OH	4	0	0	0	0	0
WI	2	0	0	0	0	0
Total	9	0	0	0	0	0
Ozone (75 ppb)		Round 5 without CAIR				Round5 w/ CAIR
2009	Baseyear	Scen. A	Scen. B	Scen. C	Scen. C-BART	
IL	12	6	6	6	----	4
IN	26	10	9	8	----	5
MI	21	12	12	12	----	12
OH	45	27	25	24	----	21
WI	12	10	10	10	----	10
Total	116	65	62	60	----	52
2012						
IL	12	3	3	3	----	1
IN	26	5	4	4	----	3
MI	21	9	8	8	----	6
OH	45	18	14	12	----	11
WI	12	10	9	9	----	9
Total	116	45	38	36		30
2018						
IL	12	0	0	0	0	0
IN	26	0	0	0	0	0
MI	21	3	3	3	3	3
OH	45	3	3	2	1	1
WI	12	3	2	1	1	1
Total	116	9	8	6	5	5

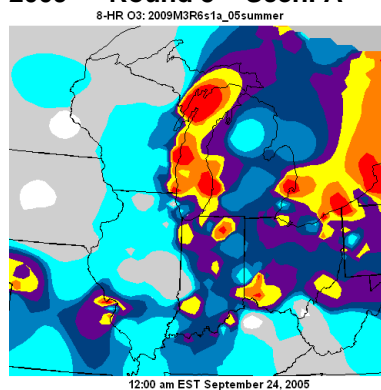
PM2.5 - Annual		Round 5 without CAIR				Round 5 w/ CAIR
2009	Baseyear	Scen. A	Scen. B	Scen. C	Scen. C-BART	
IL	7	4	4	1	----	1
IN	6	2	2	0	----	0
MI	2	2	2	1	----	1
OH	26	13	12	5	----	1
WI	0	0	0	0	----	0
Total	41	21	20	7		3
2012						
IL	7	3	1	1	----	0
IN	6	1	1	0	----	0
MI	2	2	1	1	----	1
OH	26	12	9	4	----	0
WI	0	0	0	0	----	0
Total	41	18	12	6		1
2018						
IL	7	3	1	0	0	0
IN	6	1	1	0	0	0
MI	2	2	1	1	1	1
OH	26	13	8	2	0	0
WI	0	0	0	0	0	0
Total	41	19	11	3	1	1
PM2.5 - Daily						
		Round 5 without CAIR				Round 5 w/ CAIR
2009	Baseyear	Scen. A	Scen. B	Scen. C	Scen. C-BART	
IL	16	7	7	6	----	6
IN	13	0	0	0	----	0
MI	14	10	9	9	----	5
OH	31	4	3	2	----	2
WI	8	1	1	1	----	1
Total	82	22	20	18	----	14
2012						
IL	16	9	6	8	----	6
IN	13	0	0	0	----	0
MI	14	8	6	6	----	5
OH	31	3	3	2	----	1
WI	8	1	1	1	----	1
Total	82	21	16	17		13
2018						
IL	16	10	6	8	8	5
IN	13	4	1	1	0	0
MI	14	8	6	6	5	4
OH	31	5	3	2	1	0
WI	8	1	1	1	1	1
Total	82	28	17	18	15	10

Table 4. Modeling Results: Future Year Visibility Levels

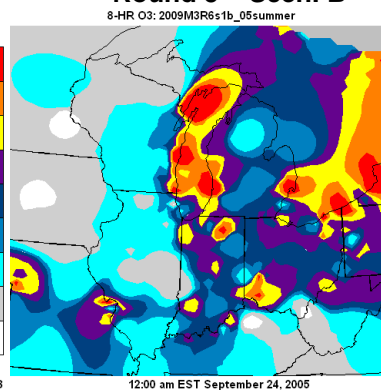
Worst 20%				2018			
				Round 5 without CAIR			Round 5 w/ CAIR
Site	Baseline (2000-2004)	2018 URP		Scen. A	Scen. B	Scen. C	Scen. C-BART
BOWA1	19.86	17.94		19.09	18.87	18.54	18.02
VOYA2	19.48	17.75		18.60	18.44	18.17	17.77
SENE1	24.38	21.64		24.02	23.58	23.03	22.38
ISLE1	21.59	19.43		21.05	20.86	20.62	20.22
ISLE9	21.59	19.43		20.83	20.58	20.38	19.84
HEGL1	26.75	23.13		26.24	25.83	24.87	24.23
MING1	28.15	24.27		27.51	26.98	25.81	24.93
CACR1	26.36	22.91		25.32	24.80	23.57	22.97
UPBU1	26.27	22.82		25.31	24.79	23.50	22.79
MACA1	31.37	26.64		30.11	29.08	27.06	26.24
DOSO1	29.05	24.69		27.88	26.96	24.36	23.74
SHEN1	29.31	25.12		28.38	27.65	25.24	24.69
JARI1	29.12	24.91		28.06	27.21	25.00	24.48
BRIG1	29.01	25.05		28.10	28.07	26.57	26.25
LYBR1	24.45	21.48		24.06	23.86	22.58	22.30
ACAD1	22.89	20.45		22.88	22.76	22.31	22.16
Best 20%				2018			
				Round 5 without CAIR			Round 5 w/ CAIR
Site	Baseline (2000-2004)	2018 Max		Scen. A	Scen. B	Scen. C	Scen. C-BART
BOWA1	6.42	6.42		6.20	6.17	6.16	6.12
VOYA2	7.09	7.09		6.87	6.83	6.81	6.78
SENE1	7.14	7.14		7.80	7.78	7.81	7.77
ISLE1	6.75	6.75		6.77	6.76	6.72	6.67
ISLE9	6.75	6.75		6.63	6.61	6.58	6.53
HEGL1	12.84	12.84		12.17	12.20	12.07	11.63
MING1	14.46	14.46		13.78	13.77	13.70	13.37
CACR1	11.24	11.24		10.94	10.99	10.97	10.78
UPBU1	11.71	11.71		11.18	11.23	11.18	10.96
MACA1	16.51	16.51		16.32	16.21	15.76	15.34
DOSO1	12.28	12.28		12.02	11.84	11.27	11.03
SHEN1	10.93	10.93		10.98	10.91	10.25	10.16
JARI1	14.21	14.21		14.19	13.98	13.42	13.21
BRIG1	14.33	14.33		14.32	14.46	14.22	14.17
LYBR1	6.37	6.37		6.39	6.38	6.31	6.28
ACAD1	8.78	8.78		8.97	8.96	8.90	8.89

Figure 2. Ozone Modeling Results

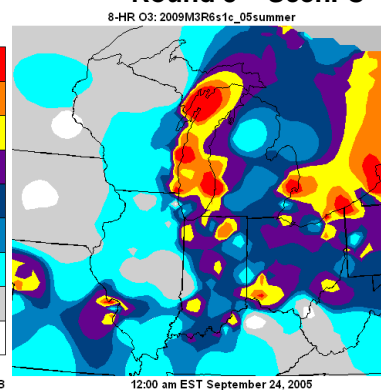
2009 Round 5 – Scen. A



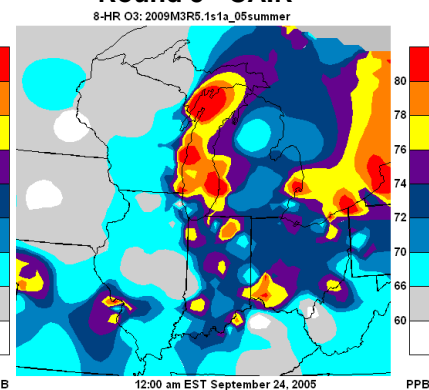
Round 5 – Scen. B



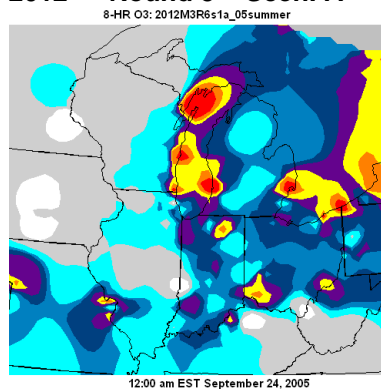
Round 5 – Scen. C



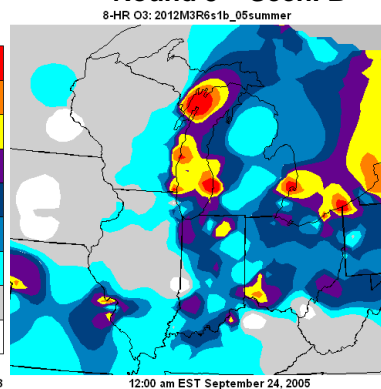
Round 5 - CAIR



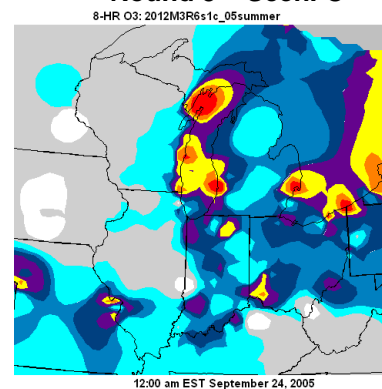
2012 Round 5 – Scen. A



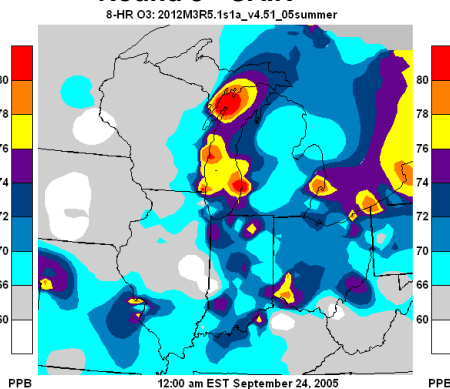
Round 5 – Scen. B



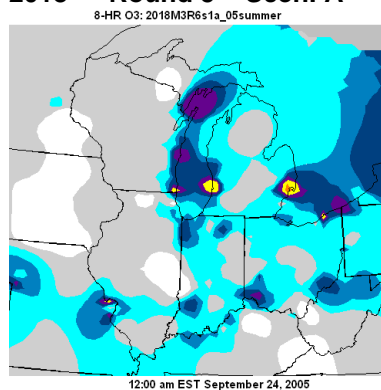
Round 5 – Scen. C



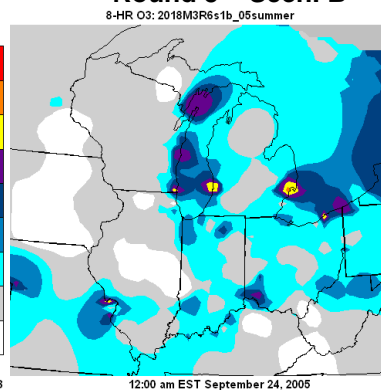
Round 5 - CAIR



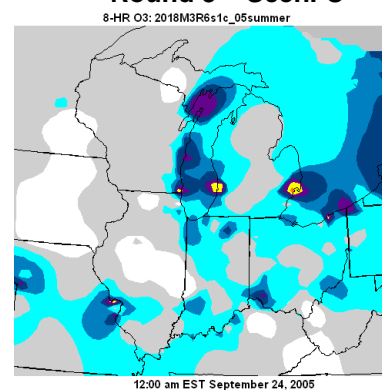
2018 Round 5 – Scen. A



Round 5 – Scen. B



Round 5 – Scen. C



Round 5 - CAIR

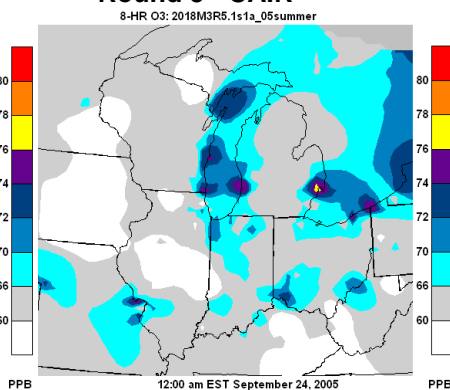


Figure 3. PM2.5 Annual Modeling Results
Round 5 – Scen. B

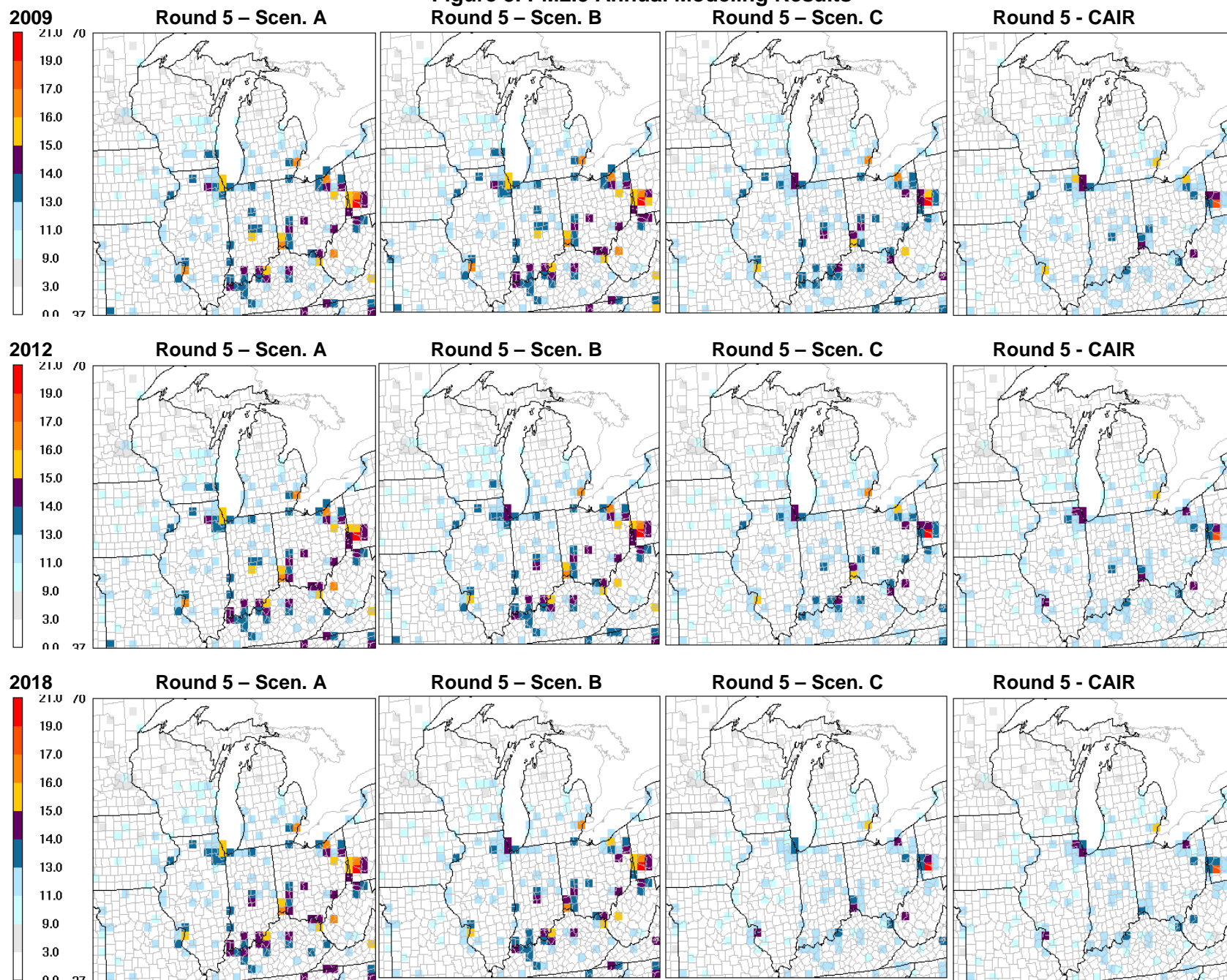
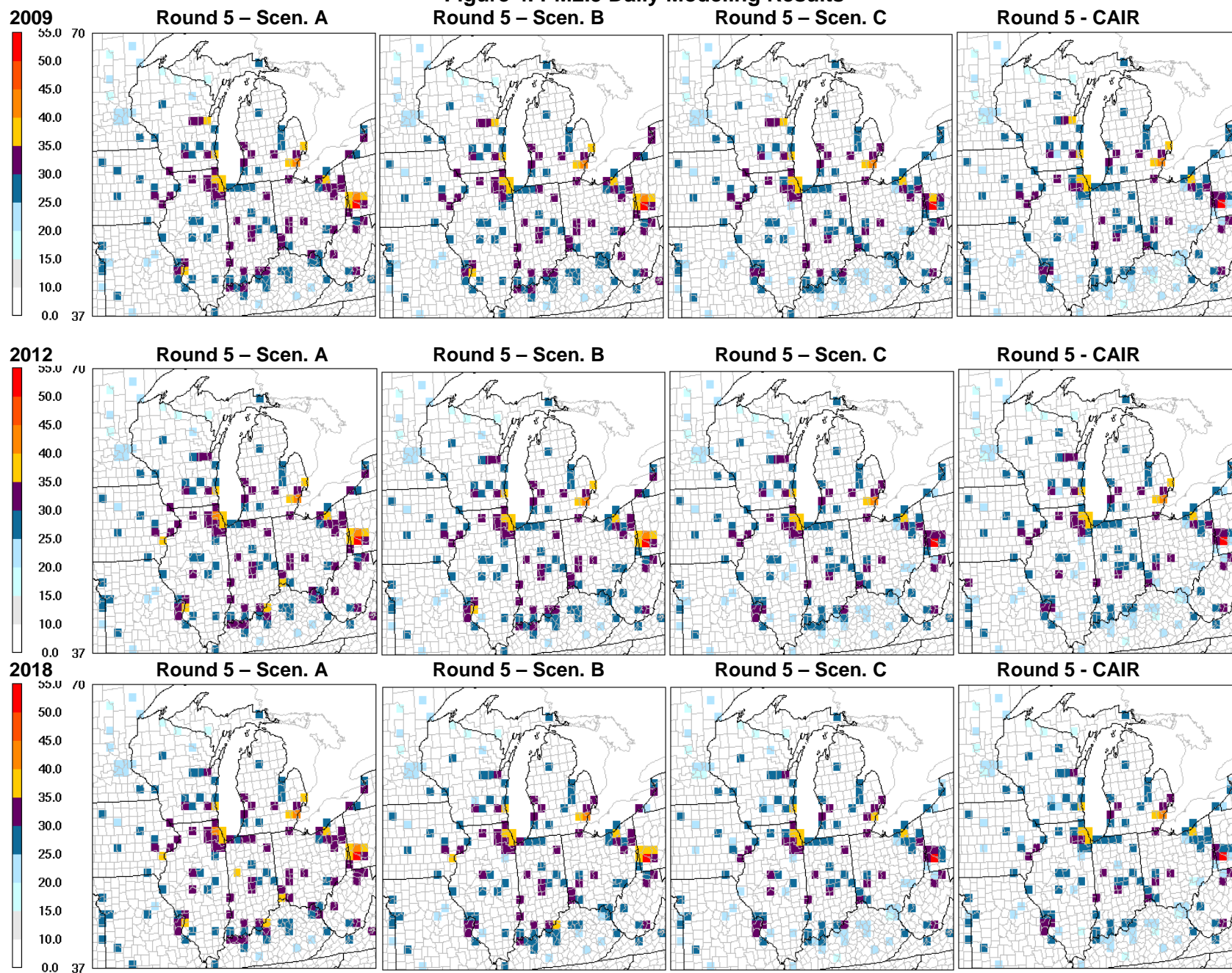


Figure 4. PM_{2.5} Daily Modeling Results



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Appendix I

Scenario B (Legally Enforceable) Controls

NOx - 2009

Point Source Grown and Controlled Emissions by facility for NOX r6s1b_2009

Base Year = 2002

Future Year = 2009

STID=17 CYID=57 fcid=057801AAA name=AES DUCK CREEK

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	57	057801AAA	0001	0001	01	10100202	NOX	0.8147	0.8416	0.8416	0.00	0.00	SCR	SCR added by LADCO

STID=17 CYID=143 fcid=143805AAG name=AES ED EDWARDS STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	143	143805AAG	0001	0001	01	10100202	NOX	3.0515	3.1522	3.1522	0.00	0.00	lnb	LNB added by LADCO
17	143	143805AAG	0001	0003	01	10100202	NOX	6.9419	7.1708	7.1708	0.00	0.00	lnb	LNB added by LADCO
17	143	143805AAG	0002	0004	01	10100202	NOX	2.1310	2.2013	2.2013	0.00	0.00	lnb	LNB added by LADCO

fcid	12.1244	12.5243	12.5243
cyid	12.1244	12.5243	12.5243
stid	12.9392	13.3659	13.3659

STID=39 CYID=1 fcid=0701000007 name="DP&L, J.M. STUART GENERATING STATION"

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
39	1	0701000007	R1	B001	B001P1	10100202	NOX	6.9860	6.9756	2.3252	0.85	0.95	SCR	SCR added by LADCO
39	1	0701000007	R2	B002	B002P1	10100202	NOX	3.6327	3.6273	1.2091	0.85	0.95	SCR	SCR added by LADCO
39	1	0701000007	R3	B003	B003P1	10100202	NOX	5.0133	5.0058	1.6686	0.85	0.95	SCR	SCR added by LADCO
39	1	0701000007	R4	B004	B004P1	10100202	NOX	7.8493	7.8376	2.6125	0.85	0.95	SCR	SCR added by LADCO

fcid	23.4814	23.4464	7.8155
cyid	23.4814	23.4464	7.8155

STID=39 CYID=167 fcid=0684000000 name=MUSKINGUM RIVER POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
39	167	0684000000	R1	B001	B001P1	10200501	NOX	0.0017	0.0017	0.0001	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R2	B002	B002P1	10100201	NOX	5.8167	5.8080	0.2904	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R2	B002	B002P2	10100501	NOX	0.0000	0.0000	0.0000	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R3	B003	B003P1	10100201	NOX	7.9017	7.8899	0.3945	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R3	B003	B003P2	10100501	NOX	0.0000	0.0000	0.0000	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R4	B004	B004P1	10100203	NOX	7.8775	7.8657	0.3933	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R4	B004	B004P2	10100501	NOX	0.0000	0.0000	0.0000	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R6	B006	B006P1	10100202	NOX	3.8586	3.8528	0.1926	0.00	0.95	SCR	SCR added by LADCO
39	167	0684000000	R6	B006	B006P2	10100501	NOX	0.0000	0.0000	0.0000	0.00	0.95	SCR	SCR added by LADCO

fcid	25.4561	25.4182	1.2709
cyid	25.4561	25.4182	1.2709
stid	48.9375	48.8646	9.0864

STID=55 CYID=79 fcid=241007800 name=WIS ELECTRIC POWER VALLEY STATION

Base Yr	Grown	Controlled	Base Year	Future Year
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STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
55	79	241007800	S11	B21	01	10100202	NOX	2.7972	2.8895	1.6470	0.00	0.43	SCR	SCR added by LADCO
55	79	241007800	S11	B22	01	10100202	NOX	2.9073	3.0032	1.7118	0.00	0.43	SCR	SCR added by LADCO
55	79	241007800	S12	B23	01	10100202	NOX	2.3270	2.4038	1.2740	0.00	0.47	SCR	SCR added by LADCO
55	79	241007800	S12	B24	01	10100202	NOX	2.3427	2.4199	1.2826	0.00	0.47	SCR	Scrubber added by LADCO

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fcid      10.3742  10.7164  5.9154
cyid      10.3742  10.7164  5.9154

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STID=55 CYID=117 fcid=460033090 name=WP & L Alliant Energy - Edgewater Gen Station

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
55	117	460033090	S11	B23	01	10100203	NOX	1.6197	1.6731	1.0038	0.00	0.40	SCR	SCR added by LADCO
55	117	460033090	S11	B24	01	10100203	NOX	4.1072	4.2426	3.4789	0.00	0.18	SCR	SCR added by LADCO
55	117	460033090	S12	B25	01	10100221	NOX	5.6804	5.8677	4.9876	0.00	0.15	SCR	SCR added by LADCO

```

-----
fcid      11.4072  11.7834  9.4703
cyid      11.4072  11.7834  9.4703
stid      21.7814  22.4997  15.3857
=====
83.6581   84.7302   37.8380

```

NOx - 2012

Point Source Grown and Controlled Emissions by facility for NOX r6s1b_2012

Base Year = 2002

Future Year = 2012

STID=17 CYID=33 fcid=033801AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	33	033801AAA	0005	0005	01	10100202	NOX	1.642	1.871	0.9357	0.00	0.500	SCR	SCR added by LADCO
17	33	033801AAA	0006	0006	01	10100202	NOX	2.116	2.413	1.2063	0.00	0.500	SCR	SCR added by LADCO

fcid	3.758	4.284	2.1420
cyid	3.758	4.284	2.1420

STID=17 CYID=57 fcid=057801AAA name=AES DUCK CREEK

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	57	057801AAA	0001	0001	01	10100202	NOX	0.815	0.929	0.9288	0.00	0.000	SCR	SCR added by LADCO

STID=17 CYID=79 fcid=079808AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	79	079808AAA	0003	0003	01	10100202	NOX	6.735	7.678	7.6780	0.00	0.000	SCR	SCR added by LADCO
17	79	079808AAA	0012	0013	01	10100501	NOX	5.936	5.378	5.3781	0.00	0.000	SCR	SCR added by LADCO

fcid	12.671	13.056	13.0561
cyid	12.671	13.056	13.0561

STID=17 CYID=97 fcid=097190AAC name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	97	097190AAC	0016	0031	02	10100401	NOX	0.000	0.000	0.0000	0.00	0.999	SHUTDOWN	SCR added by LADCO

STID=17 CYID=137 fcid=137805AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	137	137805AAA	0003	0003	01	10100202	NOX	5.356	6.106	6.1058	0.00	0.000	LNB	LNB added by LADCO

STID=17 CYID=143 fcid=143805AAG name=AES ED EDWARDS STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	143	143805AAG	0001	0001	01	10100202	NOX	3.052	3.479	3.4789	0.00	0.000	lnb	LNB added by LADCO
17	143	143805AAG	0001	0003	01	10100202	NOX	6.942	7.914	7.9141	0.00	0.000	lnb	LNB added by LADCO
17	143	143805AAG	0002	0004	01	10100202	NOX	2.131	2.429	2.4294	0.00	0.000	lnb	LNB added by LADCO

fcid	12.124	13.822	13.8224
cyid	12.124	13.822	13.8224

STID=17 CYID=167 fcid=167120AAO name=CITY WATER LIGHT & POWER

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	167	167120AAO	0010	0012	01	10100203	NOX	6.527	7.441	0.0074	0.00	0.999	SHUTDOWN	SHUTDOWN added by LADCO
17	167	167120AAO	0010	0013	01	10100203	NOX	2.646	3.017	0.0030	0.00	0.999	SHUTDOWN	SHUTDOWN added by LADCO

fcid						9.173	10.458	0.0105						
cyid						9.173	10.458	0.0105						

STID=17 CYID=179 fcid=179801AAA name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	179	179801AAA	0018	0029	01	10100203	NOX	22.429	25.570	1.2785	0.00	0.950	SCR	SCR added by LADCO
17	179	179801AAA	0018	0031	01	10100203	NOX	38.993	44.454	2.2227	0.00	0.950	SCR	SCR added by LADCO

fcid						61.422	70.024	3.5012						
cyid						61.422	70.024	3.5012						

STID=17 CYID=197 fcid=197809AAO name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	197	197809AAO	0032	0033	02	10100604	NOX	0.000	0.000	0.0000	0.00	0.800	SCR	SCR added by LADCO

STID=17 CYID=197 fcid=197810AAK name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	197	197810AAK	0011	0016	02	10100222	NOX	5.731	6.534	3.9203	0.00	0.400	SCR	SCR added by LADCO
17	197	197810AAK	0011	0016	03	10100501	NOX	0.000	0.000	0.0000	0.00	0.400	SCR	SCR added by LADCO
17	197	197810AAK	0013	0010	02	10100223	NOX	8.598	9.802	0.0098	0.00	0.999	SHUTDOWN	SCR added by LADCO
17	197	197810AAK	0013	0010	03	10100501	NOX	0.000	0.000	0.0000	0.00	0.999	SHUTDOWN	SCR added by LADCO
17	197	197810AAK	0007	0012	02	10100223	NOX	10.974	12.511	0.0125	0.00	0.999	SHUTDOWN	SCR added by LADCO
17	197	197810AAK	0007	0012	03	10100501	NOX	0.000	0.000	0.0000	0.00	0.999	SHUTDOWN	SCR added by LADCO

fcid						25.303	28.847	3.9426						
cyid						25.303	28.847	3.9426						
stid						130.622	147.527	43.5096						

STID=27 CYID=61 fcid=2706100004 name=Minnesota Power Inc - Boswell Energy Ctr

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
27	61	2706100004	SV003	EU003	001	10100226	NOX	13.661	14.142	2.8284	0.00	0.800	SCR	SCR added by LADCO
27	61	2706100004	SV003	EU003	002	10100501	NOX	0.000	0.000	0.0000	0.00	0.800	SCR	SCR added by LADCO

fcid						13.661	14.142	2.8284						
cyid						13.661	14.142	2.8284						

STID=27 CYID=109 fcid=2710900011 name=Rochester Public Utilities - Silver Lake

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
------	------	------	-------	------	------	----------------	----------------	------------------------	-----------------------	-------------------------	------------	------------	----------	---------

27 109 2710900011 SV003 EU004 001 10100202 NOX 2.079 2.152 1.2911 0.00 0.400 SNCR SCR added by LADCO

stid 15.739 16.294 4.1195

STID=39 CYID=1 fcid=0701000007 name="DP&L, J.M. STUART GENERATING STATION"

STID	CYID	fcid	stkid	dvid	prid	Base Yr			Future Year			Control EF	Control EF	ctrltype	ctrldes
						scc	polid	Tons/Day	Tons/Day	Tons/Day					
39	1	0701000007	R1	B001	B001P1	10100202	NOX	6.986	7.296	2.4319	0.85	0.950	SCR	SCR added by LADCO	
39	1	0701000007	R2	B002	B002P1	10100202	NOX	3.633	3.794	1.2646	0.85	0.950	SCR	SCR added by LADCO	
39	1	0701000007	R3	B003	B003P1	10100202	NOX	5.013	5.235	1.7452	0.85	0.950	SCR	SCR added by LADCO	
39	1	0701000007	R4	B004	B004P1	10100202	NOX	7.849	8.197	2.7324	0.85	0.950	SCR	SCR added by LADCO	

fcid 23.481 24.522 8.1740
cyid 23.481 24.522 8.1740

STID=39 CYID=31 fcid=0616000000 name=CONESVILLE POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr			Future Year			Control EF	Control EF	ctrltype	ctrldes
						scc	polid	Tons/Day	Tons/Day	Tons/Day					
39	31	0616000000	R4	B004	B004P1	10100212	NOX	20.852	21.776	1.0888	0.00	0.950	SCR	SCR added by LADCO	

STID=39 CYID=167 fcid=0684000000 name=MUSKINGUM RIVER POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr			Future Year			Control EF	Control EF	ctrltype	ctrldes
						scc	polid	Tons/Day	Tons/Day	Tons/Day					
39	167	0684000000	R1	B001	B001P1	10200501	NOX	0.002	0.002	0.0001	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R2	B002	B002P1	10100201	NOX	5.817	6.074	0.3037	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R2	B002	B002P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R3	B003	B003P1	10100201	NOX	7.902	8.252	0.4126	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R3	B003	B003P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R4	B004	B004P1	10100203	NOX	7.877	8.227	0.4113	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R4	B004	B004P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R6	B006	B006P1	10100202	NOX	3.859	4.030	0.2015	0.00	0.950	SCR	SCR added by LADCO	
39	167	0684000000	R6	B006	B006P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO	

fcid 25.456 26.584 1.3292
cyid 25.456 26.584 1.3292
stid 69.789 72.882 10.5920

STID=55 CYID=79 fcid=241007690 name=WIS ELECTRIC POWER OAK CREEK STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr			Future Year			Control EF	Control EF	ctrltype	ctrldes
						scc	polid	Tons/Day	Tons/Day	Tons/Day					
55	79	241007690	S13	B25	01	10100202	NOX	4.755	5.421	3.0898	0.00	0.430	SCR	SCR added by LADCO	
55	79	241007690	S13	B26	01	10100202	NOX	3.277	3.736	2.2045	0.00	0.410	SCR	SCR added by LADCO	
55	79	241007690	S14	B27	01	10100212	NOX	3.333	3.800	2.8499	0.00	0.250	SCR	SCR added by LADCO	
55	79	241007690	S14	B28	01	10100212	NOX	3.384	3.857	2.9316	0.00	0.240	SCR	SCR added by LADCO	

fcid 14.749 16.814 11.0757

STID=55 CYID=79 fcid=241007800 name=WIS ELECTRIC POWER VALLEY STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes	
55	79	241007800	S11	B21	01	10100202	NOX	2.797	3.189	1.8177	0.00	0.430	SCR	SCR added by LADCO	
55	79	241007800	S11	B22	01	10100202	NOX	2.907	3.314	1.8893	0.00	0.430	SCR	SCR added by LADCO	
55	79	241007800	S12	B23	01	10100202	NOX	2.327	2.653	1.4061	0.00	0.470	SCR	SCR added by LADCO	
55	79	241007800	S12	B24	01	10100202	NOX	2.343	2.671	1.4155	0.00	0.470	SCR	Scrubber added by LADCO	
----						-----									
fcid						10.374	11.827	6.5285							
cyid						25.123	28.641	17.6042							

STID=55 CYID=117 fcid=460033090 name=WP & L Alliant Energy - Edgewater Gen Station

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
55	117	460033090	S11	B23	01	10100203	NOX	1.620	1.846	1.1079	0.00	0.400	SCR	SCR added by LADCO
55	117	460033090	S11	B24	01	10100203	NOX	4.107	4.682	3.8395	0.00	0.180	SCR	SCR added by LADCO
55	117	460033090	S12	B25	01	10100221	NOX	5.680	6.476	5.5045	0.00	0.150	SCR	SCR added by LADCO
----						-----								
fcid						11.407	13.005	10.4519						
cyid						11.407	13.005	10.4519						
stid						36.530	41.646	28.0562						
						=====	=====	=====						
						252.681	278.349	86.2773						

NOx 2018

Point Source Grown and Controlled Emissions by facility for NOX r6s1b_2018

Base Year = 2002

Future Year = 2018

STID=17 CYID=31 fcid=031600AIN name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	31	031600AIN	0010	0013	01	10100226	NOX	2.283	2.592	1.5550	0.00	0.400	SCR	SCR added by LADCO
17	31	031600AIN	0010	0013	02	10100601	NOX	0.000	0.000	0.0000	0.00	0.400	SCR	SCR added by LADCO
17	31	031600AIN	0012	0016	01	10100226	NOX	3.991	4.531	2.7184	0.00	0.400	SCR	SCR added by LADCO
17	31	031600AIN	0012	0016	02	10100601	NOX	0.000	0.000	0.0000	0.00	0.400	SCR	SCR added by LADCO
----						-----	-----	-----						
fcid						6.274	7.122	4.2734						
cyid						6.274	7.122	4.2734						

STID=17 CYID=33 fcid=033801AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	33	033801AAA	0005	0005	01	10100202	NOX	1.642	1.863	0.9317	0.00	0.500	SCR	SCR added by LADCO
17	33	033801AAA	0006	0006	01	10100202	NOX	2.116	2.402	1.2012	0.00	0.500	SCR	SCR added by LADCO
----						-----	-----	-----						
fcid						3.758	4.266	2.1329						
cyid						3.758	4.266	2.1329						

STID=17 CYID=57 fcid=057801AAA name=AES DUCK CREEK

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	57	057801AAA	0001	0001	01	10100202	NOX	0.815	0.925	0.9249	0.00	0.000	SCR	SCR added by LADCO

STID=17 CYID=79 fcid=079808AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	79	079808AAA	0003	0003	01	10100202	NOX	6.735	7.645	7.6453	0.00	0.000	SCR	SCR added by LADCO
17	79	079808AAA	0012	0013	01	10100501	NOX	5.936	3.984	3.9838	0.00	0.000	SCR	SCR added by LADCO
----						-----	-----	-----						
fcid						12.671	11.629	11.6291						
cyid						12.671	11.629	11.6291						

STID=17 CYID=97 fcid=097190AAC name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	97	097190AAC	0016	0031	02	10100401	NOX	0.000	0.000	0.0000	0.00	0.999	SHUTDOWN	SCR added by LADCO

STID=17 CYID=137 fcid=137805AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	137	137805AAA	0003	0003	01	10100202	NOX	5.356	6.080	6.0798	0.00	0.000	LNB	LNB added by LADCO

STID=17 CYID=143 fcid=143805AAG name=AES ED EDWARDS STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	143	143805AAG	0001	0001	01	10100202	NOX	3.052	3.464	3.4641	0.00	0.000	lnb	LNB added by LADCO
17	143	143805AAG	0001	0003	01	10100202	NOX	6.942	7.880	7.8804	0.00	0.000	lnb	LNB added by LADCO
17	143	143805AAG	0002	0004	01	10100202	NOX	2.131	2.419	2.4191	0.00	0.000	lnb	LNB added by LADCO
----						-----	-----	-----	-----	-----	-----	-----	-----	-----
fcid						12.124	13.764	13.7636						
cyid						12.124	13.764	13.7636						

STID=17 CYID=167 fcid=167120AAO name=CITY WATER LIGHT & POWER

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	167	167120AAO	0010	0012	01	10100203	NOX	6.527	7.410	0.0074	0.00	0.999	SHUTDOWN	SHUTDOWN added by LADCO
17	167	167120AAO	0010	0013	01	10100203	NOX	2.646	3.004	0.0030	0.00	0.999	SHUTDOWN	SHUTDOWN added by LADCO
----						-----	-----	-----	-----	-----	-----	-----	-----	-----
fcid						9.173	10.414	0.0104						
cyid						9.173	10.414	0.0104						

STID=17 CYID=179 fcid=179801AAA name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	179	179801AAA	0018	0029	01	10100203	NOX	22.429	25.462	1.2731	0.00	0.950	SCR	SCR added by LADCO
17	179	179801AAA	0018	0031	01	10100203	NOX	38.993	44.265	2.2132	0.00	0.950	SCR	SCR added by LADCO
----						-----	-----	-----	-----	-----	-----	-----	-----	-----
fcid						61.422	69.726	3.4863						
cyid						61.422	69.726	3.4863						

STID=17 CYID=197 fcid=197809AAO name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	197	197809AAO	0032	0033	02	10100604	NOX	0.000	0.000	0.0000	0.00	0.800	SCR	SCR added by LADCO

STID=17 CYID=197 fcid=197810AAK name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	197	197810AAK	0011	0016	02	10100222	NOX	5.731	6.506	3.9036	0.00	0.400	SCR	SCR added by LADCO
17	197	197810AAK	0011	0016	03	10100501	NOX	0.000	0.000	0.0000	0.00	0.400	SCR	SCR added by LADCO
17	197	197810AAK	0013	0010	02	10100223	NOX	8.598	9.760	0.0098	0.00	0.999	SHUTDOWN	SCR added by LADCO
17	197	197810AAK	0013	0010	03	10100501	NOX	0.000	0.000	0.0000	0.00	0.999	SHUTDOWN	SCR added by LADCO
17	197	197810AAK	0007	0012	02	10100223	NOX	10.974	12.458	0.0125	0.00	0.999	SHUTDOWN	SCR added by LADCO
17	197	197810AAK	0007	0012	03	10100501	NOX	0.000	0.000	0.0000	0.00	0.999	SHUTDOWN	SCR added by LADCO
----						-----	-----	-----	-----	-----	-----	-----	-----	-----
fcid						25.303	28.724	3.9258						
cyid						25.303	28.724	3.9258						
stid						136.896	152.649	46.2263						

STID=18 CYID=147 fcid=00020 name=INDIANA MICHIGAN POWER-ROCKPORT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
18	147	00020	1	001	01	10100222	NOX	23.226	25.291	1.2646	0.00	0.950	SCR	SCR added by LADCO
18	147	00020	1	001	02	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO
-----						-----								
fcid						23.226	25.291	1.2646						
cyid						23.226	25.291	1.2646						
stid						23.226	25.291	1.2646						

STID=27 CYID=61 fcid=2706100004 name=Minnesota Power Inc - Boswell Energy Ctr

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
27	61	2706100004	SV003	EU003	001	10100226	NOX	13.661	15.733	3.1466	0.00	0.800	SCR	SCR added by LADCO
27	61	2706100004	SV003	EU003	002	10100501	NOX	0.000	0.000	0.0000	0.00	0.800	SCR	SCR added by LADCO
-----						-----								
fcid						13.661	15.733	3.1466						
cyid						13.661	15.733	3.1466						

STID=27 CYID=109 fcid=2710900011 name=Rochester Public Utilities - Silver Lake

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
27	109	2710900011	SV003	EU004	001	10100202	NOX	2.079	2.394	1.4363	0.00	0.400	SNCR	SCR added by LADCO
-----						-----								
stid						15.739	18.127	4.5830						

STID=39 CYID=1 fcid=0701000007 name="DP&L, J.M. STUART GENERATING STATION"

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
39	1	0701000007	R1	B001	B001P1	10100202	NOX	6.986	7.607	2.5358	0.85	0.950	SCR	SCR added by LADCO
39	1	0701000007	R2	B002	B002P1	10100202	NOX	3.633	3.956	1.3186	0.85	0.950	SCR	SCR added by LADCO
39	1	0701000007	R3	B003	B003P1	10100202	NOX	5.013	5.459	1.8197	0.85	0.950	SCR	SCR added by LADCO
39	1	0701000007	R4	B004	B004P1	10100202	NOX	7.849	8.547	2.8491	0.85	0.950	SCR	SCR added by LADCO
-----						-----								
fcid						23.481	25.570	8.5232						
cyid						23.481	25.570	8.5232						

STID=39 CYID=31 fcid=0616000000 name=CONESVILLE POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
39	31	0616000000	R4	B004	B004P1	10100212	NOX	20.852	22.706	1.1353	0.00	0.950	SCR	SCR added by LADCO

STID=39 CYID=167 fcid=0684000000 name=MUSKINGUM RIVER POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
39	167	0684000000	R1	B001	B001P1	10200501	NOX	0.002	0.002	0.0001	0.00	0.950	SCR	SCR added by LADCO

39	167	0684000000	R2	B002	B002P1	10100201	NOX	5.817	6.334	0.3167	0.00	0.950	SCR	SCR added by LADCO
39	167	0684000000	R2	B002	B002P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO
39	167	0684000000	R3	B003	B003P1	10100201	NOX	7.902	8.604	0.4302	0.00	0.950	SCR	SCR added by LADCO
39	167	0684000000	R3	B003	B003P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO
39	167	0684000000	R4	B004	B004P1	10100203	NOX	7.877	8.578	0.4289	0.00	0.950	SCR	SCR added by LADCO
39	167	0684000000	R4	B004	B004P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO
39	167	0684000000	R6	B006	B006P1	10100202	NOX	3.859	4.202	0.2101	0.00	0.950	SCR	SCR added by LADCO
39	167	0684000000	R6	B006	B006P2	10100501	NOX	0.000	0.000	0.0000	0.00	0.950	SCR	SCR added by LADCO

fcid	25.456	27.720	1.3860
cyid	25.456	27.720	1.3860
stid	69.789	75.996	11.0445

STID=54 CYID=39 fcid=0006 name=APPALACHIAN POWER - KANAWHA RIVER PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
54	39	0006	012	001	99	10100202	NOX	4.829	5.258	2.6291	0.00	0.500	SCR	Scrubber added by LADCO
54	39	0006	012	002	99	10100202	NOX	4.921	5.359	2.6794	0.00	0.500	SCR	Scrubber added by LADCO

fcid	9.750	10.617	5.3085
cyid	9.750	10.617	5.3085
stid	9.750	10.617	5.3085

STID=55 CYID=79 fcid=241007690 name=WIS ELECTRIC POWER OAK CREEK STATION

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
55	79	241007690	S13	B25	01	10100202	NOX	4.755	5.398	3.0766	0.00	0.430	SCR	SCR added by LADCO
55	79	241007690	S13	B26	01	10100202	NOX	3.277	3.720	2.1951	0.00	0.410	SCR	SCR added by LADCO
55	79	241007690	S14	B27	01	10100212	NOX	3.333	3.784	2.8378	0.00	0.250	SCR	SCR added by LADCO
55	79	241007690	S14	B28	01	10100212	NOX	3.384	3.841	2.9191	0.00	0.240	SCR	SCR added by LADCO

fcid	14.749	16.743	11.0285
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STID=55 CYID=79 fcid=241007800 name=WIS ELECTRIC POWER VALLEY STATION

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
55	79	241007800	S11	B21	01	10100202	NOX	2.797	3.175	1.4289	0.00	0.550	SCR	SCR added by LADCO
55	79	241007800	S11	B22	01	10100202	NOX	2.907	3.300	1.4852	0.00	0.550	SCR	SCR added by LADCO
55	79	241007800	S12	B23	01	10100202	NOX	2.327	2.642	1.1887	0.00	0.550	SCR	SCR added by LADCO
55	79	241007800	S12	B24	01	10100202	NOX	2.343	2.659	1.1967	0.00	0.550	SCR	SCR added by LADCO

fcid	10.374	11.777	5.2995
cyid	25.123	28.519	16.3281

STID=55 CYID=117 fcid=460033090 name=WP & L Alliant Energy - Edgewater Gen Station

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
55	117	460033090	S11	B23	01	10100203	NOX	1.620	1.839	1.1032	0.00	0.400	SCR	SCR added by LADCO

55	117	460033090	S11	B24	01	10100203	NOX	4.107	4.662	3.8232	0.00	0.180	SCR	SCR added by LADCO	
55	117	460033090	S12	B25	01	10100221	NOX	5.680	6.448	5.4811	0.00	0.150	SCR	SCR added by LADCO	
-----						-----	-----								
fcid						11.407	12.949	10.4074							
cyid						11.407	12.949	10.4074							
stid						36.530	41.469	26.7355							
						=====	=====	=====							
						291.931	324.149	95.1624							

SO2 - 2009

Point Source Grown and Controlled Emissions by facility for SO2 r6s1b_2009

1

Base Year = 2002

Future Year = 2009

STID=19 CYID=115 fcid=58-07-001 name=MIDAMERICAN ENERGY CO. - LOUISA STATION

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
19	115	58-07-001	117487	147281	99	10100222	SO2	33.664	34.774	3.4774	0.0	0.90	SCRUBBER	Scrubber added by LADCO

STID=21 CYID=161 fcid=2116100009 name=EAST KY POWER COOP

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
21	161	2116100009	1	001	99	10100202	SO2	42.166	42.103	4.2103	0.0	0.90	SCRUBBER	Scrubber added by LADCO
21	161	2116100009	2	002	99	10100212	SO2	55.385	55.303	5.5303	0.0	0.90	SCRUBBER	Scrubber added by LADCO

fcid	97.551	97.406	9.7406
cyid	97.551	97.406	9.7406
stid	97.551	97.406	9.7406

STID=27 CYID=141 fcid=2714100004 name=NSP - Sherburne Generating Plant

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
27	141	2714100004	SV001	EU001	001	10100222	SO2	16.765	16.987	3.6401	0.3	0.85	SCRUBBER	Scrubber added by LADCO
27	141	2714100004	SV001	EU002	001	10100222	SO2	22.549	22.848	4.8959	0.3	0.85	SCRUBBER	Scrubber added by LADCO

fcid	39.314	39.834	8.5360
cyid	39.314	39.834	8.5360
stid	39.314	39.834	8.5360

STID=54 CYID=51 fcid=0005 name=OHIO POWER - MITCHELL PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
54	51	0005	012	001	99	10100202	SO2	17.775	17.748	1.7748	0.0	0.90	SCRUBBER	Scrubber added by LADCO
54	51	0005	012	002	99	10100202	SO2	5.689	5.680	0.5680	0.0	0.90	SCRUBBER	Scrubber added by LADCO

fcid	23.463	23.428	2.3428
cyid	23.463	23.428	2.3428

STID=54 CYID=53 fcid=0009 name=APPALACHIAN POWER - MOUNTAINEER PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
54	53	0009	001	001	99	10100202	SO2	11.196	11.179	1.1179	0.0	0.90	SCRUBBER	Scrubber added by LADCO

STID=54 CYID=79 fcid=0006 name=APPALACHIAN POWER - JOHN E AMOS PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		

54	79	0006	012	001	99	10100202	SO2	79.635	79.516	7.9516	0.0	0.90	SCRUBBER	Scrubber added by LADCO
54	79	0006	003	003	99	10100202	SO2	139.377	139.169	13.9169	0.0	0.90	SCRUBBER	Scrubber added by LADCO
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fcid						219.012	218.685	21.8685						
cyid						219.012	218.685	21.8685						
stid						253.671	253.293	25.3293						
						=====	=====	=====						
						424.200	425.307	47.0832						

SO2 – 2012

Point Source Grown and Controlled Emissions by facility for SO2 r6s1b_2012

1

Base Year = 2002

Future Year = 2012

STID=17 CYID=31 fcid=031600AMI name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	31	031600AMI	0007	0010	01	10100226	SO2	16.13	18.39	1.839	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=17 CYID=97 fcid=097190AAC name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	97	097190AAC	0018	0033	01	10100226	SO2	24.14	27.52	2.752	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	97	097190AAC	0021	0036	01	10100226	SO2	19.23	21.92	2.192	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	97	097190AAC	0016	0031	01	10100203	SO2	4.59	5.24	0.005	0.0	0.999	SHUTDOWN	Scrubber added by LADCO

fcid	47.96	54.68	4.950
cyid	47.96	54.68	4.950

STID=17 CYID=125 fcid=125804AAB name=DYNEGY MIDWEST GENERATION INC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	125	125804AAB	0019	0023	01	10100202	SO2	22.34	25.47	3.821	0.0	0.850	SCRUBBER	Scrubber added by LADCO

STID=17 CYID=127 fcid=127855AAC name=ELECTRIC ENERGY INC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	127	127855AAC	0001	0001	01	10100222	SO2	11.83	13.48	13.482	0.0	0.000	LNB	LNB added by LADCO
17	127	127855AAC	0001	0002	01	10100222	SO2	11.48	13.09	13.085	0.0	0.000	LNB	LNB added by LADCO
17	127	127855AAC	0002	0003	01	10100222	SO2	10.25	11.68	11.680	0.0	0.000	LNB	LNB added by LADCO
17	127	127855AAC	0002	0004	01	10100222	SO2	12.04	13.73	13.731	0.0	0.000	LNB	LNB added by LADCO
17	127	127855AAC	0003	0006	01	10100222	SO2	12.68	14.46	14.456	0.0	0.000	LNB	LNB added by LADCO

fcid	58.27	66.43	66.435
cyid	58.27	66.43	66.435

STID=17 CYID=135 fcid=135803AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	135	135803AAA	0001	0001	01	10100203	SO2	32.99	37.61	3.761	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	135	135803AAA	0001	0003	01	10100203	SO2	72.92	83.13	8.313	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	105.91	120.74	12.074
cyid	105.91	120.74	12.074

STID=17 CYID=157 fcid=157851AAA name=DYNEGY MIDWEST GENERATION INC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	157	157851AAA	0001	0001	01	10100203	SO2	25.14	28.66	4.299	0.0	0.850	SCRUBBER	Scrubber added by LADCO
17	157	157851AAA	0002	0002	01	10100203	SO2	25.79	29.41	4.411	0.0	0.850	SCRUBBER	Scrubber added by LADCO
17	157	157851AAA	0013	0013	01	10100202	SO2	27.79	31.68	4.752	0.0	0.850	SCRUBBER	Scrubber added by LADCO
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fcid						78.72	89.75	13.462						
cyid						78.72	89.75	13.462						

STID=17 CYID=167 fcid=167120AAO name=CITY WATER LIGHT & POWER

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	167	167120AAO	0010	0012	01	10100203	SO2	44.20	50.39	0.050	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
17	167	167120AAO	0010	0013	01	10100203	SO2	16.40	18.70	0.019	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
----						-----	-----	-----						
fcid						60.61	69.10	0.069						
cyid						60.61	69.10	0.069						

STID=17 CYID=179 fcid=179801AAA name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	179	179801AAA	0018	0029	01	10100203	SO2	25.35	28.90	2.890	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	179	179801AAA	0018	0031	01	10100203	SO2	41.57	47.39	4.739	0.0	0.900	SCRUBBER	Scrubber added by LADCO
----						-----	-----	-----						
fcid						66.91	76.29	7.629						
cyid						66.91	76.29	7.629						

STID=17 CYID=197 fcid=197810AAK name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	197	197810AAK	0013	0010	03	10100501	SO2	0.00	0.00	0.000	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
17	197	197810AAK	0007	0012	02	10100223	SO2	15.33	17.48	0.017	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
17	197	197810AAK	0007	0012	03	10100501	SO2	0.00	0.00	0.000	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
----						-----	-----	-----						
fcid						15.33	17.48	0.017						
cyid						15.33	17.48	0.017						
stid						472.19	538.32	110.295						

STID=19 CYID=115 fcid=58-07-001 name=MIDAMERICAN ENERGY CO. - LOUISA STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
19	115	58-07-001	117487	147281	99	10100222	SO2	33.66	38.38	3.838	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=21 CYID=161 fcid=2116100009 name=EAST KY POWER COOP

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
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21	161	2116100009	1	001	99	10100202	SO2	42.17	44.03	4.403	0.0	0.900	SCRUBBER	Scrubber added by LADCO
21	161	2116100009	2	002	99	10100212	SO2	55.39	57.84	5.784	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	97.55	101.87	10.187
cyid	97.55	101.87	10.187
stid	97.55	101.87	10.187

STID=27 CYID=61 fcid=2706100004 name=Minnesota Power Inc - Boswell Energy Ctr

STID	CYID	fcid	stkid	dvid	prid	Base Yr	Grown	Controlled	Base Year	Future Year	Control EF	Control EF	ctrltype	ctrldes
27	61	2706100004	SV003	EU003	001	10100226	SO2	33.99	35.19	15.081	0.3	0.700	SCRUBBER	Scrubber added by LADCO
27	61	2706100004	SV003	EU003	002	10100501	SO2	0.00	0.00	0.000	0.3	0.700	SCRUBBER	Scrubber added by LADCO

fcid	33.99	35.19	15.081
cyid	33.99	35.19	15.081

STID=27 CYID=109 fcid=2710900011 name=Rochester Public Utilities - Silver Lake

STID	CYID	fcid	stkid	dvid	prid	Base Yr	Grown	Controlled	Base Year	Future Year	Control EF	Control EF	ctrltype	ctrldes
27	109	2710900011	SV003	EU004	001	10100202	SO2	7.86	8.13	1.220	0.0	0.850	SCRUBBER	Scrubber added by LADCO

STID=27 CYID=141 fcid=2714100004 name=NSP - Sherburne Generating Plant

STID	CYID	fcid	stkid	dvid	prid	Base Yr	Grown	Controlled	Base Year	Future Year	Control EF	Control EF	ctrltype	ctrldes
27	141	2714100004	SV001	EU001	001	10100222	SO2	16.76	17.36	3.719	0.3	0.850	SCRUBBER	Scrubber added by LADCO
27	141	2714100004	SV001	EU002	001	10100222	SO2	22.55	23.34	5.002	0.3	0.850	SCRUBBER	Scrubber added by LADCO

fcid	39.31	40.70	8.721
cyid	39.31	40.70	8.721
stid	81.16	84.02	25.023

STID=39 CYID=13 fcid=0607130015 name=R. E. BURGER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr	Grown	Controlled	Base Year	Future Year	Control EF	Control EF	ctrltype	ctrldes
39	13	0607130015	R6	B011	B011P1	10100202	SO2	29.83	31.15	3.115	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	13	0607130015	R7	B012	B012P1	10100202	SO2	34.77	36.31	3.631	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	64.60	67.46	6.746
cyid	64.60	67.46	6.746

STID=39 CYID=31 fcid=0616000000 name=CONESVILLE POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr	Grown	Controlled	Base Year	Future Year	Control EF	Control EF	ctrltype	ctrldes
39	31	0616000000	R4	B004	B004P1	10100212	SO2	316.00	330.00	33.000	0.0	0.900	SCRUBBER	Scrubber added by LADCO

stid	380.60	397.46	39.746
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STID=47 CYID=1 fcid=0009 name=TVA BULL RUN FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
47	1	0009	S-1	001	99	10100212	SO2	130.81	133.01	13.301	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=47 CYID=73 fcid=0007 name=TVA JOHN SEVIER FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
47	73	0007	S-1A	001	99	10100212	SO2	20.15	20.49	2.049	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	73	0007	S-1B	002	99	10100212	SO2	20.25	20.59	2.059	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	73	0007	S-2A	003	99	10100212	SO2	19.62	19.95	1.995	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	73	0007	S-2B	004	99	10100212	SO2	18.93	19.25	1.925	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	78.95	80.28	8.028
cyid	78.95	80.28	8.028

STID=47 CYID=85 fcid=0011 name=TVA JOHNSONVILLE FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
47	85	0011	S1-01	001	99	10100212	SO2	17.06	17.35	1.735	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	85	0011	S1-04	004	99	10100212	SO2	19.85	20.18	2.018	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	85	0011	S1-05	005	99	10100212	SO2	24.11	24.52	2.452	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	61.02	62.04	6.204
cyid	61.02	62.04	6.204

STID=47 CYID=145 fcid=0013 name=TVA KINGSTON FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
47	145	0013	S-1	001	99	10100202	SO2	12.68	12.89	1.289	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-1	002	99	10100202	SO2	14.00	14.24	1.424	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-1	003	99	10100202	SO2	13.80	14.04	1.404	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-1	004	99	10100202	SO2	12.24	12.44	1.244	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-1	005	99	10100202	SO2	19.57	19.90	1.990	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	006	99	10100202	SO2	18.92	19.24	1.924	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	007	99	10100202	SO2	21.30	21.66	2.166	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	008	99	10100202	SO2	18.54	18.85	1.885	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	009	99	10100202	SO2	20.72	21.07	2.107	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	151.77	154.33	15.433
cyid	151.77	154.33	15.433

STID=47 CYID=165 fcid=0025 name=TVA GALLATIN FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
47	165	0025	S-01	001	99	10100212	SO2	13.91	14.14	1.414	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	165	0025	S-01	002	99	10100212	SO2	14.87	15.12	1.512	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	165	0025	S-02	003	99	10100212	SO2	16.33	16.60	1.660	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	165	0025	S-02	004	99	10100212	SO2	20.39	20.73	2.073	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	65.49	66.59	6.659
cyid	65.49	66.59	6.659
stid	488.04	496.25	49.625

STID=54 CYID=51 fcid=0005 name=OHIO POWER - MITCHELL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	51	0005	012	001	99	10100202	SO2	17.77	18.56	1.856	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	51	0005	012	002	99	10100202	SO2	5.69	5.94	0.594	0.0	0.900	SCRUBBER	Scrubber added by LADCO
						-----	-----	-----						
fcid						23.46	24.50	2.450						
cyid						23.46	24.50	2.450						

STID=54 CYID=53 fcid=0009 name=APPALACHIAN POWER - MOUNTAINEER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	53	0009	001	001	99	10100202	SO2	11.20	11.69	1.169	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=54 CYID=79 fcid=0006 name=APPALACHIAN POWER - JOHN E AMOS PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	79	0006	012	001	99	10100202	SO2	79.63	83.16	8.316	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	79	0006	012	002	99	10100202	SO2	100.33	104.78	10.478	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	79	0006	003	003	99	10100202	SO2	139.38	145.55	14.555	0.0	0.900	SCRUBBER	Scrubber added by LADCO
						-----	-----	-----						
fcid						319.35	333.50	33.350						
cyid						319.35	333.50	33.350						
stid						354.00	369.69	36.969						

STID=55 CYID=79 fcid=241007690 name=WIS ELECTRIC POWER OAK CREEK STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
55	79	241007690	S13	B25	01	10100202	SO2	12.75	14.54	3.490	0.0	0.760	SCRUBBER	Scrubber added by LADCO
55	79	241007690	S13	B26	01	10100202	SO2	8.68	9.89	2.473	0.0	0.750	SCRUBBER	Scrubber added by LADCO
55	79	241007690	S14	B27	01	10100212	SO2	10.97	12.51	2.876	0.0	0.770	SCRUBBER	Scrubber added by LADCO
55	79	241007690	S14	B28	01	10100212	SO2	11.28	12.86	2.958	0.0	0.770	SCRUBBER	Scrubber added by LADCO
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fcid						43.68	49.80	11.797						
cyid						43.68	49.80	11.797						
stid						43.68	49.80	11.797						
						=====	=====	=====						
						1950.90	2075.80	287.480						

SO2 – 2018

Point Source Grown and Controlled Emissions by facility for SO2 r6s1b_2018

Base Year = 2002

Future Year = 2018

1

STID=17 CYID=31 fcid=031600AIN name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	31	031600AIN	0010	0013	01	10100226	SO2	10.92	12.39	1.239	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	31	031600AIN	0012	0016	01	10100226	SO2	17.69	20.08	2.008	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid						28.61	32.48	3.248						

STID=17 CYID=31 fcid=031600AMI name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	31	031600AMI	0007	0010	01	10100226	SO2	16.13	18.31	1.831	0.0	0.900	SCRUBBER	Scrubber added by LADCO

cyid						44.74	50.79	5.079						

STID=17 CYID=79 fcid=079808AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	79	079808AAA	0003	0003	01	10100202	SO2	36.35	41.27	4.127	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	79	079808AAA	0012	0013	01	10100501	SO2	28.99	19.46	1.946	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid						65.34	60.72	6.072						
cyid						65.34	60.72	6.072						

STID=17 CYID=97 fcid=097190AAC name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	97	097190AAC	0018	0033	01	10100226	SO2	24.14	27.40	2.740	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	97	097190AAC	0021	0036	01	10100226	SO2	19.23	21.83	2.183	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	97	097190AAC	0016	0031	01	10100203	SO2	4.59	5.22	0.005	0.0	0.999	SHUTDOWN	Scrubber added by LADCO

fcid						47.96	54.45	4.928						
cyid						47.96	54.45	4.928						

STID=17 CYID=125 fcid=125804AAB name=DYNEGY MIDWEST GENERATION INC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	125	125804AAB	0019	0023	01	10100202	SO2	22.34	25.36	3.805	0.0	0.850	SCRUBBER	Scrubber added by LADCO

STID=17 CYID=127 fcid=127855AAC name=ELECTRIC ENERGY INC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
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17	127	127855AAC	0002	0003	01	10100222	SO2	10.25	11.63	11.630	0.0	0.000	LNB	LNB added by LADCO
17	127	127855AAC	0002	0004	01	10100222	SO2	12.04	13.67	13.673	0.0	0.000	LNB	LNB added by LADCO
17	127	127855AAC	0001	0001	01	10100222	SO2	11.83	13.42	1.342	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	127	127855AAC	0001	0002	01	10100222	SO2	11.48	13.03	1.303	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	127	127855AAC	0003	0005	01	10100222	SO2	11.72	13.31	1.331	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	127	127855AAC	0003	0006	01	10100222	SO2	12.68	14.39	1.439	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	70.00	79.46	30.719
cyid	70.00	79.46	30.719

STID=17 CYID=135 fcid=135803AAA name=AMEREN ENERGY GENERATING CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	135	135803AAA	0001	0001	01	10100203	SO2	32.99	37.45	3.745	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	135	135803AAA	0001	0003	01	10100203	SO2	72.92	82.77	8.277	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	105.91	120.22	12.022
cyid	105.91	120.22	12.022

STID=17 CYID=143 fcid=143805AAG name=AES ED EDWARDS STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	143	143805AAG	0002	0004	01	10100202	SO2	15.28	17.34	1.734	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=17 CYID=157 fcid=157851AAA name=DYNEGY MIDWEST GENERATION INC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	157	157851AAA	0001	0001	01	10100203	SO2	25.14	28.54	4.281	0.0	0.850	SCRUBBER	Scrubber added by LADCO
17	157	157851AAA	0002	0002	01	10100203	SO2	25.79	29.28	4.392	0.0	0.850	SCRUBBER	Scrubber added by LADCO
17	157	157851AAA	0013	0013	01	10100202	SO2	27.79	31.54	4.732	0.0	0.850	SCRUBBER	Scrubber added by LADCO

fcid	78.72	89.36	13.404
cyid	78.72	89.36	13.404

STID=17 CYID=167 fcid=167120AAO name=CITY WATER LIGHT & POWER

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	167	167120AAO	0010	0012	01	10100203	SO2	44.20	50.18	0.050	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
17	167	167120AAO	0010	0013	01	10100203	SO2	16.40	18.62	0.019	0.0	0.999	SHUTDOWN	Scrubber added by LADCO

fcid	60.61	68.80	0.069
cyid	60.61	68.80	0.069

STID=17 CYID=179 fcid=179801AAA name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	179	179801AAA	0018	0029	01	10100203	SO2	25.35	28.77	2.877	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	179	179801AAA	0018	0031	01	10100203	SO2	41.57	47.19	4.719	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	66.91	75.96	7.596
cyid	66.91	75.96	7.596

STID=17 CYID=197 fcid=197809AAO name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	197	197809AAO	0006	0009	01	10100203	SO2	15.89	18.04	1.804	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	197	197809AAO	0016	0031	01	10100202	SO2	27.43	31.13	3.113	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	197	197809AAO	0017	0033	01	10100202	SO2	23.13	26.26	2.626	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	66.45	75.44	7.544
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STID=17 CYID=197 fcid=197810AAK name=MIDWEST GENERATION LLC

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
17	197	197810AAK	0009	0014	02	10100222	SO2	11.64	13.21	1.321	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	197	197810AAK	0011	0016	02	10100222	SO2	25.67	29.14	2.914	0.0	0.900	SCRUBBER	Scrubber added by LADCO
17	197	197810AAK	0013	0010	03	10100501	SO2	0.00	0.00	0.000	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
17	197	197810AAK	0007	0012	02	10100223	SO2	15.33	17.40	0.017	0.0	0.999	SHUTDOWN	Scrubber added by LADCO
17	197	197810AAK	0007	0012	03	10100501	SO2	0.00	0.00	0.000	0.0	0.999	SHUTDOWN	Scrubber added by LADCO

fcid	52.64	59.75	4.252
cyid	119.09	135.19	11.796
stid	696.90	777.66	97.225

STID=18 CYID=147 fcid=00020 name=INDIANA MICHIGAN POWER-ROCKPORT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
18	147	00020	1	001	01	10100222	SO2	66.42	72.32	7.232	0.0	0.900	SCRUBBER	Scrubber added by LADCO
18	147	00020	1	001	02	10100501	SO2	0.00	0.00	0.000	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	66.42	72.32	7.232
cyid	66.42	72.32	7.232
stid	66.42	72.32	7.232

STID=19 CYID=115 fcid=58-07-001 name=MIDAMERICAN ENERGY CO. - LOUISA STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
19	115	58-07-001	117487	147281	99	10100222	SO2	33.66	38.22	3.822	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=21 CYID=127 fcid=2112700003 name=KENTUCKY POWER CO

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
21	127	2112700003	2	002	99	10100202	SO2	104.52	113.82	11.382	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=21 CYID=161 fcid=2116100009 name=EAST KY POWER COOP

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
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21	161	2116100009	1	001	99	10100202	SO2	42.17	45.92	4.592	0.0	0.900	SCRUBBER	Scrubber added by LADCO
21	161	2116100009	2	002	99	10100212	SO2	55.39	60.31	6.031	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	97.55	106.23	10.623
cyid	97.55	106.23	10.623
stid	202.07	220.04	22.004

STID=27 CYID=61 fcid=2706100004 name=Minnesota Power Inc - Boswell Energy Ctr

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
27	61	2706100004	SV003	EU003	001	10100226	SO2	33.99	39.15	16.778	0.3	0.700	SCRUBBER	Scrubber added by LADCO
27	61	2706100004	SV003	EU003	002	10100501	SO2	0.00	0.00	0.000	0.3	0.700	SCRUBBER	Scrubber added by LADCO

fcid	33.99	39.15	16.778
cyid	33.99	39.15	16.778

STID=27 CYID=109 fcid=2710900011 name=Rochester Public Utilities - Silver Lake

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
27	109	2710900011	SV003	EU004	001	10100202	SO2	7.86	9.05	1.357	0.0	0.850	SCRUBBER	Scrubber added by LADCO

STID=27 CYID=141 fcid=2714100004 name=NSP - Sherburne Generating Plant

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
27	141	2714100004	SV001	EU001	001	10100222	SO2	16.76	19.31	4.138	0.3	0.850	SCRUBBER	Scrubber added by LADCO
27	141	2714100004	SV001	EU002	001	10100222	SO2	22.55	25.97	5.565	0.3	0.850	SCRUBBER	Scrubber added by LADCO

fcid	39.31	45.28	9.703
cyid	39.31	45.28	9.703
stid	81.16	93.48	27.838

STID=39 CYID=13 fcid=0607130015 name=R. E. BURGER PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
39	13	0607130015	R6	B011	B011P1	10100202	SO2	29.83	32.48	3.248	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	13	0607130015	R7	B012	B012P1	10100202	SO2	34.77	37.86	3.786	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	64.60	70.34	7.034
cyid	64.60	70.34	7.034

STID=39 CYID=31 fcid=0616000000 name=CONESVILLE POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
39	31	0616000000	R4	B004	B004P1	10100212	SO2	316.00	344.11	34.411	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=39 CYID=167 fcid=0684000000 name=MUSKINGUM RIVER POWER PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		

39	167	0684000000	R2	B002	B002P1	10100201	SO2	65.07	70.85	7.085	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R2	B002	B002P2	10100501	SO2	0.00	0.00	0.000	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R3	B003	B003P1	10100201	SO2	94.58	103.00	10.300	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R3	B003	B003P2	10100501	SO2	0.00	0.00	0.000	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R4	B004	B004P1	10100203	SO2	81.64	88.90	8.890	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R4	B004	B004P2	10100501	SO2	0.00	0.00	0.000	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R5	B005	B005P1	10100203	SO2	97.22	105.87	10.587	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R5	B005	B005P2	10100501	SO2	0.00	0.00	0.000	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R6	B006	B006P1	10100202	SO2	113.96	124.10	12.410	0.0	0.900	SCRUBBER	Scrubber added by LADCO
39	167	0684000000	R6	B006	B006P2	10100501	SO2	0.00	0.00	0.000	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	452.48	492.72	49.272
cyid	452.48	492.72	49.272
stid	833.08	907.16	90.716

STID=47 CYID=1 fcid=0009 name=TVA BULL RUN FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
47	1	0009	S-1	001	99	10100212	SO2	130.81	136.82	13.682	0.0	0.900	SCRUBBER	Scrubber added by LADCO

STID=47 CYID=73 fcid=0007 name=TVA JOHN SEVIER FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
47	73	0007	S-1A	001	99	10100212	SO2	20.15	21.07	2.107	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	73	0007	S-1B	002	99	10100212	SO2	20.25	21.18	2.118	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	73	0007	S-2A	003	99	10100212	SO2	19.62	20.52	2.052	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	73	0007	S-2B	004	99	10100212	SO2	18.93	19.80	1.980	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	78.95	82.57	8.257
cyid	78.95	82.57	8.257

STID=47 CYID=85 fcid=0011 name=TVA JOHNSONVILLE FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
47	85	0011	S1-01	001	99	10100212	SO2	17.06	17.84	1.784	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	85	0011	S1-04	004	99	10100212	SO2	19.85	20.76	2.076	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	85	0011	S1-05	005	99	10100212	SO2	24.11	25.22	2.522	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	61.02	63.82	6.382
cyid	61.02	63.82	6.382

STID=47 CYID=145 fcid=0013 name=TVA KINGSTON FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	scc	polid	Tons/Day	Tons/Day	Tons/Day	Control EF	Control EF	ctrltype	ctrldes
								Base Yr	Grown	Controlled	Base Year	Future Year		
47	145	0013	S-1	001	99	10100202	SO2	12.68	13.26	1.326	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-1	002	99	10100202	SO2	14.00	14.65	1.465	0.0	0.900	SCRUBBER	Scrubber added by LADCO

47	145	0013	S-1	003	99	10100202	SO2	13.80	14.44	1.444	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-1	004	99	10100202	SO2	12.24	12.80	1.280	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-1	005	99	10100202	SO2	19.57	20.47	2.047	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	006	99	10100202	SO2	18.92	19.79	1.979	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	007	99	10100202	SO2	21.30	22.28	2.228	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	008	99	10100202	SO2	18.54	19.39	1.939	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	145	0013	S-2	009	99	10100202	SO2	20.72	21.68	2.168	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	151.77	158.75	15.875
cyid	151.77	158.75	15.875

STID=47 CYID=165 fcid=0025 name=TVA GALLATIN FOSSIL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
47	165	0025	S-01	001	99	10100212	SO2	13.91	14.54	1.454	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	165	0025	S-01	002	99	10100212	SO2	14.87	15.56	1.556	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	165	0025	S-02	003	99	10100212	SO2	16.33	17.08	1.708	0.0	0.900	SCRUBBER	Scrubber added by LADCO
47	165	0025	S-02	004	99	10100212	SO2	20.39	21.32	2.132	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	65.49	68.50	6.850
cyid	65.49	68.50	6.850
stid	488.04	510.46	51.046

STID=54 CYID=39 fcid=0006 name=APPALACHIAN POWER - KANAWHA RIVER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	39	0006	012	001	99	10100202	SO2	19.45	21.18	10.591	0.0	0.500	SCRUBBER	Scrubber added by LADCO
54	39	0006	012	002	99	10100202	SO2	20.94	22.80	11.399	0.0	0.500	SCRUBBER	Scrubber added by LADCO

fcid	40.39	43.98	21.990
cyid	40.39	43.98	21.990

STID=54 CYID=51 fcid=0005 name=OHIO POWER - MITCHELL PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	51	0005	012	001	99	10100202	SO2	17.77	19.36	1.936	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	51	0005	012	002	99	10100202	SO2	5.69	6.19	0.619	0.0	0.900	SCRUBBER	Scrubber added by LADCO

fcid	23.46	25.55	2.555
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STID=54 CYID=51 fcid=0006 name=OHIO POWER - KAMMER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	51	0006	013	001	99	10100203	SO2	47.06	51.25	5.125	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	51	0006	013	002	99	10100203	SO2	47.66	51.90	5.190	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	51	0006	013	003	99	10100203	SO2	41.94	45.67	4.567	0.0	0.900	SCRUBBER	Scrubber added by LADCO

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fcid	136.67	148.82 14.882
cyid	160.13	174.37 17.437

STID=54 CYID=53 fcid=0001 name=APPALACHIAN POWER CO.-PHILIP SPORN PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	53	0001	014	001	99	10100202	SO2	18.65	20.31	2.031	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	53	0001	014	002	99	10100202	SO2	15.87	17.28	1.728	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	53	0001	014	003	99	10100202	SO2	21.46	23.36	2.336	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	53	0001	014	004	99	10100202	SO2	20.53	22.36	2.236	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	53	0001	005	005	99	10100202	SO2	46.82	50.98	5.098	0.0	0.900	SCRUBBER	Scrubber added by LADCO

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fcid	123.33	134.30 13.430

STID=54 CYID=53 fcid=0009 name=APPALACHIAN POWER - MOUNTAINEER PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	53	0009	001	001	99	10100202	SO2	11.20	12.19	1.219	0.0	0.900	SCRUBBER	Scrubber added by LADCO

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cyid	134.53	146.49 14.649

STID=54 CYID=79 fcid=0006 name=APPALACHIAN POWER - JOHN E AMOS PLANT

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
54	79	0006	012	001	99	10100202	SO2	79.63	86.72	8.672	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	79	0006	012	002	99	10100202	SO2	100.33	109.26	10.926	0.0	0.900	SCRUBBER	Scrubber added by LADCO
54	79	0006	003	003	99	10100202	SO2	139.38	151.77	15.177	0.0	0.900	SCRUBBER	Scrubber added by LADCO

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fcid	319.35	347.75 34.775
cyid	319.35	347.75 34.775
stid	654.39	712.59 88.851

STID=55 CYID=79 fcid=241007690 name=WIS ELECTRIC POWER OAK CREEK STATION

STID	CYID	fcid	stkid	dvid	prid	Base Yr scc	Grown polid	Controlled Tons/Day	Base Year Tons/Day	Future Year Tons/Day	Control EF	Control EF	ctrltype	ctrldes
55	79	241007690	S13	B25	01	10100202	SO2	12.75	14.48	3.475	0.0	0.760	SCRUBBER	Scrubber added by LADCO
55	79	241007690	S13	B26	01	10100202	SO2	8.68	9.85	2.462	0.0	0.750	SCRUBBER	Scrubber added by LADCO
55	79	241007690	S14	B27	01	10100212	SO2	10.97	12.45	2.864	0.0	0.770	SCRUBBER	Scrubber added by LADCO
55	79	241007690	S14	B28	01	10100212	SO2	11.28	12.81	2.945	0.0	0.770	SCRUBBER	Scrubber added by LADCO

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fcid	43.68	49.59 11.746
cyid	43.68	49.59 11.746
stid	43.68	49.59 11.746
=====	=====	=====
	3099.41	3381.52 400.481

Appendix II

Scenario C Controls (CAMD List)

NOx Controls (SCRs, 2007 – 2013))

Plant Name	UniqueID_Final	State Name	County	Capacity MW	On Line Year	SCR Online Year
Chesterfield	3797_B_4	Virginia	Chesterfield	166	1960	2013
Chesterfield	3797_B_5	Virginia	Chesterfield	310	1964	2012
Scherer	6257_B_3	Georgia	Monroe	875	1987	2011
Chesterfield	3797_B_6	Virginia	Chesterfield	658	1969	2011
Sadow No 4	6648_B_4	Texas	Milam	545	1981	2011
Beech Hollow Power Project	82704_B_1	Pennsylvania	Washington	272	2011	2011
Longview Power	82702_B_1	West Virginia	Monongalia	695	2011	2011
Cliffside	2721_B_6	North Carolina	Cleveland	800	2011	2011
AES Westover	2526_B_11	New York	Broome	22	1943	2010
AES Westover	2526_B_12	New York	Broome	22	1943	2010
AES Westover	2526_B_13	New York	Broome	84	1951	2010
Iatan 2	6065_B_2	Missouri	Platte	850	2010	2010
Southwest	6195_B_2	Missouri	Greene	300	2010	2010
Trimble Station (LGE)	6071_B_2	Kentucky	Trimble	732	2010	2010
Elm Road Generating Station	56068_B_2	Wisconsin	Milwaukee	615	2010	2010
Clay Boswell	1893_B_3	Minnesota	Itasca	350	1973	2009
Asheville	2706_B_2	North Carolina	Buncombe	184	1971	2009
Conesville	2840_B_4	Ohio	Coshocton	780	1973	2009
Marshall	2727_B_3	North Carolina	Catawba	657	1969	2009
St Johns River Power Park	207_B_1	Florida	Duval	626	1987	2009
Ghent	1356_B_2	Kentucky	Carroll	469	1977	2009
Chalk Point LLC	1571_B_1	Maryland	Prince George's	341	1964	2009
Chalk Point LLC	1571_B_2	Maryland	Prince George's	342	1965	2009
San Juan	2451_B_2	New Mexico	San Juan	320	1973	2009
Big Bend	645_B_BB01	Florida	Hillsborough	411	1970	2009
Big Bend	645_B_BB02	Florida	Hillsborough	391	1973	2009
Big Bend	645_B_BB03	Florida	Hillsborough	414	1976	2009
Nebraska City Unit 2	6096_B_2	Nebraska	Otoe	663	2009	2009
Cross	130_B_4	South Carolina	Berkeley	652	2009	2009
Springerville	8223_B_4	Arizona	Apache	400	2009	2009
Sadow 5	82010_B_5	Texas	Milam	600	2009	2009
Oak Grove	82011_B_1	Texas	Robertson	800	2009	2009
Oak Grove	82011_B_2	Texas	Robertson	800	2009	2009
TS Power Plant	82013_B_1	Nevada	Eureka	200	2009	2009
Plum Point Energy	82014_B_1	Arkansas	Mississippi	665	2009	2009
Comanche	470_B_3	Colorado	Pueblo	750	2009	2009
Elm Road Generating Station	56068_B_1	Wisconsin	Milwaukee	615	2009	2009
Two Elk Generating Station	55360_B_1	Wyoming	Campbell	300	2009	2009
J K Spruce	7097_B_BLR2	Texas	Bexar	750	2009	2009
Dallman	963_B_34	Illinois	Sangamon	200	2009	2009
AES Greenidge LLC	2527_B_4	New York	Yates	27	1950	2008
AES Greenidge LLC	2527_B_5	New York	Yates	27	1950	2008
AES Greenidge LLC	2527_B_6	New York	Yates	106	1953	2008
Charles R Lowman	56_B_2	Alabama	Washington	238	1979	2008
Charles R Lowman	56_B_3	Alabama	Washington	238	1980	2008
Barry	3_B_5	Alabama	Mobile	750	1971	2008
St Johns River Power Park	207_B_2	Florida	Duval	626	1988	2008
Morgantown Generating Plant	1573_B_2	Maryland	Charles	620	1971	2008

Bailly	995_B_7	Indiana	Porter	160	1962	2008
San Juan	2451_B_1	New Mexico	San Juan	322	1976	2008
San Juan	2451_B_3	New Mexico	San Juan	495	1979	2008
Weston	4078_B_4	Wisconsin	Marathon	519	2008	2008
AES Deepwater	10670_B_AAB001	Texas	Harris	140	1986	2007
La Cygne	1241_B_1	Kansas	Linn	724	1973	2007
Morgantown Generating Plant	1573_B_1	Maryland	Charles	624	1970	2007
PSEG Hudson Generating Station	2403_B_2	New Jersey	Hudson	583	1967	2007
San Juan	2451_B_4	New Mexico	San Juan	506	1982	2007
Big Bend	645_B_BB04	Florida	Hillsborough	457	1985	2007
Cross	130_B_3	South Carolina	Berkeley	620	2007	2007
Wygen II	55479_B_4	Wyoming	Campbell	90	2007	2007
Council Bluffs	1082_B_4	Iowa	Pottawattamie	790	2007	2007

SO2 Controls (FGDs, 2007 – 2012)

Plant Name	UniqueID_Final	State Name	County	Capacity MW	On Line Year	Scrubber Online Year
James H Miller Jr	6002_B_1	Alabama	Jefferson	684	1978	2011
James H Miller Jr	6002_B_2	Alabama	Jefferson	687	1985	2011
James H Miller Jr	6002_B_3	Alabama	Jefferson	687	1989	2011
James H Miller Jr	6002_B_4	Alabama	Jefferson	688	1991	2011
Cape Fear	2708_B_5	North Carolina	Chatham	143	1956	2011
Baldwin Energy Complex	889_B_1	Illinois	Randolph	624	1970	2011
Baldwin Energy Complex	889_B_2	Illinois	Randolph	629	1973	2011
Baldwin Energy Complex	889_B_3	Illinois	Randolph	629	1975	2011
Scherer	6257_B_3	Georgia	Monroe	875	1987	2011
Milton R Young	2823_B_B1	North Dakota	Oliver	250	1970	2011
W H Sammis	2866_B_6	Ohio	Jefferson	630	1969	2011
W H Sammis	2866_B_7	Ohio	Jefferson	630	1971	2011
PSEG Hudson Generating Station	2403_B_2	New Jersey	Hudson	583	1967	2011
John Sevier	3405_B_1	Tennessee	Hawkins	176	1955	2011
John Sevier	3405_B_2	Tennessee	Hawkins	176	1955	2011
John Sevier	3405_B_3	Tennessee	Hawkins	176	1956	2011
John Sevier	3405_B_4	Tennessee	Hawkins	176	1957	2011
Beech Hollow Power Project	82704_B_1	Pennsylvania	Washington	272	2011	2011
Longview Power	82702_B_1	West Virginia	Monongalia	695	2011	2011
Cliffside	2721_B_6	North Carolina	Cleveland	800	2011	2011
AES Greenidge LLC	2527_B_4	New York	Yates	27	1950	2010
AES Greenidge LLC	2527_B_5	New York	Yates	27	1950	2010
Barry	3_B_5	Alabama	Mobile	750	1971	2010
E C Gaston	26_B_5	Alabama	Shelby	861	1974	2010
Warrick	6705_B_4	Indiana	Warrick	300	1970	2010
Coffeen	861_B_01	Illinois	Montgomery	340	1965	2010
Coffeen	861_B_02	Illinois	Montgomery	560	1972	2010
Cardinal	2828_B_3	Ohio	Jefferson	630	1977	2010
Brandon Shores	602_B_1	Maryland	Anne Arundel	643	1984	2010
Brandon Shores	602_B_2	Maryland	Anne Arundel	643	1991	2010
Monroe	1733_B_4	Michigan	Monroe	775	1974	2010
Cliffside	2721_B_5	North Carolina	Cleveland	550	1972	2010
Crystal River	628_B_4	Florida	Citrus	720	1982	2010
Bowen	703_B_1BLR	Georgia	Bartow	713	1971	2010

Crist	641_B_6	Florida	Escambia	302	1970	2010
Crist	641_B_7	Florida	Escambia	477	1973	2010
Clifty Creek	983_B_1	Indiana	Jefferson	217	1955	2010
Clifty Creek	983_B_2	Indiana	Jefferson	217	1955	2010
Clifty Creek	983_B_3	Indiana	Jefferson	217	1955	2010
Clifty Creek	983_B_4	Indiana	Jefferson	217	1955	2010
Clifty Creek	983_B_5	Indiana	Jefferson	217	1955	2010
Clifty Creek	983_B_6	Indiana	Jefferson	217	1956	2010
Chalk Point LLC	1571_B_1	Maryland	Prince George's	341	1964	2010
Chalk Point LLC	1571_B_2	Maryland	Prince George's	342	1965	2010
Dickerson	1572_B_1	Maryland	Montgomery	182	1959	2010
Dickerson	1572_B_2	Maryland	Montgomery	182	1960	2010
Dickerson	1572_B_3	Maryland	Montgomery	182	1962	2010
R E Burger	2864_B_7	Ohio	Belmont	156	1955	2010
R E Burger	2864_B_8	Ohio	Belmont	156	1955	2010
Kyger Creek	2876_B_1	Ohio	Gallia	217	1955	2010
Kyger Creek	2876_B_2	Ohio	Gallia	217	1955	2010
Kyger Creek	2876_B_3	Ohio	Gallia	217	1955	2010
Kyger Creek	2876_B_4	Ohio	Gallia	217	1955	2010
Kyger Creek	2876_B_5	Ohio	Gallia	217	1955	2010
Cheswick	8226_B_1	Pennsylvania	Allegheny	580	1970	2010
PSEG Mercer Generating Station	2408_B_1	New Jersey	Mercer	315	1960	2010
PSEG Mercer Generating Station	2408_B_2	New Jersey	Mercer	310	1961	2010
Silver Lake	2008_B_4	Minnesota	Olmsted	61	1969	2010
Kingston	3407_B_1	Tennessee	Roane	135	1954	2010
Kingston	3407_B_2	Tennessee	Roane	135	1954	2010
Kingston	3407_B_3	Tennessee	Roane	135	1954	2010
Kingston	3407_B_4	Tennessee	Roane	135	1954	2010
Kingston	3407_B_5	Tennessee	Roane	177	1955	2010
Kingston	3407_B_6	Tennessee	Roane	177	1955	2010
Kingston	3407_B_7	Tennessee	Roane	177	1955	2010
Kingston	3407_B_8	Tennessee	Roane	177	1955	2010
Kingston	3407_B_9	Tennessee	Roane	178	1955	2010
Sioux	2107_B_1	Missouri	St. Charles	497	1967	2010
Sioux	2107_B_2	Missouri	St. Charles	497	1968	2010
Chesterfield	3797_B_5	Virginia	Chesterfield	310	1964	2010
Yorktown	3809_B_1	Virginia	York	159	1957	2010
AES Westover	2526_B_11	New York	Broome	22	1943	2010
AES Westover	2526_B_12	New York	Broome	22	1943	2010
AES Westover	2526_B_13	New York	Broome	84	1951	2010
Iatan 2	6065_B_2	Missouri	Platte	850	2010	2010
Southwest	6195_B_2	Missouri	Greene	300	2010	2010
Trimble Station (LGE)	6071_B_2	Kentucky	Trimble	732	2010	2010
Elm Road Generating Station	56068_B_2	Wisconsin	Milwaukee	615	2010	2010
Cholla	113_B_3	Arizona	Navajo	271	1980	2009
Mayo	6250_B_1A	North Carolina	Person	362	1983	2009
Mayo	6250_B_1B	North Carolina	Person	362	1983	2009
Conesville	2840_B_4	Ohio	Coshocton	780	1973	2009
G G Allen	2718_B_1	North Carolina	Gaston	162	1957	2009
G G Allen	2718_B_2	North Carolina	Gaston	162	1957	2009
G G Allen	2718_B_3	North Carolina	Gaston	260	1959	2009

G G Allen	2718_B_4	North Carolina	Gaston	275	1960	2009
G G Allen	2718_B_5	North Carolina	Gaston	265	1961	2009
H L Spurlock	6041_B_1	Kentucky	Mason	315	1977	2009
Crystal River	628_B_5	Florida	Citrus	717	1984	2009
Deerhaven Generating Station	663_B_B2	Florida	Alachua	228	1981	2009
Bowen	703_B_2BLR	Georgia	Bartow	718	1972	2009
Wansley	6052_B_2	Georgia	Heard	892	1978	2009
E W Brown	1355_B_1	Kentucky	Mercer	94	1957	2009
E W Brown	1355_B_2	Kentucky	Mercer	160	1963	2009
E W Brown	1355_B_3	Kentucky	Mercer	422	1971	2009
Ghent	1356_B_2	Kentucky	Carroll	469	1977	2009
Fayette Power Project	6179_B_1	Texas	Fayette	598	1979	2009
Fayette Power Project	6179_B_2	Texas	Fayette	598	1980	2009
Morgantown Generating Plant	1573_B_1	Maryland	Charles	624	1970	2009
Morgantown Generating Plant	1573_B_2	Maryland	Charles	620	1971	2009
PPL Brunner Island	3140_B_1	Pennsylvania	York	321	1961	2009
PPL Brunner Island	3140_B_2	Pennsylvania	York	378	1965	2009
Keystone	3136_B_1	Pennsylvania	Armstrong	850	1967	2009
Keystone	3136_B_2	Pennsylvania	Armstrong	850	1968	2009
Bull Run	3396_B_1	Tennessee	Anderson	881	1967	2009
Bay Shore	2878_B_4	Ohio	Lucas	215	1968	2009
Hatfields Ferry Power Station	3179_B_1	Pennsylvania	Greene	530	1969	2009
Hatfields Ferry Power Station	3179_B_2	Pennsylvania	Greene	530	1970	2009
Hatfields Ferry Power Station	3179_B_3	Pennsylvania	Greene	530	1971	2009
Nebraska City Unit 2	6096_B_2	Nebraska	Otoe	663	2009	2009
Cross	130_B_4	South Carolina	Berkeley	652	2009	2009
Springerville	8223_B_4	Arizona	Apache	400	2009	2009
Sandow 5	82010_B_5	Texas	Milam	600	2009	2009
Oak Grove	82011_B_1	Texas	Robertson	800	2009	2009
Oak Grove	82011_B_2	Texas	Robertson	800	2009	2009
TS Power Plant	82013_B_1	Nevada	Eureka	200	2009	2009
Plum Point Energy	82014_B_1	Arkansas	Mississippi	665	2009	2009
Comanche	470_B_3	Colorado	Pueblo	750	2009	2009
Elm Road Generating Station	56068_B_1	Wisconsin	Milwaukee	615	2009	2009
Two Elk Generating Station	55360_B_1	Wyoming	Campbell	300	2009	2009
J K Spruce	7097_B_BLR2	Texas	Bexar	750	2009	2009
Dallman	963_B_34	Illinois	Sangamon	200	2009	2009
Charles R Lowman	56_B_1	Alabama	Washington	86	1969	2008
John E Amos	3935_B_1	West Virginia	Putnam	800	1971	2008
John E Amos	3935_B_2	West Virginia	Putnam	800	1972	2008
Cholla	113_B_4	Arizona	Navajo	380	1981	2008
Roxboro	2712_B_1	North Carolina	Person	369	1966	2008
Roxboro	2712_B_3A	North Carolina	Person	341	1973	2008
Roxboro	2712_B_3B	North Carolina	Person	341	1973	2008
Miami Fort	2832_B_7	Ohio	Hamilton	500	1975	2008
Miami Fort	2832_B_8	Ohio	Hamilton	500	1978	2008
Cogentrix Virginia Leasing Corp	10071_B_2A	Virginia	Portsmouth	19	1988	2008
Cogentrix Virginia Leasing Corp	10071_B_2B	Virginia	Portsmouth	19	1988	2008
Cogentrix Virginia Leasing Corp	10071_B_2C	Virginia	Portsmouth	19	1988	2008
J M Stuart	2850_B_1	Ohio	Adams	585	1971	2008
J M Stuart	2850_B_2	Ohio	Adams	597	1970	2008

J M Stuart	2850_B_3	Ohio	Adams	597	1972	2008
J M Stuart	2850_B_4	Ohio	Adams	597	1974	2008
Monroe	1733_B_3	Michigan	Monroe	795	1973	2008
Belews Creek	8042_B_1	North Carolina	Stokes	1,115	1974	2008
Belews Creek	8042_B_2	North Carolina	Stokes	1,115	1975	2008
Bowen	703_B_3BLR	Georgia	Bartow	902	1974	2008
Bowen	703_B_4BLR	Georgia	Bartow	929	1975	2008
Hammond	708_B_1	Georgia	Floyd	112	1954	2008
Hammond	708_B_2	Georgia	Floyd	112	1954	2008
Hammond	708_B_3	Georgia	Floyd	112	1955	2008
Hammond	708_B_4	Georgia	Floyd	510	1970	2008
Wansley	6052_B_1	Georgia	Heard	891	1976	2008
Harding Street	990_B_70	Indiana	Marion	435	1973	2008
Cogentrix Hopewell	10377_B_1A	Virginia	Hopewell (city)	18	1987	2008
Cogentrix Hopewell	10377_B_1B	Virginia	Hopewell (city)	18	1987	2008
Cogentrix Hopewell	10377_B_1C	Virginia	Hopewell (city)	18	1987	2008
Ghent	1356_B_4	Kentucky	Carroll	478	1984	2008
Council Bluffs	1082_B_3	Iowa	Pottawattamie	690	1978	2008
PPL Brunner Island	3140_B_3	Pennsylvania	York	749	1969	2008
PPL Montour	3149_B_1	Pennsylvania	Montour	774	1972	2008
PPL Montour	3149_B_2	Pennsylvania	Montour	766	1973	2008
Comanche	470_B_1	Colorado	Pueblo	366	1973	2008
Comanche	470_B_2	Colorado	Pueblo	370	1975	2008
Cayuga	1001_B_2	Indiana	Vermillion	473	1972	2008
Winyah	6249_B_1	South Carolina	Georgetown	295	1975	2008
Winyah	6249_B_2	South Carolina	Georgetown	295	1977	2008
Winyah	6249_B_3	South Carolina	Georgetown	295	1980	2008
Chesterfield	3797_B_6	Virginia	Chesterfield	658	1969	2008
Brayton Point	1619_B_1	Massachusetts	Bristo	243	1963	2008
Brayton Point	1619_B_2	Massachusetts	Bristo	244	1964	2008
Weston	4078_B_4	Wisconsin	Marathon	519	2008	2008
Gorgas	8_B_10	Alabama	Walker	690	1972	2007
Gorgas	8_B_8	Alabama	Walker	165	1956	2007
Gorgas	8_B_9	Alabama	Walker	175	1958	2007
John E Amos	3935_B_3	West Virginia	Putnam	1,300	1973	2007
Mountaineer	6264_B_1	West Virginia	Mason	1,300	1980	2007
Cardinal	2828_B_1	Ohio	Jefferson	600	1967	2007
Cardinal	2828_B_2	Ohio	Jefferson	600	1967	2007
Roxboro	2712_B_2	North Carolina	Person	639	1968	2007
Roxboro	2712_B_4A	North Carolina	Person	343	1980	2007
Roxboro	2712_B_4B	North Carolina	Person	343	1980	2007
Cogentrix Virginia Leasing Corp	10071_B_1A	Virginia	Portsmouth	19	1988	2007
Cogentrix Virginia Leasing Corp	10071_B_1B	Virginia	Portsmouth	19	1988	2007
Cogentrix Virginia Leasing Corp	10071_B_1C	Virginia	Portsmouth	19	1988	2007
Killen Station	6031_B_2	Ohio	Adams	615	1982	2007
Marshall	2727_B_2	North Carolina	Catawba	378	1966	2007
Marshall	2727_B_3	North Carolina	Catawba	657	1969	2007
Cogentrix Hopewell	10377_B_2A	Virginia	Hopewell (city)	18	1987	2007
Cogentrix Hopewell	10377_B_2B	Virginia	Hopewell (city)	18	1987	2007
Cogentrix Hopewell	10377_B_2C	Virginia	Hopewell (city)	18	1987	2007
Ghent	1356_B_3	Kentucky	Carroll	478	1981	2007

Louisa	6664_B_101	Iowa	Louisa	700	1983	2007
Allen S King	1915_B_1	Minnesota	Washington	571	1968	2007
Mitchell	3948_B_1	West Virginia	Marshall	800	1971	2007
Gibson	6113_B_1	Indiana	Gibson	630	1975	2007
Gibson	6113_B_2	Indiana	Gibson	628	1975	2007
Winyah	6249_B_4	South Carolina	Georgetown	270	1981	2007
Pleasant Prairie	6170_B_2	Wisconsin	Kenosha	617	1985	2007
Cross	130_B_3	South Carolina	Berkeley	620	2007	2007
Wygen II	55479_B_4	Wyoming	Campbell	90	2007	2007
Council Bluffs	1082_B_4	Iowa	Pottawattamie	790	2007	2007

Assumed BART Facilities and Units

State	County	Fac ID	Facility Name	Unit ID
MI	Bay	B2840	CE - KARN/WEADOCK	EU00036
MI	Bay	B2840	CE - KARN/WEADOCK	EU00037
MI	Eaton	B4001	LAN. BW&L ERICKSON	EU00007
MI	Houghton	B6553	UP POWER CO / PORTAGE	EU00008
MI	Huron	B2815	DTE - HARBOR BEACH	EU00009
MI	Ingham	B2647	LAN. BW&L Eckert	RG00023
MI	Ingham	B2647	LAN. BW&L Eckert	RG00023
MI	Ingham	B2647	LAN. BW&L Eckert	RG00023
MI	Ingham	B2647	LAN. BW&L Moores Park	RG00021
MI	Marquette	B4261	WE-ENERGIES	EU00029
MI	Marquette	B4261	WE-ENERGIES	EU00030
MI	Marquette	B4261	WE-ENERGIES	EU00031
MI	Marquette	B4261	WE-ENERGIES	EU00032
MI	Marquette	B4261	WE-ENERGIES	EU00033
MI	Monroe	B2816	DTE - MONROE	EU00062
MI	Monroe	B2816	DTE - MONROE	EU00068
MI	Monroe	B2816	DTE - MONROE	EU00063
MI	Monroe	B2816	DTE - MONROE	EU00064
MI	Ottawa	B2835	CE – CAMPBELL	EU00062
MI	Ottawa	B2835	CE – CAMPBELL	EU00061
MI	Saint Clair	B2796	DTE - ST. CLAIR / BELLE RIVER	EU00111
MI	Saint Clair	B6145	DTE – GREENWOOD	EU00009
MI	Wayne	B2132	WYANDOTTE	EU00036
MI	Wayne	B2185	DETROIT PLD, MISTERSKY	EU00014
MI	Wayne	B2811	DTE – TRENTON	EU00035
OH	Lake	0243160009	CEI., EASTLAKE PLANT	B005
OH		0247030013	Orion Power Midwest	B012
OH		0285010188	Dept of Public Utilities, City of Orrville	B001
OH		0285010188	Dept of Public Utilities, City of Orrville	B004
OH		0448020006	Toledo Edison Co., Bay Shore	B003
OH		0448020006	Toledo Edison Co., Bay Shore	B004
OH		0616000000	Conesville Power Plant	B003
OH		0616000000	Conesville Power Plant	B004
OH		0616000000	Conesville Power Plant	B007
OH		0641050002	Cardinal Power Plant	B001
OH		0641050002	Cardinal Power Plant	B002

OH		0641050002	Cardinal Power Plant	B003
OH		0641050002	Cardinal Power Plant	B004
OH		0641050002	Cardinal Power Plant	B008
OH		0641050002	Cardinal Power Plant	B009
OH		0641050002	Cardinal Power Plant	B009
OH	Jefferson	0641160017	W. H. SAMMIS PLANT	B011
OH	Jefferson	0641160017	W. H. SAMMIS PLANT	B012
OH	Jefferson	0641160017	W. H. SAMMIS PLANT	B013
OH		0684000000	Muskingum River Power Plant	B006
OH	Adams	0701000007	DP&L, J.M. Stuart Generating Station	B001
OH	Adams	0701000007	DP&L, J.M. Stuart Generating Station	B002
OH	Adams	0701000007	DP&L, J.M. Stuart Generating Station	B003
OH	Adams	0701000007	DP&L, J.M. Stuart Generating Station	B004
OH		0701000060	DP&L, Killen Station	B001
OH		1409040243	City of Hamilton Dept of Public Utilities	B002
OH		1409040243	City of Hamilton Dept of Public Utilities	B008
OH		1409040243	City of Hamilton Dept of Public Utilities	B009
OH		1413100008	CG&E W. C. BECKJORD	B005
OH		1413100008	CG&E W. C. BECKJORD	B006
OH		1431350093	CG&E MIAMI FORT STATION	B015
IL	Peoria	856	Ameren – Edwards	2
IL	Sangamon	963	CWLP – Dallman	31
IL	Sangamon	963	CWLP – Dallman	32
IL	Christian	876	Dominion – Kincaid	1
IL	Christian	876	Dominion – Kincaid	2
WI	COLUMBIA	111003090	Alliant Energy-Columbia Generating	B20
WI	COLUMBIA	111003090	Alliant Energy-Columbia Generating	B21
WI	COLUMBIA	111003090	Alliant Energy-Columbia Generating	B22
WI	GRANT	122014530	Alliant Energy, Nelson Dewey	B22 (unit 2)
WI	MILWAUKEE	241007690	We Energies-Oak Creek Station	B26 (Unit 6)
WI	MILWAUKEE	241007690	We Energies-Oak Creek Station	B27 (Unit 7)
WI	MILWAUKEE	241007690	We Energies-Oak Creek Station	B28
WI	MILWAUKEE	241007800	We Energies-Valley Station	B21
WI	MILWAUKEE	241007800	We Energies-Valley Station	B23
WI	MILWAUKEE	241007800	We Energies-Valley Station	B24
WI	BROWN	405031990	WI Public Service Corp - JP Pulliam	B27 (unit 8)
WI	SHEBOYGAN	460033090	WP & L Alliant Energy – Edgewater	B24
WI	BUFFALO	606034110	Dairyland Power Coop Alma Station (J.P. Madgett boilers)	B25 (+B26)
WI	BUFFALO	606034110	Dairyland Power Coop Alma Station	B27
WI	VERNON	663020930	Dairyland Power Coop Genoa Station	B20
WI	VERNON	663020930	Dairyland Power Coop Genoa Station	B25
IN	Porter	995	Bailly	7
IN	Porter	995	Bailly	8
IN	Vermillion	1001	Cayuga	1
IN	Vermillion	1001	Cayuga	2
IN	Montgomery	1024	Crawfordsville	6
IN	Warrick	1012	Culley	2

IN	Warrick	1012	Culley	3
IN	Gibson	6113	Gibson	1
IN	Gibson	6113	Gibson	2
IN	Cass	1032	Logansport	6
IN	Sullivan	6213	Merom	1
IN	Sullivan	6213	Merom	2
IN	LaPorte	997	Michigan City	12
IN	Lake	996	Mitchell	11
IN	Pike	994	Petersburg	1
IN	Pike	994	Petersburg	2
IN	Pike	994	Petersburg	3
IN	Pike	1043	Ratts	1
IN	Pike	1043	Ratts	2
IN	Wayne	7335	RPL	2
IN	Jasper	6085	Schahfer	14
IN	Jasper	6085	Schahfer	15
IN	Lake	981	Stateline	4
IN	Marion	990	Stout	70
IN	Dearborn	988	Tanners Creek	4
IN	Vigo	1010	Wabash River	6
IN	Warrick	6705	Warrick	4
IA		07-02-005	Cedar Falls Utilities	Unit #7 (EU10.1A)
IA		88-01-004	Central Iowa Power Cooperative (CIPCO) – Summit Lake Station	CombTurbines (EU 1/1G, EU2/2G)
IA		70-08-003	Central Iowa Power Cooperative (CIPCO) – Fair Station	Unit # 2 (EU 2 & EU 2G)
IA		85-01-006	City of Ames - Steam Electric Plant	Boiler #7 (EU 2)
IA		29-01-013	Interstate Power & Light - Burlington	Main Plant Boiler.
IA		03-03-001	Interstate Power & Light - Lansing	Boiler #4. Sixteen units in total.
IA		23-01-014	Interstate Power & Light - ML Kapp	Boiler #2. Six units in total.
IA		57-01-042	Interstate Power & Light - Prairie Creek	Boiler #4. Fourteen units in total.
IA		78-01-026	MidAmerican Energy Co - Council Bluffs	Boiler #3 (EU003)
IA		97-04-010	MidAmerican Energy Co - Neal North	Boilers #1-3 (EU001 - EU003)
IA		97-04-011	MidAmerican Energy Co - Neal South	Boiler #4 (EU003)
IA		70-01-011	Muscatine Power and Water	Boiler #8
IA		63-02-005	Pella Municipal Power Plant	Boilers #6-8
MN		2709900001	Austin Utilities NE Power Station	EU001
MN		2713700027	Hibbing Public Utilities	EU003
MN		2703100001	MN Power, Taconite Harbor	EU003
MN		2706100004	MN Power, Boswell Energy Center	EU003
MN		2701500010	New Ulm Public Utilities	EU003 - Boiler 4
MN		2711100002	Otter Tail Power Hoot Lake	EU003
MN		2710900011	Rochester Public Utilities, Silver Lake	EU003
MN		2710900011	Rochester Public Utilities, Silver Lake	EU004
MN		2713700028	Virginia Public Utilities	EU003 - Boiler 9
MN		2714100004	Xcel Energy, Sherco	EU001, EU002
MN		2716300005	Xcel Energy, Allen S King	EU001 - Boiler 1

MN		2705300015	Xcel Energy, Riverside	EU003 - Boiler 8
MO		290710003	Ameren -Labadie	B1, B2, B3, B4
MO		291830001	Ameren - Sioux	B1, B2
MO		290990016	Ameren - Rush Island	B1, B2
MO		290950031	Auila - Sibley	B3 - 5C
MO		291430004	Assoc. Electric - New Madrid	B1(EP-01), B2 (EP-02)
MO		290770039	City Utilities Springfield - Southwest	B1 (E09)
MO		290770005	City Utilities Springfield - James River	EO7, EO8
MO		290970001	Empire Distric Electric - Asbury	B7
MO		290830001	KC Power and Light - Montrose	EP08
MO		290210004	Aqula - Lake Road	EP06
MO		291750001	Assoc. Electric - Thomas Hill	EP01, EP02
MO		290950021	Trigen - Kansas City	B1A
MO		290190002	City of Columbia Municipal Power Plant	EP02
MO		291950010	Marshall Munipal Utilities	EP05
MO		290950050	Independence Power & Light-Blue Valley	B3 (EP05)
WV		3943	Fort Martin	
WV		6004	Pleasants	
WV		3948	Mitchell	
WV		3935	Amos	
WV		6264	Mountaineer	
WV		3944	Harrison	
TN		3396	TVA Bull Run	
TN		3399	TVA Cumberland	
KY		1363	Cane Run	
KY		1364	Mill Creek	
KY		6041	Spurlock	
KY		1384	John Sherman Cooper	
KY		1353	Big Sandy	
KY		1356	Ghent	
KY		1355	Brown	
KY		1374	Owensboro Municipal	
KY		1372	Henderson Municipal	
KY		1378	Paradise	
KY		1361	Coleman	
KY		1382	Reid/Henderson 2	
KY		6639	Green	