



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

October 20, 2008

Ms. Lynn Buhl
Regional Administrator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3950

Re: Recommendations Concerning Air Quality
Designations for the 24-Hour Fine Particle (PM_{2.5})
National Ambient Air Quality Standard

Dear Ms. Buhl:

This letter is the State of Indiana's response to the United States Environmental Protection Agency's (U.S. EPA) August 18, 2008 letter to Governor Daniels concerning the Administrator's proposed modifications to the Governor's proposed air quality designation recommendations for the revised 24-Hour Fine Particle (PM_{2.5}) National Ambient Air Quality Standard (NAAQS). While not specifically stated in the letter, it appears to be the notification required by 107(d)(1)(B)(ii) of the Clean Air Act. The State of Indiana presents the following information to "demonstrate why the modification is inappropriate."

In addition to containing the State's 107(d)(1)(B)(ii) response, this letter requests that U.S. EPA use its authority under 107(d)(1)(B)(i) to extend the period for final designations until quality assured PM_{2.5} data for the calendar year 2008 is available. Based on monitoring data through August of 2008, all sites within Indiana currently meet the 24-hour standard for fine particles for the three year period ending in 2008. Since U.S. EPA has expressed its intent to factor 2008 monitoring data into boundary definitions prior to the effective date of designations, Indiana wishes to reserve the right to further supplement these recommendations based on quality assured monitoring data through 2008.

For the reasons discussed below and documented in the attachments to this letter, the State of Indiana respectfully requests that U.S. EPA reconsider its proposal to designate fourteen Indiana counties and five Indiana townships as nonattainment.

- 1) Indiana urges U.S. EPA to consider the most recent air quality data. 2005 was a very unusual PM_{2.5} year with measured PM_{2.5} values significantly higher than the years before and after 2005. Quality assured data through the August of 2008 verifies that all of Indiana may meet the 24-hour PM_{2.5} NAAQS for the 2006-2008 period--this most representative air quality data should be used by U.S. EPA to issue final designations.

- 2) U.S. EPA needs to make a documented reasoned determination concerning Indiana's exceptional events submittal for all PM_{2.5} data used to determine compliance with the 24-hour PM_{2.5} NAAQS. The repeated conclusion "Indiana did not fully establish a causal connection to the event and failed to meet the 'but-for' test" does not contain adequate information to understand U.S. EPA's conclusion and what specifically would need to be provided to change U.S. EPA's determination. The fact that U.S. EPA concurred with every exceptional event where the 24-hour concentrations were below 35 µg/m³, but rejected every event where the 24-hour concentration was above 35 µg/m³ appears arbitrary, especially when the rejected episodes all relate to significant wildfires that were widely reported in the news at the time as causing widespread air quality issues (which we indeed saw in our monitoring data).
- 3) U.S. EPA needs to reconsider its desire that the nonattainment areas for the 24-hour PM_{2.5} NAAQS match those for the annual PM_{2.5} NAAQS and the 8-hour Ozone NAAQS. As explained in Attachment A, both the Clean Air Act requirements concerning nonattainment designations and the observed PM_{2.5} air quality indicate that while there is a significant regional background, actual PM_{2.5} violations are a very local condition typically related to a limited number of local sources.
- 4) U.S. EPA needs to reconsider its determination that townships with high capacity power plants should be designated as nonattainment based upon the cause or contribute rationale. At a minimum, U.S. EPA should consider the size of the power plant and the emission controls it has implemented. For example, the only significant source in Madison Township in Jefferson County is IKEC's Clifty Creek power plant. Five of the six 217 MW units at this plant have SCRs and scrubbers are currently under construction for all six units with various start up dates in 2009. Unless there is a documented significant contribution from this plant (or township) to some nonattainment area, the entire designation and SIP process will accomplish nothing, but employ U.S. EPA and Indiana staff in a paperwork process which will not improve the environment at all.

Thank you for this opportunity to provide recommendations on this important matter. If you have any questions, please feel free to contact me at (317) 232-8611 or Assistant Commissioner Dan Murray at (317) 232-8222.

Sincerely,



Thomas W. Easterly
Commissioner

TWE/sad/skr

Attachments:

Attachment A – Outline of Key Concerns

Attachment B – Indiana PM_{2.5} Summary - Daily Standard

Attachment C – NO_x Emissions Information

Attachment D – Regional Assessment of Daily PM_{2.5} Standard and Technical Support Documents

Attachment E - LADCO Technical Support Document with Non-CAIR Modeling

cc: Cheryl L. Newton, U.S. EPA Region 5
John Mooney, U.S. EPA Region 5
John Summerhays, U.S. EPA Region 5
Dan Murray, IDEM-OAQ
Scott Deloney, IDEM-OAQ
Christine Pedersen, IDEM-OAQ
Sarah Raymond, IDEM-OAQ

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Attachment A

Outline of Key Concerns

Indiana urges U.S. EPA to consider the most recent air quality data

- Indiana encourages U.S. EPA to consider the impact of quality assured monitoring data for 2006-2008, which should be available in February 2009, prior to the effective date of the nonattainment designations. Under the annual PM_{2.5} standard, several counties were designated nonattainment and then were reclassified attainment prior to the effective date when new quality assured monitoring data became available. Ambient air quality monitoring through August 2008 indicates that all of the monitors within Indiana will attain the 24-hour PM_{2.5} standard based on the monitor values from 2006 through 2008. Over half of Indiana's monitors (22 out of 36) have a 2008 critical value above 40 µg/m³, meaning the 2008 values will have to be above 40 µg/m³ in order for the 2006-2008 design value to be over the standard. The critical values in Indiana have not been that high since 2005, and have traditionally been below that mark. Additionally, recent regional modeling conducted by the Lake Michigan Air Directors Consortium (LADCO) has demonstrated that every monitor in Indiana will attain the 24-hour PM_{2.5} standard by the close of 2009. Therefore, U.S. EPA should not base preliminary designations on monitoring information that will be outdated by the time final designations are made. Because there is a stigma associated with nonattainment designations, Indiana urges the U.S. EPA to carefully review all available monitoring information, data analyses, and modeling information prior to imposing undue economic hardship on states and local areas. Please refer to Attachments B, C, D and E for additional information concerning these matters.

U.S. EPA needs to make a documented reasoned determination on Indiana's exceptional events flags for all PM_{2.5} data used to determine compliance with the 24-hour PM_{2.5} NAAQS

- As part of Indiana's recommendations made on May 30, 2008, preliminary data related to exceptional events for Indiana were submitted as an appendix. On June 13, 2008, a revised appendix was sent to U.S. EPA that included information for exceptional events that affected Indiana during 2005-2007, including information regarding a July 4th, 2007, exceptional event that was not previously submitted. Indiana is disappointed that U.S. EPA was unable to review and concur with these exceptional events prior to proposing designations. Concurrence from U.S. EPA concerning the exceptional events submission would have altered the proposed designation of Dubois County as nonattainment. Publicly proposing counties as nonattainment in August 2008 without addressing exceptional events leads to a false stigma in relation to air quality in the area. Indiana urges U.S. EPA to take into consideration all exceptional events data before proceeding with making final nonattainment designations. Furthermore, if the designations are to be based on 2006-2008 monitored values, 2008 exceptional event submissions must be reviewed and acted upon prior to the effective date.

U.S. EPA needs to reconsider its desire that the nonattainment areas for the 24-hour PM_{2.5} NAAQS match those for the annual PM_{2.5} NAAQS and the 8-hour Ozone NAAQS

- When designating areas under the annual PM_{2.5} standard, U.S. EPA relied on guidance and criteria established for the 1-hour ozone and carbon monoxide NAAQS. Section 107(d)(4)(A)(iv) is the only citation of the CAA that references a Metropolitan or Consolidated Metropolitan Statistical Area (MSA or CMSA) boundary as the presumptive boundary for a nonattainment area. However, not only is this citation limited to ozone and carbon monoxide

areas, it is limited to areas classified as Serious, Severe, or Extreme under Subpart 2 of the CAA. U.S. EPA relied on Subpart 1 of the CAA when it designated areas under the annual PM_{2.5} standard and no areas were classified. Section 107(d)(4)(B) of the CAA defines a nonattainment area for PM₁₀ based on a violation of the standard, suggesting that the boundary should be limited to the jurisdiction where the violation occurs. Both the annual and 24-hour PM_{2.5} standards are a revised version of the PM standards. Therefore, Indiana firmly believes that PM_{2.5} designations should be consistent with designations under the PM₁₀ standard. Since U.S. EPA is relying on the nonattainment boundaries for the annual PM_{2.5} standard to serve as the presumptive boundaries for the 24-hour PM_{2.5} standard, and the presumptive boundaries would be more representative of ozone as the pollutant, U.S. EPA must reconsider the criteria and presumptive boundaries prior to proceeding with final designations under the 24-hour PM_{2.5} standard.

- In comparing background monitoring data from the Midwest to that from major urban areas within the Midwest (Chicago, Indianapolis, Detroit, etc.), and in consideration of substantive data analysis work conducted by the Lake Michigan Air Directors Consortium, PM_{2.5} concentrations do not present the same regional characteristics as ozone. In fact, unlike ozone, PM_{2.5} concentrations can be influenced significantly at the local level by a single stationary source. This is further demonstrated in comparing data from multiple monitoring sites within a single urban area, where monitored levels of PM_{2.5} vary significantly based on proximity to industrial activity. Using the greater Indianapolis area as an example, monitored ozone levels throughout the nine county Central Indiana region maintain relative consistency throughout the urban area, with sites in each county measuring air quality above the new ozone standard. Measured ozone levels within the urban core tend to be consistent with what is measured in collar counties, both upwind and downwind. This is not the case with PM_{2.5}, where measured levels vary significantly upwind and downwind of the urban core. Unlike with ozone, monitors that have measured air quality in the past above the 24-hour PM_{2.5} standard are limited to the urban core, and all sites outside the urban core measured air quality below the standard. U.S. EPA must consider the differences between ozone and PM_{2.5} and factor the differences into consideration when developing the criteria and presumptive boundaries for the 24-hour PM_{2.5} standard prior to proceeding with final designations. Please refer to Attachments D and E for additional information.
- Indiana firmly believes that due to the localized influence (urban excess) of PM_{2.5}, nonattainment boundaries for the 24-hour PM_{2.5} standard should be limited only to counties that possess a three-year average ambient monitor-based design value above the standard. However, if the only violating monitor within the county is a source-oriented site, the boundary should be limited to the township in which the monitor resides. This is consistent with U.S. EPA designations under the PM₁₀ standard.
- Recognizing that U.S. EPA is obligated to consider a county's contribution to a downwind monitored violation of the standard, sound evidence must exist that demonstrates that a county actually contributes to the downwind violation in order for the upwind county to be designated nonattainment. Such evidence should not only be supported by a culpability demonstration, the culpability of the upwind county, or portion thereof, must be significant. Counties that measure air quality below the standard, and are not proven to be significantly culpable for a downwind violation, should be designated attainment. Counties for which monitoring data does not exist, and are not proven to be significantly culpable for a downwind violation, should be considered unclassifiable and designated attainment.

- Since there are multiple species that comprise PM_{2.5}, and the portion of specie contribution varies by season and geographic location, relying solely on precursor emissions data weighted evenly by species is inappropriate and does not constitute a culpability demonstration. Additionally, assuming that mobile source contributions driven by population density substantiate culpability for a collar county is erroneous and contradicted by speciation and source apportionment data available to U.S. EPA.
- Indiana strongly believes that a number of Indiana counties were improperly designated as nonattainment under the annual PM_{2.5} standard. For instance, Hamilton, Hendricks, Johnson, and Morgan counties were designated as part of the Central Indiana (Indianapolis) nonattainment area due to population density and assumed mobile source contribution to monitored violations in Marion County. However, not only does measured air quality not support the designation of these counties, area and mobile sources are not culpable for the urban excess once measured in Marion County. Since Indiana expects Marion County to measure air quality below the 24-hour PM_{2.5} standard by the close of 2008, U.S. EPA must ensure that this county is designated appropriately (as attainment). Please refer to Attachment D for additional information.
- Lake and Porter counties were designated as part of the greater Chicago nonattainment area under the annual PM_{2.5} standard due to assumed contribution to monitored violations in northeast Illinois. All monitor sites in Lake and Porter counties have measured air quality that meets the annual standard since 2004, and Lake and Porter counties are more downwind than upwind of the City of Chicago. Culpability analysis prepared and submitted by Indiana to U.S. EPA on April 3, 2008 demonstrates that not only are Lake and Porter counties not culpable for monitored violations in northeast Illinois, counties designated as attainment in southeast Wisconsin are more culpable to measured levels in northeast Illinois than are Lake and Porter counties. Since Indiana expects Lake and Porter counties to measure air quality below the 24-hour PM_{2.5} standard by the close of 2008, U.S. EPA must ensure that these two counties are designated appropriately (as attainment). Please refer to Attachment D for additional information.
- In the case of Southwest Indiana, Vanderburgh and Knox counties will attain the 24-hour PM_{2.5} standard based on monitor values from 2006 through 2008. If U.S. EPA reviews and approves the 2005-2007 exceptional events, Dubois County could be identified as attainment as well. Counties like Warrick County, that measure air quality below the standard and are not proven to be significantly culpable for a downwind violation, should be designated attainment. Therefore, Indiana expects all of Southwest Indiana to attain the standard by the close of 2008 and expects U.S. EPA to recognize the area as attainment in its final designations. Please refer to Attachments B and D for additional information.

U.S. EPA needs to reconsider its' determination that townships with significant power plants should be designated as non-attainment based upon the cause or contribute rationale

- All five townships in Indiana that U.S. EPA proposed as being nonattainment are identified as contributing to a monitor violation in a nearby county or counties. This is not the case in any of the five townships, which are more downwind than upwind of the violating monitors within the areas U.S. EPA proposed as nonattainment. The stationary sources in those townships are heavily controlled and will continue to be. Should a mandate for the Clean Air Interstate Rule be issued, Indiana will have an equivalent control program in place prior to the mandate being effective. Since all areas are projected to attain based on SIP-quality modeling, and Indiana's control program for electric generating units will be equivalent to Reasonably Available Control Technology, not only are reductions from facilities within the townships that U.S. EPA proposed as nonattainment not necessary, their being designated nonattainment will not result in further

emission reductions or serve any purpose. Counties and townships for which monitoring data does not exist, and are not proven to be significantly culpable for a downwind violation, should be considered unclassifiable and designated attainment. Please refer to Attachment D for additional information.

Indiana PM 2.5 Summary - DAILY Standard: 2007 Exceptional Events Left In

Note: The Daily Standard is 35.0 micrograms per cubic meter (ug/m3) and attainment is determined by the average of the Particulate Matter (PM) 2.5 values over a three-year period. If a monitor is less than or equal to 35.49 ug/m3 it is considered attainment. A monitor that measures 35.5 ug/m3 or higher is considered nonattainment. (Decimals 0.49 or lower are rounded down, decimals 0.50 or higher are rounded up)

The 98th percentile for PM 2.5 is calculated by first sorting all the data values collected in each year from lowest to highest. A rank is assigned to each data value with one being the lowest value. The number of values in each year is multiplied by 0.98 and the value of 1 is added to the integer part of the answer. The corresponding value for the rank is the 98th percentile. The 3-year average is the average of the 98th percentile from each year.

County	Site #	City	Site Name	Yearly 98%					3-year Design Value					2008 Critical Value-- Yearly Mean (98%) Needed to Make 2006- 2008 Design Value Above the Standard	
				2004	2005	2006	2007	2008 (Data Through August 2008)	2004- 2006	2004-2006 rounded	2005- 2007	2005-2007 rounded	2006-2008 (Data Through August 2008)		2006-2008 rounded (Data Through August 2008)
ALLEN	180030004	Fort Wayne	Beacon St	31.0	38.4	26.2	33.7	30.7	31.9	32	32.8	33	30.2	30	45.1
ALLEN	180030014	Fort Wayne	Taylor Univ	28.3	34.9	26.5	32.0	N/A	29.9	30	31.1	31	Monitor Shut Down 12/31/2007		
CLARK	180190006	Jeffersonville	Pfau	28.4	45.5	35.9	38.1	29.2	36.6	37	39.8	40	34.4	34	31.0
DELAWARE	180350006	Muncie	Muncie Central HS	27.2	37.3	27.4	32.9	27.7	30.6	31	32.5	33	29.333	29	44.7
DUBOIS	180370004	Jasper	Sports Complex			33.6	35.2	24.3	33.6 ¹	34 ¹	34.4 ²	34 ²	31.033	31	36.2
DUBOIS	180370005	Jasper	Golf Course			32.2	36.2	25.0	32.2 ¹	32 ¹	34.2 ²	34 ²	31.133	31	36.6
DUBOIS	180372001	Jasper	200 W 6th St	30.0	41.2	31.6	34.7	27.2	34.3	34	35.8	36	31.167	31	38.7
ELKHART	180390008	Elkhart	Prairie Street	31.4	40.8	25.5	34.6	29.4	32.6	33	33.6	34	29.833	30	44.9
FLOYD	180431004	New Albany	Green Valley School	26.7	40.1	28.2	35.4	24.2	31.7	32	34.6	35	29.267	29	41.4
GIBSON	180510002	Oakland City	2205 S 1350 E.	Monitor Started 1/2008				25.4	N/A	N/A	N/A	N/A	25.4 ¹	25 ¹	
HENRY	180650003	Not in a City	Shenandoah HS	26.9	37.3	27.2	32.4	25.3	30.5	31	32.3	32	28.3	28	45.4
HOWARD	180670003	Kokomo	215 W Superior St	27.6	37.6	27.6	33.6	27.9	30.9	31	32.9	33	29.7	30	43.8
KNOX	180830004	Not in a City	SW Purdue Ag Cntr	29.9	41.8	36.2	30.9	28.2	36.0	36	36.3	36	31.767	32	37.9
LAKE	180890006	East Chicago	Franklin School	33.0	39.9	29.4	37.2	26.6	34.1	34	35.5	36	31.067	31	38.4
LAKE	180890022	Gary	ILTRI	45.8	40.4	28.5	35.2	28.9	38.2	38	34.7	35	30.867	31	41.3
LAKE	180890026	Gary	Burr St	38.6	43.7	30.4	36.8	29.6	37.6	38	37.0	37	32.267	32	37.8
LAKE	180890027	Highland	Eldon Ready School	30.1	37.1	25.8	34.1	26.5	31.0	31	32.3	32	28.8	29	45.1
LAKE	180890031	Gary	Water Treatment Plant		39.6	27.1	36.2	26.6	33.4 ²	33 ²	34.3	34	29.967	30	41.7
LAKE	180891003	Gary	Ivanhoe School	30.5	39.0	25.8	33.8	N/A	31.8	32	32.9	33	Monitor Shut Down 12/31/2007		
LAKE	180892004	Hammond	Purdue	31.9	37.6	26.2	34.9	26.8	31.9	32	32.9	33	29.3	29	43.9
LAKE	180892010	Hammond	Robertsdale	28.4	40.9	27.9	35.2	27.8	32.4	32	34.7	35	30.3	30	41.9
LA PORTE	180910011	Michigan City	Marsh Elementary Sch	31.6	37.5	25.5	31.5	29.0	31.5	32	31.5	32	28.667	29	48.0
LA PORTE	180910012	LaPorte	1119 Lake St	26.6	36.5	24.7	31.0	N/A	29.3	29	30.7	31	Monitor Shut Down 12/31/2007		
MADISON	180950009	Anderson	44 W 5th St	28.2	38.3	28.0	34.3	28.4	31.5	32	33.5	34	30.233	30	42.7
MARION	180970042	Indianapolis	Mann Road	29.3	39.4	31.0	35.6	N/A	33.2	33	35.3	35	Monitor Shut Down 12/31/2007		
MARION	180970043	Indianapolis	S. West St	31.7	43.9	37.5	38.3	30.0	37.7	38	39.9	40	35.267	35	29.2
MARION	180970066	Indianapolis	English Ave	31.1	44.0	36.2	38.8	27.8	37.1	37	39.7	40	34.267	34	30.0
MARION	180970078	Indianapolis	Washington Park	31.0	42.5	31.7	38.8	27.6	35.1	35	37.7	38	32.7	33	34.5
MARION	180970079	Indianapolis	7250 E. 75th St	28.7	43.4	30.7	33.5	N/A	34.3	34	35.9	36	Monitor Shut Down 12/31/2007		
MARION	180970081	Indianapolis	W 18th St	31.9	45.7	34.8	38.4	32.9	37.5	38	39.6	40	35.367	35	31.8
MARION	180970083	Indianapolis	2302 E. Michigan St.	31.3	40.3	33.5	37.2	30.7	35.0	35	37.0	37	33.8	34	34.3
PORTER	181270020	Not in a City	Dunes Natl Lakeshore	29.7	37.6	26.6	30.6	N/A	31.3	31	31.6	32	Monitor Shut Down 12/31/2007		
PORTER	181270024	Ogden Dunes	Water Treatment Plant	29.1	37.5	26.1	33.3	26.7	30.9	31	32.3	32	28.7	29	45.6
ST JOSEPH	181410014	South Bend	Nuner Elementary Sch	26.7	40.2	26.0	33.8	28.9	31.0	31	33.3	33	29.567	30	45.2
ST JOSEPH	181410015	South Bend	Shields Drive			24.9	30.8	27.5	24.9 ¹	25 ¹	27.9 ²	28 ²	27.733	28	49.3
ST JOSEPH	181411008	South Bend	Angela & Eddy	27.4	37.3	24.7	N/A	N/A	29.8	30	31.0 ²	31 ²	Monitor Shut Down May 2006		
ST JOSEPH	181412004	South Bend	LaSalle HS	25.1	35.8	24.1	31.3	N/A	28.3	28	30.4	30	Monitor Shut Down 12/31/2007		
SPENCER	181470009	Dale	David Turnham Sch	25.2	39.7	27.7	31.4	24.8	30.9	31	32.9	33	27.967	28	45.9
TIPPECANOE	181570008	Lafayette	3401 Greenbush St	26.4	49.3	27.0	34.2	28.6	34.2	34	36.8	37	29.933	30	43.8
VANDERBURGH	181630006	Evansville	Civic Center	28.3	42.5	30.5	33.6	26.4	33.8	34	35.5	36	30.167	30	40.9
VANDERBURGH	181630012	Evansville	W Mill Rd	27.5	41.5	27.9	29.9	23.9	32.3	32	33.1	33	27.233	27	47.2
VANDERBURGH	181630016	Evansville	Univ of Evansville	28.3	37.0	29.5	31.5	26.8	31.6	32	32.7	33	29.267	29	44.0
VIGO	181670018	Terre Haute	Lafayette St	26.9	43.1	31.0	31.0	28.8	33.7	34	35.0	35	30.267	30	43.0
VIGO	181670023	Terre Haute	Devaney School	30.4	42.5	29.1	32.2	29.3	34.0	34	34.6	35	30.2	30	43.7

¹ One year of Data² Two Years of Data

Values above the standard

Data for 2004-2006 for all monitors have had only the approved exceptional events removed

Exceptional Events for May 23-June 2, 2007 and July 4, 2007 have been LEFT IN

Indiana PM 2.5 Summary - DAILY Standard: 2007 Exceptional Events Taken Out

Note: The Daily Standard is 35.0 micrograms per cubic meter (ug/m3) and attainment is determined by the average of the Particulate Matter (PM) 2.5 values over a three-year period. If a monitor is less than or equal to 35.49 ug/m3 it is considered attainment. A monitor that measures 35.5 ug/m3 or higher is considered nonattainment. (Decimals 0.49 or lower are rounded down, decimals 0.50 or higher are rounded up)

The 98th percentile for PM 2.5 is calculated by first sorting all the data values collected in each year from lowest to highest. A rank is assigned to each data value with one being the lowest value. The number of values in each year is multiplied by 0.98 and the value of 1 is added to the integer part of the answer. The corresponding value for the rank is the 98th percentile. The 3-year average is the average of the 98th percentile from each year.

County	Site #	City	Site Name	Yearly 98%					3-year Design Value						2008 Critical Value-- Yearly Mean (98%) Needed to Make 2006- 2008 Design Value Above the Standard
				2004	2005	2006	2007	2008 (Data Through August 2008)	2004- 2006	2004-2006 rounded	2005- 2007	2005-2007 rounded	2006-2008 (Data Through August 2008)	2006-2008 rounded (Data Through August 2008)	
ALLEN*	180030004	Fort Wayne	Beacon St*	31.0	38.4	26.2	29.8	30.7	31.9	32	31.5	32	28.9	29	49
ALLEN	180030014	Fort Wayne	Taylor Univ	28.3	34.9	26.5	28.1	N/A	29.9	30	29.8	30	Monitor Shut Down 12/31/2007		
CLARK	180190006	Jeffersonville	Pfau	28.4	45.5	35.9	37.0	29.2	36.6	37	39.5	39	34.033	34	32.1
DELAWARE	180350006	Muncie	Muncie Central HS	27.2	37.3	27.4	29.1	27.7	30.6	31	31.3	31	28.067	28	48.5
DUBOIS	180370004	Jasper	Sports Complex			33.6	35.2	24.3	33.6 ¹	34 ¹	34.4 ²	34 ²	31.033	31	36.2
DUBOIS	180370005	Jasper	Golf Club			32.2	36.2	25.0	32.2 ¹	32 ¹	34.2 ²	34 ²	31.133	31	36.6
DUBOIS	180372001	Jasper	200 W 6th St	30.0	41.2	31.6	31.0	27.2	34.3	34	34.6	35	29.933	30	42.4
ELKHART*	180390008	Elkhart	Prairie Street*	31.4	40.8	25.5	33.2	29.4	32.6	33	33.2	33	29.367	29	46.3
FLOYD	180431004	New Albany	Green Valley School	26.7	40.1	28.2	35.4	24.2	31.7	32	34.6	35	29.267	29	41.4
GIBSON	180510002	Oakland City	2205 S 1350 E.	Monitor Started 1/2008				25.4	N/A	N/A	N/A	N/A	25.4 ¹	25 ¹	
HENRY	180650003	Not in a City	Shenandoah HS	26.9	37.3	27.2	32.4	25.3	30.5	31	32.3	32	28.3	28	45.4
HOWARD	180670003	Kokomo	215 W Superior St	27.6	37.6	27.6	33.6	27.9	30.9	31	32.9	33	29.7	30	43.8
KNOX	180830004	Not in a City	SW Purdue Ag Cntr	29.9	41.8	36.2	30.9	28.2	36.0	36	36.3	36	31.767	32	37.9
LAKE	180890006	East Chicago	Franklin School	33.0	39.9	29.4	37.2	26.6	34.1	34	35.5	36	31.067	31	38.4
LAKE	180890022	Gary	ILTRI	45.8	40.4	28.5	35.2	28.9	38.2	38	34.7	35	30.867	31	41.3
LAKE	180890026	Gary	Burr St	38.6	43.7	30.4	35.0	29.6	37.6	38	36.4	36	31.667	32	39.6
LAKE	180890027	Highland	Eldon Ready School	30.1	37.1	25.8	34.1	26.5	31.0	31	32.3	32	28.8	29	45.1
LAKE	180890031	Gary	Water Treatment Plant		39.6	27.1	36.2	26.6	33.4	33 ²	34.3	34	29.967	30	41.7
LAKE	180891003	Gary	Ivanhoe School	30.5	39.0	25.8	33.8	N/A	31.8	32	32.9	33	Monitor Shut Down 12/31/2007		
LAKE	180892004	Hammond	Purdue	31.9	37.6	26.2	34.9	26.8	31.9	32	32.9	33	29.3	29	43.9
LAKE	180892010	Hammond	Robertsdale	28.4	40.9	27.9	35.2	27.8	32.4	32	34.7	35	30.3	30	41.9
LA PORTE	180910011	Michigan City	Marsh Elementary Sch	31.6	37.5	25.5	29.1	29.0	31.5	32	30.7	31	27.867	28	50.4
LA PORTE	180910012	LaPorte	1119 Lake St	26.6	36.5	24.7	30.1	N/A	29.3	29	30.4	30	Monitor Shut Down 12/31/2007		
MADISON	180950009	Anderson	44 W 5th St	28.2	38.3	28.0	30.9	28.4	31.5	32	32.4	32	29.1	29	46.1
MARION	180970042	Indianapolis	Mann Road	29.3	39.4	31.0	35.6	N/A	33.2	33	35.3	35	Monitor Shut Down 12/31/2007		
MARION	180970043	Indianapolis	S. West St	31.7	43.9	37.5	38.3	30.0	37.7	38	39.9	40	35.267	35	29.2
MARION	180970066	Indianapolis	English Ave	31.1	44.0	36.2	38.8	27.8	37.1	37	39.7	40	34.267	34	30.0
MARION	180970078	Indianapolis	Washington Park	31.0	42.5	31.7	38.8	27.6	35.1	35	37.7	38	32.7	33	34.5
MARION	180970079	Indianapolis	7250 E. 75th St	28.7	43.4	30.7	33.5	N/A	34.3	34	35.9	36	Monitor Shut Down 12/31/2007		
MARION	180970081	Indianapolis	W 18th St	31.9	45.7	34.8	38.4	32.9	37.5	38	39.6	40	35.367	35	31.8
MARION	180970083	Indianapolis	2302 E. Michigan St.	31.3	40.3	33.5	37.2	30.7	35.0	35	37.0	37	33.8	34	34.3
PORTER	181270020	Not in a City	Dunes Natl Lakeshore	29.7	37.6	26.6	30.6	N/A	31.3	31	31.6	32	Monitor Shut Down 12/31/2007		
PORTER	181270024	Ogden Dunes	Water Treatment Plant	29.1	37.5	26.1	33.3	26.7	30.9	31	32.3	32	28.7	29	45.6
ST JOSEPH*	181410014	South Bend	Nuner Elementary Sch*	26.7	40.2	26.0	31.4	28.9	31.0	31	32.5	33	28.767	29	47.6
ST JOSEPH	181410015	South Bend	Shields Drive			24.9	30.2	27.5	24.9	25 ¹	27.6	28 ²	27.533	28	49.9
ST JOSEPH	181411008	South Bend	Angela & Eddy	27.4	37.3	24.7	N/A	N/A	29.8	30	31.0 ²	31 ²	Monitor Shut Down May 2006		
ST JOSEPH	181412004	South Bend	LaSalle HS	25.1	35.8	24.1	30.5	N/A	28.3	28	30.1	30	Monitor Shut Down 12/31/2007		
SPENCER	181470009	Dale	David Turnham Sch	25.2	39.7	27.7	31.4	24.8	30.9	31	32.9	33	27.967	28	45.9
TIPPECANOE	181570008	Lafayette	3401 Greenbush St	26.4	49.3	27.0	32.0	28.6	34.2	34	36.1	36	29.2	29	46.0
VANDERBURGH	181630006	Evansville	Civic Center	28.3	42.5	30.5	33.6	26.4	33.8	34	35.5	36	30.167	30	40.9
VANDERBURGH	181630012	Evansville	W Mill Rd	27.5	41.5	27.9	29.1	23.9	32.3	32	32.8	33	26.967	27	48.0
VANDERBURGH	181630016	Evansville	Univ of Evansville	28.3	37.0	29.5	31.5	26.8	31.6	32	32.7	33	29.267	29	44.0
VIGO	181670018	Terre Haute	Lafayette St	26.9	43.1	31.0	31.0	28.8	33.7	34	35.0	35	30.267	30	43.0
VIGO	181670023	Terre Haute	Devaney School	30.4	42.5	29.1	31.2	29.3	34.0	34	34.3	34	29.867	30	44.7

* One year of Data

* Two Years of Data

Values above the standard

Data for 2004-2006 for all monitors have had only the approved exceptional events removed

Exceptional Events for May 23-June 2, 2007 and July 4, 2007 have been TAKEN OUT

*Fort Wayne Beacon St, Elkhart Prarie St and South Bend Nuner Elementary have had both the exceptional Events for May 23-June 2, 2007 and July 4, 2007 TAKEN OUT

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
IN	AEP-I&M	Rockport	6166	MB1	coal	31947		1.07			34,183
IN	AEP-I&M	Rockport	6166	MB2	coal	35259		1.07			37,727
IN	AEP-I&M	Tanners Creek	988	U1	coal	4105		1.07			4,392
IN	AEP-I&M	Tanners Creek	988	U2	coal	4286		1.07			4,587
IN	AEP-I&M	Tanners Creek	988	U3	coal	5093		1.07			5,450
IN	AEP-I&M	Tanners Creek	988	U4	coal	33049		1.07			35,363
	Total emissions					113,739					121,701
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G1CT1	NG/distillate oil	0		1.83			0
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G1CT2	NG/distillate oil	0		1.83			0
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G2CT1	NG/distillate oil	0		1.83			0
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G2CT2	NG/distillate oil	0		1.83			0
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G3CT1	NG/distillate oil	0		1.83			0
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G3CT2	NG/distillate oil	0		1.83			0
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G4CT1	NG/distillate oil	0		1.83			0
IN	DPL Energy-LLC	Montpelier Electric Gen Station	55229	G4CT2	NG/distillate oil	0		1.83			0
	Total emissions					0					0
IN	Duke Energy	Cayuga	1001	1	coal	34362		1.07	FGD(2008)	95	1,838
IN	Duke Energy	Cayuga	1001	2	coal	43279		1.07	FGD(2008)	95	2,315
IN	Duke Energy	Cayuga	1001	4	NG/distillate oil	0		1.83			0

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
IN	Duke Energy	Edwardsport	1004	6-1	distillate oil			1.83	IGCC (2012) - permitted emissions		254
IN	Duke Energy	Edwardsport	1004	7-1	coal	2201					
IN	Duke Energy	Edwardsport	1004	7-2	coal	2525					
IN	Duke Energy	Edwardsport	1004	8-1	coal	2416					
IN	Duke Energy	Gibson	6113	1	coal	35140		1.07	FGD(2007)	95	1,880
IN	Duke Energy	Gibson	6113	2	coal	40372		1.07	FGD(2007)	95	2,160
IN	Duke Energy	Gibson	6113	3	coal	49859		1.07	FGD (2006)	95	2,667
IN	Duke Energy	Gibson	6113	4	coal	9105	FGD	1.07			9,743
IN	Duke Energy	Gibson	6113	5	coal	19758	FGD	1.07			21,141
IN	Duke Energy	Henry County Generating Station	7763	1	NG	0		1.83			0
IN	Duke Energy	Henry County Generating Station	7763	2	NG	0		1.83			0
IN	Duke Energy	Henry County Generating Station	7763	3	NG	0		1.83			0
IN	Duke Energy	Noblesville	1007	CT3	NG	0		1.83			1
IN	Duke Energy	Noblesville	1007	CT4	NG	0		1.83			1
IN	Duke Energy	Noblesville	1007	CT5	NG	0		1.83			1
IN	Duke Energy	R Gallagher	1008	1	coal	14834		1.07			15,872
IN	Duke Energy	R Gallagher	1008	2	coal	15158		1.07			16,219
IN	Duke Energy	R Gallagher	1008	3	coal	12301		1.07			13,162
IN	Duke Energy	R Gallagher	1008	4	coal	14374		1.07			15,380
IN	Duke Energy	Vermillion Energy Facility	55111	1	NG	0		1.83			0
IN	Duke Energy	Vermillion Energy Facility	55111	2	NG	0		1.83			0
IN	Duke Energy	Vermillion Energy Facility	55111	3	NG	0		1.83			0
IN	Duke Energy	Vermillion Energy Facility	55111	4	NG	0		1.83			0
IN	Duke Energy	Vermillion Energy Facility	55111	5	NG	0		1.83			0
IN	Duke Energy	Vermillion Energy Facility	55111	6	NG	0		1.83			0
IN	Duke Energy	Vermillion Energy Facility	55111	7	NG	0		1.83			0
IN	Duke Energy	Vermillion Energy Facility	55111	8	NG	0		1.83			0
IN	Duke Energy	Wabash River Gen Station	1010	1	IGCC	380		1.07			407

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
IN	Duke Energy	Wabash River Gen Station	1010	2	coal	8179		1.07			8,751
IN	Duke Energy	Wabash River Gen Station	1010	3	coal	8252		1.07			8,830
IN	Duke Energy	Wabash River Gen Station	1010	4	coal	8864		1.07			9,484
IN	Duke Energy	Wabash River Gen Station	1010	5	coal	9387		1.07			10,044
IN	Duke Energy	Wabash River Gen Station	1010	6	coal	31713		1.07			33,933
IN	Duke Energy	Wheatland Generating Facility LLC	55224	EU-01	NG	0		1.83			0
IN	Duke Energy	Wheatland Generating Facility LLC	55224	EU-02	NG	0		1.83			0
IN	Duke Energy	Wheatland Generating Facility LLC	55224	EU-03	NG	0		1.83			0
IN	Duke Energy	Wheatland Generating Facility LLC	55224	EU-04	NG	0		1.83			0
	Total emissions					362,460					174,084
IN	Hoosier Energy	Frank E Ratts	1043	1SG1	coal	8634		1.07			9,238
IN	Hoosier Energy	Frank E Ratts	1043	2SG1	coal	6490		1.07			6,944
IN	Hoosier Energy	Merom	6213	1SG1	coal	9778	FGD	1.07			10,463
IN	Hoosier Energy	Merom	6213	2SG1	coal	11041	FGD	1.07			11,814
IN	Hoosier Energy	Worthington Generation	55148	1	NG	0		1.83			0
IN	Hoosier Energy	Worthington Generation	55148	2	NG	0		1.83			0
IN	Hoosier Energy	Worthington Generation	55148	3	NG	0		1.83			0
IN	Hoosier Energy	Worthington Generation	55148	4	NG	0		1.83			0
	Total emissions					35,943					38,459
IN	IKEC	Clifty Creek	983	1	coal	12085		1.07	FGD (2010)	95	647
IN	IKEC	Clifty Creek	983	2	coal	11633		1.07	FGD (2010)	95	622
IN	IKEC	Clifty Creek	983	3	coal	13176		1.07	FGD (2010)	95	705
IN	IKEC	Clifty Creek	983	4	coal	13124		1.07	FGD (2010)	95	702
IN	IKEC	Clifty Creek	983	5	coal	12673		1.07	FGD (2010)	95	678
IN	IKEC	Clifty Creek	983	6	coal	11968		1.07	FGD (2010)	95	640

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
	Total emissions					74,659					3,994
IN	IMPA	Anderson	7336	ACT1	NG/distillate oil	0		1.83			0
IN	IMPA	Anderson	7336	ACT2	NG/distillate oil	0		1.83			0
IN	IMPA	Richmond (IN)	7335	RCT1	NG/distillate oil	0		1.83			0
IN	IMPA	Richmond (IN)	7335	RCT2	NG/distillate oil	0		1.83			0
	Total emissions					1					1
IN	IPL/AES	Georgetown Substation	7759	GT1	NG	0		1.83			0
IN	IPL/AES	Georgetown Substation	7759	GT2	NG	0		1.83			0
IN	IPL/AES	Georgetown Substation	7759	GT3	NG	0		1.83			0
IN	IPL/AES	Georgetown Substation	7759	GT4	NG	0		1.83			0
IN	IPL/AES	Harding Street Station (EW Stout)	990	9	distillate oil	0		1.83			0
IN	IPL/AES	Harding Street Station (EW Stout)	990	10	distillate oil	0		1.83			0
IN	IPL/AES	Harding Street Station (EW Stout)	990	50	coal	9241		1.07			9,888
IN	IPL/AES	Harding Street Station (EW Stout)	990	60	coal	9884		1.07			10,576
IN	IPL/AES	Harding Street Station (EW Stout)	990	70	coal	30222		1.07	FGD (2007)	98	647
IN	IPL/AES	Harding Street Station (EW Stout)	990	GT4	NG/distillate oil	1		1.83			2
IN	IPL/AES	Harding Street Station (EW Stout)	990	GT5	NG/distillate oil	2		1.83			4
IN	IPL/AES	Harding Street Station (EW Stout)	990	GT6	NG	0		1.83			0

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
IN	IPL/AES	IPL Eagle Valley Generating Station	991	1	distillate oil	0		1.83			1
IN	IPL/AES	IPL Eagle Valley Generating Station	991	2	distillate oil	0		1.83			1
IN	IPL/AES	IPL Eagle Valley Generating Station	991	3	coal	3010		1.07			3,221
IN	IPL/AES	IPL Eagle Valley Generating Station	991	4	coal	3933		1.07			4,209
IN	IPL/AES	IPL Eagle Valley Generating Station	991	5	coal	3862		1.07			4,132
IN	IPL/AES	IPL Eagle Valley Generating Station	991	6	coal	7006		1.07			7,496
IN	IPL/AES	Petersburg	994	1	coal	546	FGD	1.07			585
IN	IPL/AES	Petersburg	994	2	coal	1424	FGD	1.07			1,524
IN	IPL/AES	Petersburg	994	3	coal	17832	FGD	1.07			19,080
IN	IPL/AES	Petersburg	994	4	coal	17850	FGD	1.07			19,100
	Total emissions					104,815					80,466
IN	MIRANT	Sugar Creek Power Company, LLC	55364	CT11	NG	1		1.83			1
IN	MIRANT	Sugar Creek Power Company, LLC	55364	CT12	NG	1		1.83			1
	Total emissions					1					2
IN	NIPSCO	Bailly Generating Station	995	7	coal	2539	FGD	1.07			2,717
IN	NIPSCO	Bailly Generating Station	995	8	coal	2181	FGD	1.07			2,334

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
IN	NIPSCO	Dean H Mitchell Generating Station	996	4	coal						-
IN	NIPSCO	Dean H Mitchell Generating Station	996	5	coal						-
IN	NIPSCO	Dean H Mitchell Generating Station	996	6	coal						-
IN	NIPSCO	Dean H Mitchell Generating Station	996	11	coal						-
IN	NIPSCO	Michigan City Generating Station	997	4							-
IN	NIPSCO	Michigan City Generating Station	997	5	NG			1.83			-
IN	NIPSCO	Michigan City Generating Station	997	6							-
IN	NIPSCO	Michigan City Generating Station	997	12	coal	16745		1.07			17,917
IN	NIPSCO	R M Schahfer Generating Station	6085	14	coal	12804		1.07			13,700
IN	NIPSCO	R M Schahfer Generating Station	6085	15	coal	10511		1.07			11,246
IN	NIPSCO	R M Schahfer Generating Station	6085	17	coal	8902	FGD	1.07	FGD upgrade (95%from 90%)		4,451
IN	NIPSCO	R M Schahfer Generating Station	6085	18	coal	8118	FGD	1.07	FGD upgrade (95%from 90%)		4,059
	Total emissions					61,800					56,425
IN	RPL	Whitewater Valley	1040	1	coal	4284		1.07			4,584

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
IN	RPL	Whitewater Valley	1040	2	coal	7549	Dry limestone injection	1.07			8,077
	Total emissions					11,833					12,661
IN	SIGECO	A B Brown Generating Station	6137	1	coal	5993	FGD	1.07			6,413
IN	SIGECO	A B Brown Generating Station	6137	2	coal	3045	FGD	1.07			3,259
IN	SIGECO	A B Brown Generating Station	6137	3	NG/distillate oil	0		1.83			0
IN	SIGECO	A B Brown Generating Station	6137	4	NG/distillate oil	0		1.83			0
IN	SIGECO	Alcoa Allowance Management Inc	6705	4	coal	32779		1.07	FGD (2008)	90	3,507
IN	SIGECO	F B Culley Generating Station	1012	1	coal	2827		0			-
IN	SIGECO	F B Culley Generating Station	1012	2	coal	1136	FGD	1.07			1,215
IN	SIGECO	F B Culley Generating Station	1012	3	coal	1548	FGD	1.07			1,657
	Total emissions					47,329					16,051
IN	SL-Dominion	State Line Generating Station (IN)	981	3	coal	3572		1.07			3,822
IN	SL-Dominion	State Line Generating Station (IN)	981	4	coal	4377		1.07			4,683
	Total emissions					7,949					8,506
IN	Whiting Clean Energy, Inc.	Whiting Clean Energy, Inc.	55259	CT1	NG	1		1.83			2
IN	Whiting Clean Energy, Inc.	Whiting Clean Energy, Inc.	55259	CT2	NG	2		1.83			3

Attachment C: Indiana EGUs Projected Emissions for SO2 Control Strategy (September 19, 2008)

CAIR	Utility	FACILITY_NAME	ORISPL_CODE	UNIT ID	Fuel type	2005 SO2 emissions (tons)	2005 or before SO2 control	Phase I growth factor (2014/2005)	Phase I (2006-2014) controls/changes	Phase I (2006-2014) control efficiency (%)	Phase I SO2 emissions (tons)
	Total emissions					3					5

Attachment C: Indiana EGUS NOX Emissions Projections (for strategy development)

Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
AEP-I&M	Rockport	MB1	2005	coal	10,019				1.07	10,720	10,720
AEP-I&M	Rockport	MB2	2005	coal	11,103				1.07	11,880	11,880
AEP-I&M	Tanners Creek	U1	2005	coal	1,397		SNCR (2010)		1.07	1,495	1,150
AEP-I&M	Tanners Creek	U2	2005	coal	1,443		SNCR (2010)		1.07	1,544	1,190
AEP-I&M	Tanners Creek	U3	2005	coal	1,781		SNCR (2010)		1.07	1,906	1,450
AEP-I&M	Tanners Creek	U4	2005	coal	3,341				1.07	3,575	3,575
	Total Emissions				29,084					31,120	29,965
DPL Energy LLC	Montpelier Electric Gen Station	G1CT1	2005	NG/distillate oil	4				1.83	7	7
DPL Energy LLC	Montpelier Electric Gen Station	G1CT2	2005	NG/distillate oil	3				1.83	5	5
DPL Energy LLC	Montpelier Electric Gen Station	G2CT1	2005	NG/distillate oil	4				1.83	7	7
DPL Energy LLC	Montpelier Electric Gen Station	G2CT2	2005	NG/distillate oil	4				1.83	7	7
DPL Energy LLC	Montpelier Electric Gen Station	G3CT1	2005	NG/distillate oil	4				1.83	7	7
DPL Energy LLC	Montpelier Electric Gen Station	G3CT2	2005	NG/distillate oil	4				1.83	7	7
DPL Energy LLC	Montpelier Electric Gen Station	G4CT1	2005	NG/distillate oil	3				1.83	5	5
DPL Energy LLC	Montpelier Electric Gen Station	G4CT2	2005	NG/distillate oil	4				1.83	7	7
	Total Emissions				30					55	55
Duke Energy	Cayuga	1	2005	coal	4,619				1.07	4,942	4,942
Duke Energy	Cayuga	2	2005	coal	6,931				1.07	7,416	7,416
Duke Energy	Cayuga	4	2005	NG/distillate oil	12				1.83	22	22

Attachment C: Indiana EGUS NOX Emissions Projections (for strategy development)

Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
Duke Energy	Connersville Peaking Station	1A	2005	distillate oil	1				1.83	2	2
Duke Energy	Connersville Peaking Station	1B	2005	distillate oil	1				1.83	2	2
Duke Energy	Connersville Peaking Station	2A	2005	distillate oil	0				1.83	0	0
Duke Energy	Connersville Peaking Station	2B	2005	distillate oil	0				1.83	0	0
Duke Energy	Edwardsport	6-1	2005	distillate oil					1.83	0	0
Duke Energy	Edwardsport	7-1	2005	coal	501		IGCC (2012) -use permitted emissions		1	2,050	2,050
Duke Energy	Edwardsport	7-2	2005	coal	526		IGCC (2012)				0
Duke Energy	Edwardsport	8-1	2005	coal	529		IGCC (2012)				0
Duke Energy	Gibson	1	2005	coal	4,059	SCR			1	4,059	1,122
Duke Energy	Gibson	2	2005	coal	5,337	SCR			1	5,337	1,281
Duke Energy	Gibson	3	2005	coal	6,980	SCR			1	6,980	1,483
Duke Energy	Gibson	4	2005	coal	7,237	SCR			1	7,237	1,507
Duke Energy	Gibson	5	2005	coal	6,671	SCR			1	6,671	1,411
Duke Energy	Henry County Generating Station	1	2005	NG	16				1.83	29	29
Duke Energy	Henry County Generating Station	2	2005	NG	16				1.83	29	29
Duke Energy	Henry County Generating Station	3	2005	NG	17				1.83	31	31
Duke Energy	Noblesville	CT3	2005	NG	7				1.83	13	13
Duke Energy	Noblesville	CT4	2005	NG	11				1.83	20	20
Duke Energy	Noblesville	CT5	2005	NG	10				1.83	18	18
Duke Energy	R Gallagher	1	2005	coal	1,393				1.07	1,491	1,491

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Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
Duke Energy	R Gallagher	2	2005	coal	1,401				1.07	1,499	1,499
Duke Energy	R Gallagher	3	2005	coal	1,148				1.07	1,228	1,228
Duke Energy	R Gallagher	4	2005	coal	1,363				1.07	1,458	1,458
Duke Energy	Vermillion Energy Facility	1	2005	NG	3				1.83	5	5
Duke Energy	Vermillion Energy Facility	2	2005	NG	3				1.83	5	5
Duke Energy	Vermillion Energy Facility	3	2005	NG	3				1.83	5	5
Duke Energy	Vermillion Energy Facility	4	2005	NG	3				1.83	5	5
Duke Energy	Vermillion Energy Facility	5	2005	NG	3				1.83	5	5
Duke Energy	Vermillion Energy Facility	6	2005	NG	3				1.83	5	5
Duke Energy	Vermillion Energy Facility	7	2005	NG	2				1.83	4	4
Duke Energy	Vermillion Energy Facility	8	2005	NG	3				1.83	5	5
Duke Energy	Wabash River Gen Station	1	2005	coal	245				1.07	262	262
Duke Energy	Wabash River Gen Station	2	2005	coal	1,088				1.07	1,164	1,164
Duke Energy	Wabash River Gen Station	3	2005	coal	1,101				1.07	1,178	1,178
Duke Energy	Wabash River Gen Station	4	2005	coal	1,175				1.07	1,257	1,257
Duke Energy	Wabash River Gen Station	5	2005	coal	1,242				1.07	1,329	1,329
Duke Energy	Wabash River Gen Station	6	2005	coal	4,150				1.07	4,441	4,441
Duke Energy	Wheatland Generating Facility LLC	EU-01	2005	NG	2				1.83	4	4
Duke Energy	Wheatland Generating Facility LLC	EU-02	2005	NG	3				1.83	5	5
Duke Energy	Wheatland Generating Facility LLC	EU-03	2005	NG	2				1.83	4	4
Duke Energy	Wheatland Generating Facility LLC	EU-04	2005	NG	2				1.83	4	4
	Total Emissions				57,819					60,225	36,745
Hoosier Energy	Frank E Ratts	1SG1	2005	coal	1,576		over fire air (2008)	25	1.07	1,265	1,265
Hoosier Energy	Frank E Ratts	2SG1	2005	coal	1,129		over fire air (2008)	25	1.07	906	906
Hoosier Energy	Merom	1SG1	2005	coal	5,096	SCR			1.07	5,453	1,098
Hoosier Energy	Merom	2SG1	2005	coal	4,948	SCR			1.07	5,294	1,234
Hoosier Energy	Worthington Generation	1	2005	NG	9				1.83	16	16

Attachment C: Indiana EGUS NOX Emissions Projections (for strategy development)

Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
Hoosier Energy	Worthington Generation	2	2005	NG	8				1.83	15	15
Hoosier Energy	Worthington Generation	3	2005	NG	9				1.83	16	16
Hoosier Energy	Worthington Generation	4	2005	NG	8				1.83	15	15
	Total Emissions				12,783					12,980	4,565
IKEC	Clifty Creek	1	2005	coal	3,184	SCR			1.07	3,407	576
IKEC	Clifty Creek	2	2005	coal	2,563	SCR			1.07	2,742	516
IKEC	Clifty Creek	3	2005	coal	3,534	SCR			1.07	3,781	631
IKEC	Clifty Creek	4	2005	coal	4,545	SCR			1.07	4,863	704
IKEC	Clifty Creek	5	2005	coal	4,369	SCR			1.07	4,675	679
IKEC	Clifty Creek	6	2005	coal	4,427				1.07	4,737	4,737
	Total Emissions				22,622					24,206	7,842
IMPA	Anderson	ACT1	2005	NG/distillate oil	1				1.83	2	2
IMPA	Anderson	ACT2	2005	NG/distillate oil	1				1.83	2	2
IMPA	Richmond (IN)	RCT1	2005	NG/distillate oil	1				1.83	2	2
IMPA	Richmond (IN)	RCT2	2005	NG/distillate oil	1				1.83	2	2
	Total Emissions				4					7	7
IPL/AES	Eagle Valley Generating Station	1	2005	distillate oil	1.14				1.83	2	2
IPL/AES	Eagle Valley Generating Station	2	2005	distillate oil	2.121				1.83	4	4
IPL/AES	Eagle Valley Generating Station	3	2005	coal	868.091				1.07	929	929
IPL/AES	Eagle Valley Generating Station	4	2005	coal	1044.547				1.07	1,118	1,118
IPL/AES	Eagle Valley Generating Station	5	2005	coal	608.147				1.07	651	651
IPL/AES	Eagle Valley Generating Station	6	2005	coal	1012.02				1.07	1,083	1,083
IPL/AES	Georgetown Substation	GT1	2005	NG	3				1.83	5	5

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Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
IPL/AES	Georgetown Substation	GT2	2005	NG	4				1.83	7	7
IPL/AES	Georgetown Substation	GT3	2005	NG	4				1.83	7	7
IPL/AES	Georgetown Substation	GT4	2005	NG	5				1.83	9	9
IPL/AES	Harding Street Station (EW Stout)	9	2005	distillate oil	0				1.83	0	0
IPL/AES	Harding Street Station (EW Stout)	10	2005	distillate oil	1				1.83	2	2
IPL/AES	Harding Street Station (EW Stout)	50	2005	coal	1,048	SNCR			1.07	1,121	891
IPL/AES	Harding Street Station (EW Stout)	60	2005	coal	964	SNCR			1.07	1,031	963
IPL/AES	Harding Street Station (EW Stout)	70	2005	coal	2,495	SCR			1.07	2,670	722
IPL/AES	Harding Street Station (EW Stout)	GT4	2005	NG/distillate oil	17				1.83	31	31
IPL/AES	Harding Street Station (EW Stout)	GT5	2005	NG/distillate oil	23				1.83	42	42
IPL/AES	Harding Street Station (EW Stout)	GT6	2005	NG	9				1.83	16	16
IPL/AES	Petersburg	1	2005	coal	2,356				1.07	2,521	2,521
IPL/AES	Petersburg	2	2005	coal	3,175	SCR			1.07	3,397	973
IPL/AES	Petersburg	3	2005	coal	4,519	SCR			1.07	4,835	1,263
IPL/AES	Petersburg	4	2005	coal	5,472				1.07	5,855	5,855
	Total Emissions				23,631					25,338	17,094
Mirant	Sugar Creek Power Company, LLC	CT11	2005	NG	18	SCR			1.83	33	33
Mirant	Sugar Creek Power Company, LLC	CT12	2005	NG	40	SCR			1.83	73	73
	Total Emissions				58					106	106
NIPSCO	Bailly Generating Station	7	2005	coal	4,076		SCR (2008)			3,510	556
NIPSCO	Bailly Generating Station	8	2005	coal	8,254	SCR			1.07	8,832	1,230
NIPSCO	Bailly Generating Station	10	2005	NG	2				1.83	4	4

Attachment C: Indiana EGUS NOX Emissions Projections (for strategy development)

Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
NIPSCO	Dean H Mitchell Generating Station	4	2005	coal						0	0
NIPSCO	Dean H Mitchell Generating Station	5	2005	coal						0	0
NIPSCO	Dean H Mitchell Generating Station	6	2005	coal						0	0
NIPSCO	Dean H Mitchell Generating Station	11	2005	coal						0	0
NIPSCO	Michigan City Generating Station	4	2005							0	0
NIPSCO	Michigan City Generating Station	5	2005	NG					1.83	0	0
NIPSCO	Michigan City Generating Station	6	2005							0	0
NIPSCO	Michigan City Generating Station	12	2005	coal	5,069	SCR			1.07	5,424	989
NIPSCO	R M Schahfer Generating Station	14	2005	coal	7,195	SCR			1.07	7,699	1,231
NIPSCO	R M Schahfer Generating Station	15	2005	coal	2,835		SOFA (2008)	35	1.07	1,972	1,972
NIPSCO	R M Schahfer Generating Station	17	2005	coal	3,315				1.07	3,547	3,547
NIPSCO	R M Schahfer Generating Station	18	2005	coal	3,456				1.07	3,698	3,698
NIPSCO	R M Schahfer Generating Station	16A	2005	NG	28				1.83	51	51
NIPSCO	R M Schahfer Generating Station	16B	2005	NG	24				1.83	44	44
	Total Emissions				34,254					34,779	13,321
RPL	Whitewater Valley	1	2005	coal	414	SNCR			1.07	443	358
RPL	Whitewater Valley	2	2005	coal	704	SNCR			1.07	753	608
	Total Emissions				1118					1196	965

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Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
SIGECO	A B Brown Generating Station	1	2005	coal	2,590	SCR			1.07	2,771	593
SIGECO	A B Brown Generating Station	2	2005	coal	2,496	SCR			1.07	2,671	541
SIGECO	A B Brown Generating Station	3	2005	NG/distillate oil	12				1.83	22	22
SIGECO	A B Brown Generating Station	4	2005	NG/distillate oil	5				1.83	9	9
SIGECO	Alcoa Allowance Management Inc	4	2005	coal	4,095	SCR			1.07	4,382	873
SIGECO	Broadway Avenue Generating Station	1	2005	NG/distillate oil	14				1.83	26	26
SIGECO	Broadway Avenue Generating Station	2	2005	NG/distillate oil	21				1.83	38	38
SIGECO	F B Culley Generating Station	1	2005		931				0	0	0
SIGECO	F B Culley Generating Station	2	2005	coal	767				1.07	821	821
SIGECO	F B Culley Generating Station	3	2005	coal	1,673	SCR			1.07	1,790	678
	Total Emissions				12,604					12,530	3,600
SL-Dominion	State Line Generating Station (IN)	3	2005	coal	1,189				1.07	1,272	1,272
SL-Dominion	State Line Generating Station (IN)	4	2005	coal	5,659				1.07	6,055	6,055
	Total Emissions				6,848					7,327	7,327
Whiting Clean Energy, Inc.	Whiting Clean Energy, Inc.	CT1	2005	NG	23				1.83	42	42
Whiting Clean Energy, Inc.	Whiting Clean Energy, Inc.	CT2	2005	NG	28				1.83	51	51
	Total Emissions				51					93	93
	Total utilities emissions (tons)				200,906					209,963	

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Utility	FACILITY_NAME	UNITID	OP_YEAR	Fuel type (USEPA - 2006 NEEDS)	2005 NOX (tons)	2005 or before NOX control	Phase I NOX control (2006-2014) or changes	Phase I (2006-2014) NOx control efficiency (%)	2014/2005 growth factor (AEO 2008)	Phase I projected emissions (tons)-see worksheet for projected control- highlighted	Phase I projected emissions (tons)- SCR/SNCR extended operation
Projected New Control Emission Estimate Worksheet											
Unit	NIPSCO Bailly 7										
Projected control	SCR										
Projected installation date	2008										
2005 annual heat input (MMBTU)	10,722,366										
2005 ozone season heat input (MMBTU)	4,548,989										
2005 annual emissions (tons)	4075.65										
2005 ozone season emissions (tons)	1020.70										
2005 non-ozone season heat input (MMBTU)	6,173,377										
2005 non-ozone season emissions (tons)	3054.96										

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2005 non-ozone emission rate (lb/MMBTU)	0.99										
Control efficiency (%)	90										
Controlled rate (lb/MMBTU)	0.10										
Floor rate (lb/MMBTU)	0.06										
Applicable Controlled rate (lb/MMBTU)	0.10										
Projection year/Base year	2014/2005										
Growth factor	1.07										
Projected ozone season heat input (MMBTU)	4,867,418										
Projected non- ozone season heat input (MMBTU)	6,605,513										
Projected ozone season emissions (tons)	241										
Projected non- ozone season emissions (tons)	3,269										

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Total projected emissions (tons)	3,510										