



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

June 5, 2009

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

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

Dear Mr. Mathur:

The Indiana Department of Environmental Management (IDEM) prepared and submitted the following draft documents to the United States Environmental Protection Agency (U.S. EPA) with a request for parallel processing on December 4, 2008:

- Redesignation Petition and Maintenance Plan
- Attainment Demonstration, including the Demonstration of Rate of Further Progress
- Demonstration of compliance with requirements pertaining to Reasonably Available Control Technology for volatile organic compounds
- Request for waiver for Reasonably Available Control Technology requirements for nitrogen oxides

IDEM conducted a public hearing concerning these documents on January 8, 2009 and the public comment period concluded on January 12, 2009.

Attached are the final Redesignation Petition and Maintenance Plan, Attainment Demonstration including the Demonstration of Rate of Further Progress, and Request for Waiver for Reasonably Available Control Technology (RACT) requirements for nitrogen oxides (NO_x) for Lake and Porter counties, Indiana. The final version documents the public review process. The documents have not been altered substantively since they were submitted to the U.S. EPA for parallel processing on December 4, 2008. Also, included for your review and consideration is a draft submittal of Indiana's RACT submittal for volatile organic compounds (VOC). This draft submission includes one negative declaration and a series of rulemaking notices. The rulemaking and public processes for the RACT submission will be finalized by September of 2009 and IDEM will provide U.S. EPA with a final submission shortly thereafter.

The attached documents include the following:

Redesignation Petition and Maintenance Plan

- A formal request that Lake and Porter counties be redesignated to attainment and classified as maintenance. The request contains and meets the requirements set forth in Section 107 of the Clean Air Act and in the Redesignation guidance issued September 4, 1992.
- A maintenance year of 2020 is established and 2010 is analyzed as an interim year.
- The appendices of the document contain historic trend data, projected emission inventory data and thorough documentation of the mobile emissions analysis.
- A transcript of the public hearing and a record of all comments received, as well as IDEM's responses.

Attainment Demonstration

- Demonstration that the area will attain the standard by statutory deadline
- Contained in the Attainment Demonstration is the Rate of Further Progress

Motor Vehicle Emissions Budgets

- Contained in the Attainment Demonstration is a motor vehicle emissions budget for 2009.
- Contained in the Maintenance Plan is a new motor vehicle emissions budget for 2020.
- The Northwestern Indiana Regional Planning Commission travel demand model and MOBILE6 were used to determine mobile source emissions for the area.
- The Travel Demand Model was updated with the best available assumptions.

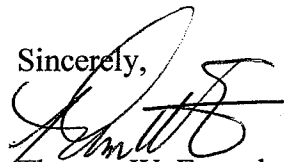
RACT SIP

- NO_x RACT Waiver
- VOC Control Technology Guidelines Rule Notices
- Negative Declaration for Fiberglass Boat Manufacturing Materials

Ozone monitoring data for the most recent three (3) years, 2006 through 2008, demonstrates that air quality has met the National Ambient Air Quality Standard (NAAQS) for ozone throughout the Chicago-Gary-Lake County, IL-IN nonattainment area, including Lake and Porter counties, Indiana. The redesignation petition also states that if a violation of the 8-hour ozone standard occurs at the Chiwaukee Prairie monitor in Wisconsin (the monitor that U.S. EPA deems to represent the control monitor for the nonattainment/maintenance area) within the Chicago-Gary-Lake County, IL-IN ozone nonattainment/maintenance area, an Action Level trigger will be prompted and additional control measures may be implemented to ensure future attainment of the 8-hour ozone standard.

IDEM requests that the U.S. EPA proceed with final review and approval of this submittal. If you have any questions or need additional information, please contact Scott Deloney, Chief, Air Programs Branch, at (317) 233-5694.

Sincerely,


Thomas W. Easterly
Commissioner

TWE/sad/skr

Attachments:

Redesignation Petition and Maintenance Plan
Attainment Demonstration and Demonstration of Rate of Further Progress
RACT for volatile organic compounds
Request for waiver for RACT requirements for nitrogen oxides

Cc: Cheryl L. Newton, U.S. EPA Region 5
Pat Morris, U.S. EPA Region 5
Ed Doty, U.S. EPA Region 5
John Summerhays, U.S. EPA Region 5
John Swanson, NIRPC
Dan Murray, IDEM-OAQ
Scott Deloney, IDEM-OAQ
Christine Pedersen, IDEM-OAQ
Sarah Raymond, IDEM-OAQ

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**REQUEST FOR REDESIGNATION AND
MAINTENANCE PLAN FOR
OZONE ATTAINMENT
IN THE 8-HOUR OZONE
NONATTAINMENT AREA**

Lake and Porter Counties, Indiana

Developed By:

The Indiana Department of Environmental Management

June 2009

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- A Air Quality System (AQS) Data
- B Historic and Projected Emission Inventories
- C Detailed Description of the Emission Analysis Method
- D Public Participation Documentation

**REQUEST FOR REDESIGNATION AND
MAINTENANCE PLAN FOR OZONE ATTAINMENT
IN THE 8-HOUR OZONE
NONATTAINMENT AREA**

LAKE AND PORTER COUNTIES, INDIANA

1.0 INTRODUCTION

This document supports Indiana's request that Lake and Porter counties in Northwest Indiana be redesignated from nonattainment to attainment of the 8-hour ozone standard. These counties have recorded three (3) years of complete, quality-assured ambient air quality monitoring data for the years 2006 through 2008, demonstrating attainment of the 8-hour ozone standard. Additionally, the remaining portion of the Chicago-Gary-Lake County, Illinois-Indiana nonattainment area has also recorded three (3) years of complete, quality-assured ambient air quality monitoring data for the years 2006 through 2008 demonstrating attainment with the 8-hour ozone standard.

Indiana's request is based on Section 107(d)(3) of the Clean Air Act (CAA), which states:

(D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation. The submission of a redesignation by a Governor shall not affect the effectiveness or enforceability of the applicable implementation plan for the State.

Section 107(d)(3)(E) of the CAA establishes specific requirements to be met in order for an area (or portion of an area) to be considered for redesignation including:

(E) The Administrator may not promulgate a redesignation of a nonattainment area (or portion thereof) to attainment unless--

- (i) the Administrator determines that the area has attained the national ambient air quality standard;
- (ii) the Administrator has fully approved the applicable implementation plan for the area under Section 110(k);
- (iii) the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;
- (iv) the Administrator has fully approved a maintenance plan for the area as meeting the requirements of Section 175A; and

- (v) the State containing such area has met all requirements applicable to the area under Section 110 and part D.

This document addresses each of these requirements, and provides additional information to support continued compliance with the 8-hour ozone standard.

1.1 Background

The Clean Air Act Amendments of 1990 (CAAA) required areas designated nonattainment for the National Ambient Air Quality Standard (NAAQS) for ozone to develop SIPs to expeditiously attain and maintain the standard. In 1997, the United States Environmental Protection Agency (U.S. EPA) revised the air quality standards for ozone replacing the 1979 1-hour standard with an 8-hour ozone standard set at 0.08 parts per million (ppm). The standard was challenged legally and upheld by the U.S. Supreme Court in February of 2001. The U.S. EPA designated areas under the 8-hour ozone standard on April 15, 2004 as attainment, nonattainment, or unclassifiable.

If a nonattainment area is classified as “serious”, “severe”, or “extreme”, the CAAA mandates that the presumptive nonattainment boundary include the entire Consolidated Metropolitan Statistical Area (CMSA), or Metropolitan Statistical Area (MSA) and all of its Metropolitan Divisions. The U.S. EPA designated Lake and Porter counties nonattainment as a portion of the Chicago-Gary-Lake County, Illinois-Indiana nonattainment area (40 CFR 81.315), and classified the area “moderate” under Subpart 2 of Part D of the CAA. The Lake County-Kenosha County, Illinois-Wisconsin Metropolitan Division of the Chicago MSA was not included as part of the Chicago-Gary-Lake County, Illinois-Indiana nonattainment area. Therefore, U.S. EPA’s designation of Lake and Porter counties, Indiana as part of the Chicago nonattainment area, and exclusion of other portions of the Chicago MSA like Kenosha County, Wisconsin, was discretionary rather than mandatory under the CAAA.

The specific counties and partial counties that comprise the nonattainment area as defined in 40 CFR 81.314 and 40 CFR 81.315 include Cook, DuPage, Grundy (partial), Kane, Kendall (partial), Lake, McHenry, and Will counties, Illinois, and Lake and Porter counties, Indiana. This designation subjected the area to the new 8-hour ozone requirements, including development of a plan to reduce volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) emissions and a demonstration that the area will meet the federal 8-hour air quality standard for ozone by June 15, 2010.

1.2 Geographical Description of Indiana’s Portion of Nonattainment Area

Lake and Porter counties are located in Northwest Indiana and contain such cities as Gary, Hammond, East Chicago, Portage, and Valparaiso. Lake and Porter counties are bordered by Lake Michigan to the north, Indiana counties of Newton and Jasper to the south, and LaPorte to the east. The Illinois counties of Cook, Kankakee, and Will border Lake and Porter counties to the west. This area is depicted in Figure 3.1.

1.3 Status of Air Quality

Ozone monitoring data for the most recent three (3) years, 2006 through 2008, demonstrates that air quality has met the NAAQS for ozone throughout the nonattainment area, including Lake and Porter counties. This fact, accompanied by the permanent and enforceable decreases in emission levels discussed in Section 4.0, justifies a redesignation to attainment for Indiana's portion of the nonattainment area based on Section 107(d)(3)(E) of the CAAA.

2.0 REQUIREMENTS FOR REDESIGNATION

2.1 General

Section 110 and Part D of the CAAA list a number of requirements that must be met by nonattainment areas prior to consideration for redesignation to attainment. In addition, U.S. EPA has published detailed guidance in a document entitled *Procedures for Processing Requests to Redesignate Areas to Attainment*, issued September 4, 1992, to Regional Air Directors. This document is hereafter referred to as "Redesignation Guidance". This Request for Redesignation and Maintenance Plan is based on the Redesignation Guidance, supplemented with additional guidance received from staff of the Regulation Development Section of U.S. EPA Region V. The specific requirements for redesignation are listed below.

2.2 Ozone Monitoring 107(d)(3)(E)(i)

- 1) A demonstration that the NAAQS for ozone, as published in 40 CFR 50.4, has been attained. Ozone monitoring data must show that violations of the ambient standard are no longer occurring.
- 2) Ambient monitoring data quality assured in accordance with 40 CFR 58.10, have been recorded in the U.S. EPA Air Quality System (AQS) database, and made available for public view.
- 3) A showing that the three-year average of the fourth highest values, based on data from all monitoring sites in the area or its affected downwind environs, are below 85 parts per billion (ppb). This showing must rely on three (3) complete, consecutive calendar years of quality assured data.
- 4) A commitment that, once redesignated, the State will continue to operate an appropriate monitoring network to verify the maintenance of the attainment status.

2.3 Emission Inventory 107(d)(3)(E)(iii)

- 1) A comprehensive emissions inventory of the precursors of ozone completed for the base year.

- 2) A projection of the emissions inventory to a year at least 10 years following redesignation.
- 3) A demonstration that the projected level of emissions is sufficient to maintain the ozone standard.
- 4) A demonstration that improvement in air quality between the year violations occurred and attainment was achieved is based on permanent and enforceable emission reductions and not on temporary adverse economic conditions or unusually favorable meteorology.
- 5) Provisions for future annual updates of the inventory to enable tracking of the emission levels including an annual emission statement from major sources.

2.4 Modeling Demonstration

While no modeling is required for redesignating ozone nonattainment areas, the Indiana Department of Environmental Management (IDEM) has incorporated photochemical modeling information as part of this document to further support its request for Lake and Porter counties to be redesignated to attainment.

2.5 Controls and Regulations 107(d)(3)(E)(ii) & 107(d)(3)(E)(v)

- 1) A U.S. EPA approved SIP control strategy that includes Reasonably Available Control Technology (RACT) requirements for existing stationary sources covered by Control Technology Guidelines (CTG) and non-CTG RACT for all major sources.
- 2) Evidence that control measures required in past ozone SIP revisions have been fully implemented.
- 3) Acceptable provisions to provide for new source review.
- 4) Assurances that existing controls will remain in effect after redesignation, unless the State demonstrates through photochemical modeling that the standard can be maintained without one or more controls.
- 5) If appropriate, a commitment to adopt a requirement that all transportation plans conform with and are consistent with the SIP.

2.6 Corrective Actions for Potential Future Violations of the Standard

- 1) A commitment to submit a revised plan eight (8) years after redesignation.

- 2) A commitment to expeditiously enact and implement additional contingency control measures in response to exceeding specified predetermined levels (triggers) or in the event that future violations of the ambient standards occur.
- 3) A list of potential contingency measures that would be implemented in such an event.
- 4) A list of VOC and NO_x sources potentially subject to future controls.

3.0 OZONE MONITORING

3.1 Ozone Monitoring Network

There are currently five (5) monitors measuring ozone concentrations in Indiana's portion of the nonattainment area (three in Lake County, and two in Porter County). Since the Whiting site commenced operation in 2004, only four of these sites measured air quality for 2003. IDEM's Office of Air Quality (OAQ) currently operates all of the monitors. A listing of the sites along with their annual fourth highest readings from 2003 through 2008 is shown in Table 3.1 and was retrieved from the U.S. EPA Air Quality System (AQS). The locations of the monitoring sites for this nonattainment area are shown on Figure 3.1. The State of Illinois operates twenty (20) ozone-monitoring sites within its portion of the nonattainment area.

Lake and Porter County Nonattainment Area



3.2 Ambient Ozone Monitoring Data

The following information is taken from U.S. EPA's "Guideline on Data Handling Conventions for the 8-Hour Ozone National Ambient Air Quality Standard (NAAQS)," EPA-454/R-98-017, December 1998.

Three (3) complete years of ozone monitoring data are required to demonstrate attainment at a monitoring site. The 8-hour primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 parts per million (ppm). When this occurs, the site is deemed to be in attainment. Three (3) significant digits must be carried in the computations. Because the third decimal digit, in ppm, is rounded, 0.084 ppm is the largest concentration that is less than or equal to 0.08 ppm. Therefore, for the purposes of this request, the 8-hour standard is considered to be 0.085 ppm. Values below 0.085 ppm meet the standard, values equal to or greater than 0.085 ppm exceed the standard. These data handling procedures are applied on an individual basis at each monitor in the area. An area complies with the 8-hour ozone NAAQS if, and only if, every monitoring site in the area meets the NAAQS. An individual site's three-year average of the annual fourth highest daily maximum 8-hour average ozone concentration is also called the site's design value. The air quality design value for the area is the highest design value among all sites in the area. Table 3.1 outlines the annual fourth high values and three-year design values for 2003 through 2008 for the five active monitoring sites in Indiana's portion of the nonattainment area. Table 3.2 outlines the annual fourth high values and three-year design values for 2003 through 2008 for the twenty active monitoring sites within Illinois' portion of the nonattainment area. None of the twenty-five monitors has a 2006 through 2008 design value greater than 0.077 ppm.

**Table 3.1 Monitoring Data for Lake and Porter Counties
(Annual 4th High and Design Values in ppm)**

Site	2003	2004	2005	2006	2007	2008	03-05 avg	04-06 avg	05-07 avg	06-08 avg
GARY	0.076	0.064	0.089	0.073	0.085	0.062	0.076	0.075	0.082	0.073
HAMMOND	0.081	0.067	0.087	0.075	0.077	0.068	0.078	0.076	0.079	0.073
OGDEN DUNES	0.077	0.069	0.090	0.070	0.084	0.069	0.078	0.076	0.081	0.074
VALPARAISO	0.082	0.072	0.078	0.071	0.080	0.061	0.077	0.073	0.076	0.070
WHITING	N/A	0.064	0.088	0.081	0.088	0.062	N/A	0.077	0.085	0.077

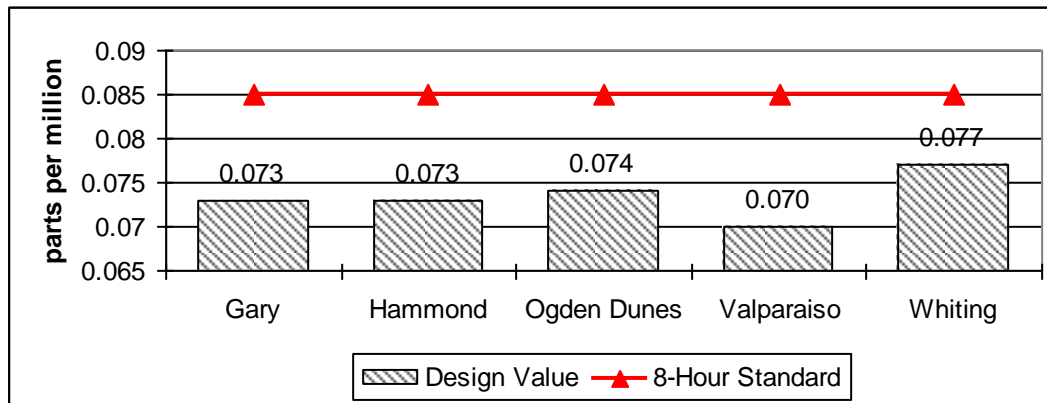
Table 3.2 Monitoring Data for Illinois Sites
(Annual 4th High and Design Values in ppm)

County	Site	2003	2004	2005	2006	2007	2008	03-05 avg	04-06 avg	05-07 avg	06-08 avg
Cook	Alsip	0.077	0.065	0.084	0.078	0.085	0.066	0.075	0.075	0.082	0.076
Cook	Chicago-Cheltenham	0.080	0.067	0.076	0.075	0.082	0.066	0.074	0.073	0.078	0.074
Cook	Chicago-Adams	0.078	0.069	0.080	0.073	0.084	0.058	0.076	0.074	0.080	0.071
Cook	Chicago-Luella	0.069						0.069			
Cook	Chicago-Ellis Ave	0.067	0.054	0.084	0.070	0.079	0.063	0.068	0.069	0.076	0.070
Cook	Chicago-Ohio St	0.075	0.060	0.081	0.065	0.075	0.063	0.072	0.068	0.073	0.067
Cook	Chicago-Lawndale	N/A	0.068	0.084	0.075	0.080	0.066	0.076	0.075	0.080	0.074
Cook	Chicago-Hurlbut St	0.077	0.067	0.083	0.077	0.079	0.063	0.076	0.075	0.080	0.073
Cook	Lemont	0.075	0.067	0.086	0.070	0.085	0.071	0.076	0.074	0.080	0.075
Cook	Cicero	0.070	0.059	0.075	0.060	0.068	0.060	0.068	0.064	0.066	0.062
Cook	Des Plaines	0.073	0.064	0.079				0.072	0.072		
Cook	Northbrook	0.080	0.068	0.081	0.068	0.076	0.063	0.076	0.072	0.076	0.069
Cook	Evanston	0.082	0.075	0.082	0.072	0.080	0.058	0.080	0.076	0.076	0.070
DuPage	Lisle	0.066	0.065	0.078	0.062	0.072	0.057	0.070	0.068	0.070	0.063
Kane	Elgin	0.076	0.069	0.087	0.062	0.075	0.061	0.077	0.072	0.075	0.066
Lake	Waukegan	0.074	0.068	0.087	0.071	0.081	0.061	0.076	0.075	0.080	0.071
Lake	IL Beach St Pk	0.078	0.071	0.090	0.068	0.080	0.067	0.080	0.076	0.079	0.071
McHenry	Cary	0.079	0.068	0.087	0.057	0.074	0.063	0.078	0.071	0.073	0.064
Will	Sout	0.077	0.064					0.071	0.070		
Will	Essex Rd	0.073	0.068	0.077	0.068	0.071	0.057	0.073	0.071	0.072	0.065
Kenosha, WI	Chiwaukee	0.088	0.078	0.093	0.079	0.085	0.069	0.086	0.083	0.086	0.078

Note: Chiwaukee, WI is not part of nonattainment area, but was the controlling monitor.
It now attains the standard.

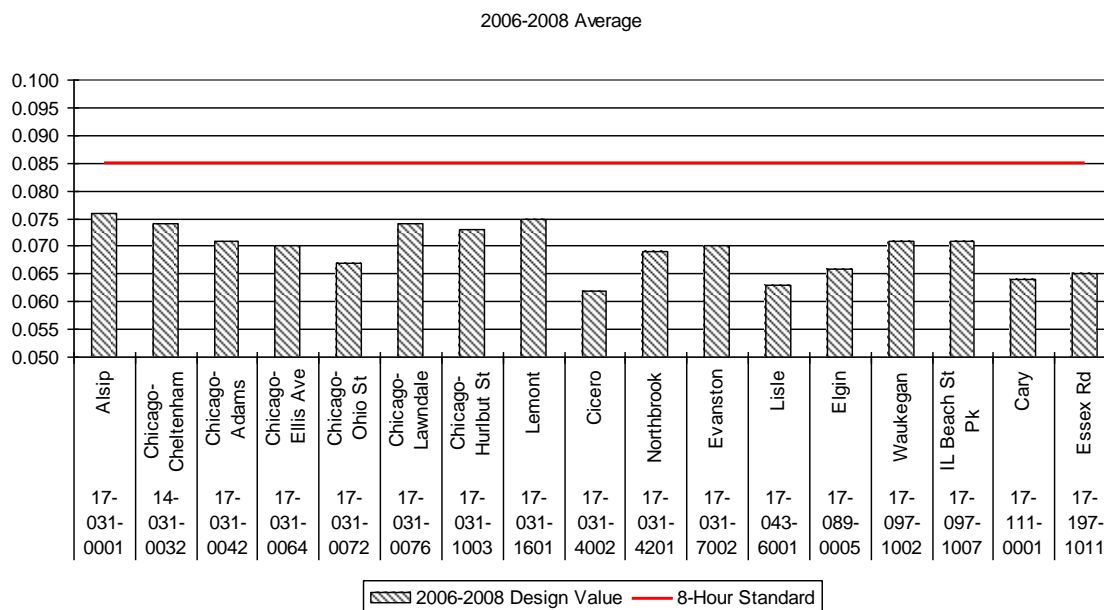
Graph 3.1 below visually demonstrates the design values for Indiana's portion of the nonattainment area. The highest design value within Indiana's portion of the nonattainment area is 0.077 ppm

Graph 3.1 2006-2008 Design Values for Lake and Porter Counties
(Indiana's Portion of Nonattainment Area)



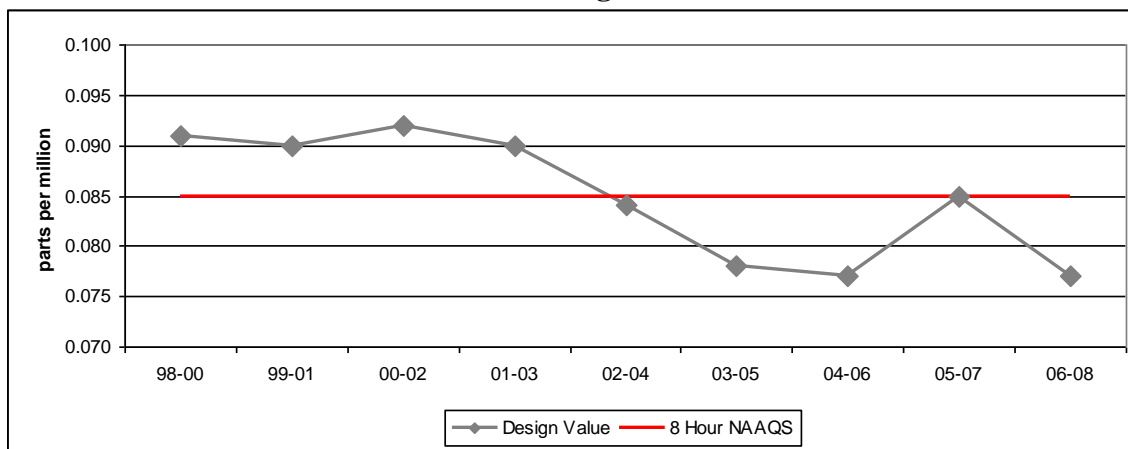
Graph 3.2 illustrates the design values for the Illinois portion of the nonattainment area.

Graph 3.2 2006-2008 Design Values for Illinois' Portion of Nonattainment Area in ppm



The design values for Lake and Porter counties, along with the nonattainment area in its entirety, demonstrate that the NAAQS for ozone has been attained. All 2006 through 2008 design values in the entire nonattainment area are less than or equal to 0.077 ppm.

Graph 3.3 Trends in Northwest Indiana 8-hour Design Values 1998 through 2008



Graph 3.3 shows the trend in design values for Lake and Porter counties over the past ten years. A comprehensive list of the individual sites' design values over this period is in Appendix A. The area's design values have recently trended downward as emissions have declined due to such programs as the Acid Rain program and cleaner automobiles and fuels both regionally and locally. U.S. EPA's rule to control nitrogen oxides from

specific source categories (40 CFR Parts 51, 72, 75 and 96, published on October 17, 1998 and referred to as the “NO_x SIP Call”) has significantly reduced emissions from large electric generating units (EGUs), industrial boilers, and cement kilns. Indiana's NO_x Rule was approved on June 6, 2001 (326 IAC 10-3 and 10-4). The SIP submittals of other Midwest states were approved in this timeframe as well. An analysis of meteorological conditions and monitoring values is in Section 7.0 and supports the conclusion that attainment of the standard as of 2008 is not the result of unusually favorable meteorological conditions.

3.3 Quality Assurance

IDEM has quality assured all data shown in Appendix A in accordance with 40 CFR 58.10 and the Indiana Quality Assurance Manual. IDEM has recorded the data in the AQS database and, thus, the data are available to the public.

3.4 Continued Monitoring

Indiana commits to continue monitoring ozone levels at the sites indicated in Table 3.1 and Appendix A. IDEM will consult with U.S. EPA Region V staff prior to making changes to the existing monitoring network, should changes become necessary in the future. IDEM will continue to quality assure the monitoring data to meet the requirements of 40 CFR 58. Updates to the IDEM website¹ will provide real time availability of the data and knowledge of any exceedances. IDEM will enter all data into AQS in a timely manner in accordance with federal guidelines.

4.0 EMISSION INVENTORY

U.S. EPA's Redesignation Guidance requires the submittal of a comprehensive inventory of ozone precursor emissions (VOC and NO_x) representative of the year when the area achieves attainment of the ozone air quality standard. Indiana must also demonstrate that the improvement in air quality between the year that violations occurred and the year that attainment was achieved is based on permanent and enforceable emission reductions. Other emissions inventory related requirements include a projection of the emission inventory to a year at least ten (10) years following redesignation, a demonstration that the projected level of emissions is sufficient to maintain the ozone standard, and a commitment to provide future updates of the inventory to enable tracking of emission levels during the ten (10) year maintenance period. The following subsections address each of these requirements.

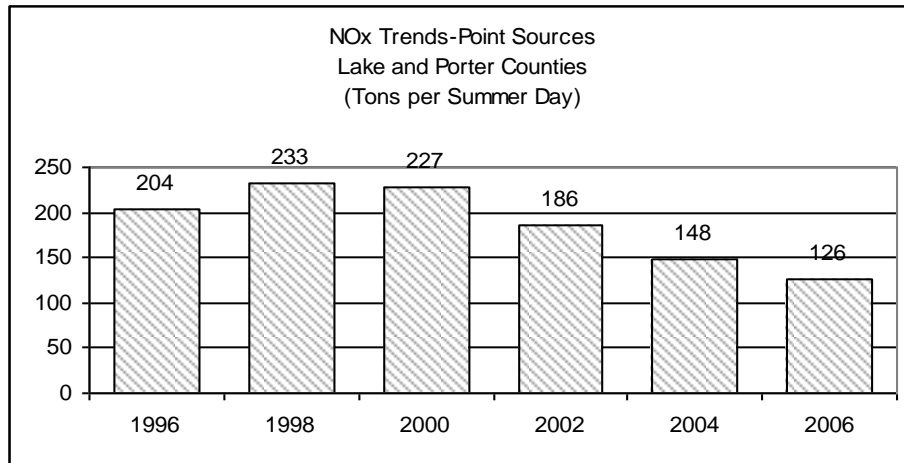
¹ <http://www.in.gov/idem/4670.htm>

4.1 Emission Trends

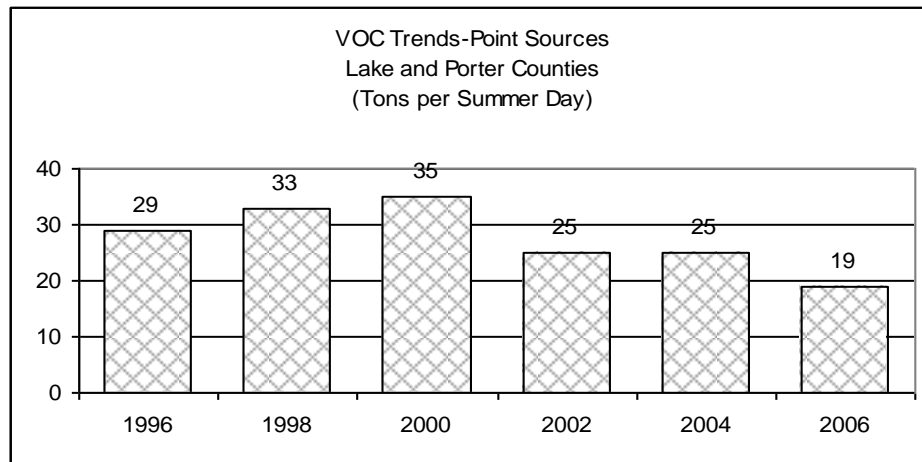
Point Sources

Graphs 4.1 and 4.2 show a downward trend in Northwest Indiana's point source emissions of NO_x and VOC, respectively, that generally correspond to the years of monitored values referenced in this report. The point source data are taken from Indiana's annual emissions reporting program.

Graph 4.1 Northwest Indiana NO_x Point Source Emissions 1996-2006



Graph 4.2 Northwest Indiana VOC Point Source Emissions 1996-2006



EGU Sources

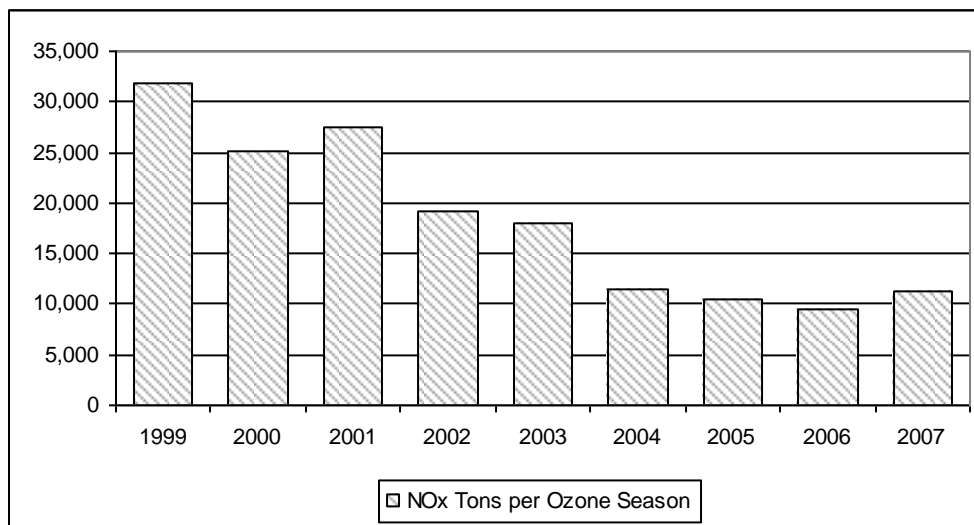
Graph 4.3 shows the trend in regional NO_x emissions from EGUs in Northwest Indiana, including Jasper, Lake, LaPorte, and Porter counties. Graph 4.4 depicts the trends in statewide NO_x emissions from EGUs. While ozone and its precursors are also transported into this region from outside areas, this information does provide some indication of the impact that Indiana sources may have on the nonattainment area. The emissions are

decreasing substantially in response to national programs affecting all EGUs, such as the Acid Rain program and the NO_x SIP Call. Other sectors of the inventory also impact ozone formation, but large regional sources such as EGUs have a substantial impact on the formation of ozone.

These data were taken from U.S. EPA's Clean Air Markets database². Data are available sooner for these units than other point sources in the inventory because of the NO_x SIP Call budget and trading requirements. Information from 2003 is significant because some EGUs started operation of their NO_x SIP Call controls in order to generate Early Reduction Credits for their future year NO_x budgets. The first season of the NO_x SIP Call budget period began May 31, 2004.

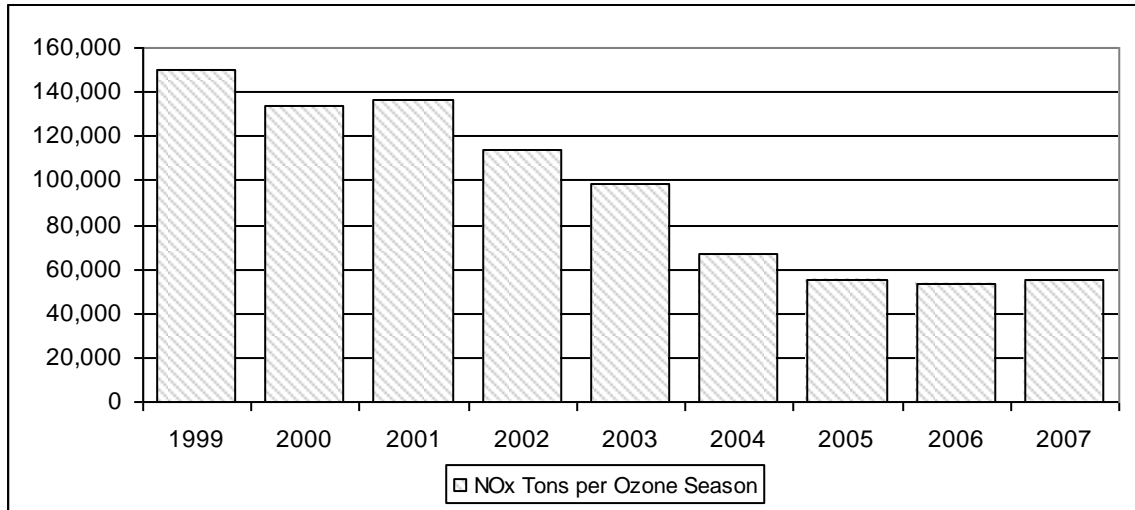
As part of the NO_x SIP Call, the states were required to adopt into their rules a budget for all large EGUs. Indiana's budget is found in 326 IAC 10-4. The budget represents a statewide cap on NO_x emissions. Although each unit is allocated emissions based upon historic heat input, utilities can meet this budget by over-controlling certain units or purchasing credits from the market to account for overages at other units. To summarize, NO_x emissions have dramatically decreased over the years as represented on these graphs. These emissions, capped by the state rule, should remain at least this low through the maintenance period covered by this request.

**Graph 4.3 NO_x Emissions from Northwest Indiana Electric Generating Units
1999-2007**



² <http://www.epa.gov/airmarkets/>

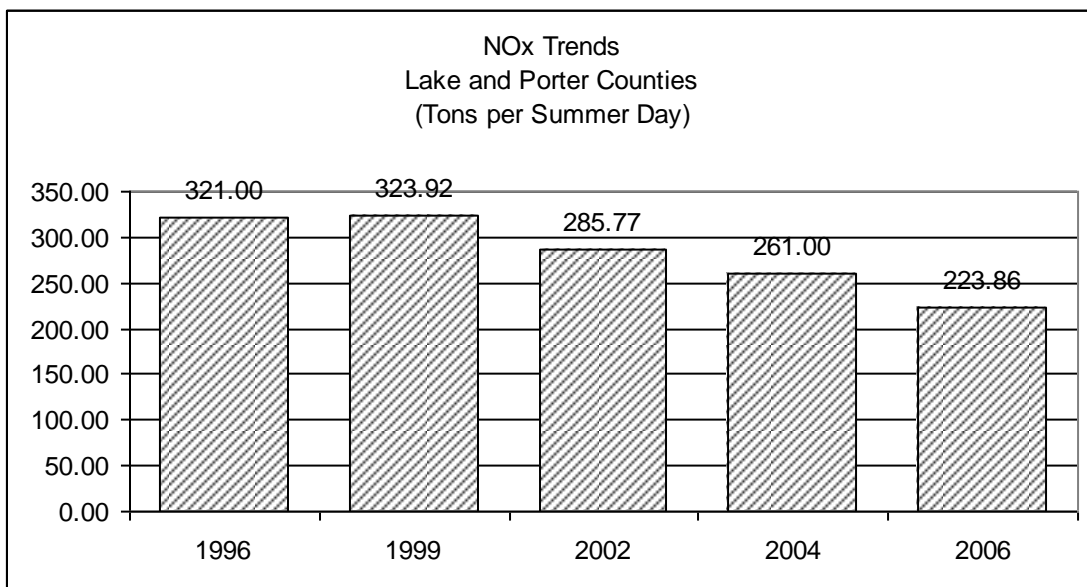
Graph 4.4 Statewide NO_x Emissions from Electric Generating Units 1999-2007



All Anthropogenic Sources

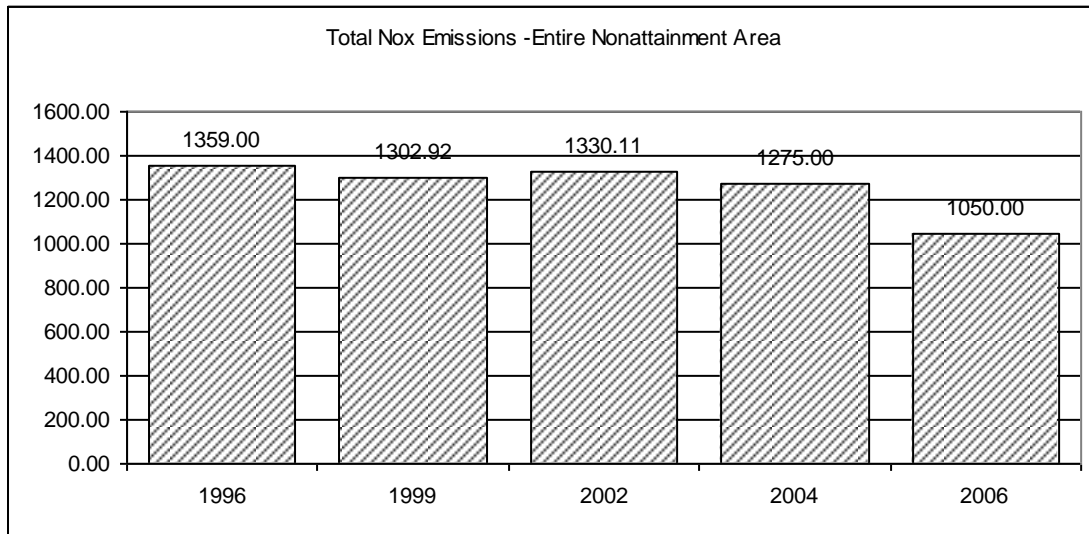
Periodic inventories, which include emissions from all sectors (mobile, area³, non-road, and point sources) were prepared for 1996, 1999, 2002, 2004, and 2006. Graphs 4.5, 4.6, 4.7, and 4.8 show the trends for the total emissions for all anthropogenic source categories (within Lake and Porter counties, and the entire nonattainment area), which also roughly follow the years of monitored air quality trends discussed in Section 3.0. Graphs and data tables of emissions from each source category are available in Appendix B.

Graph 4.5 NO_x Emissions Trends, 1996 - 2006, All Sources in Lake and Porter Counties

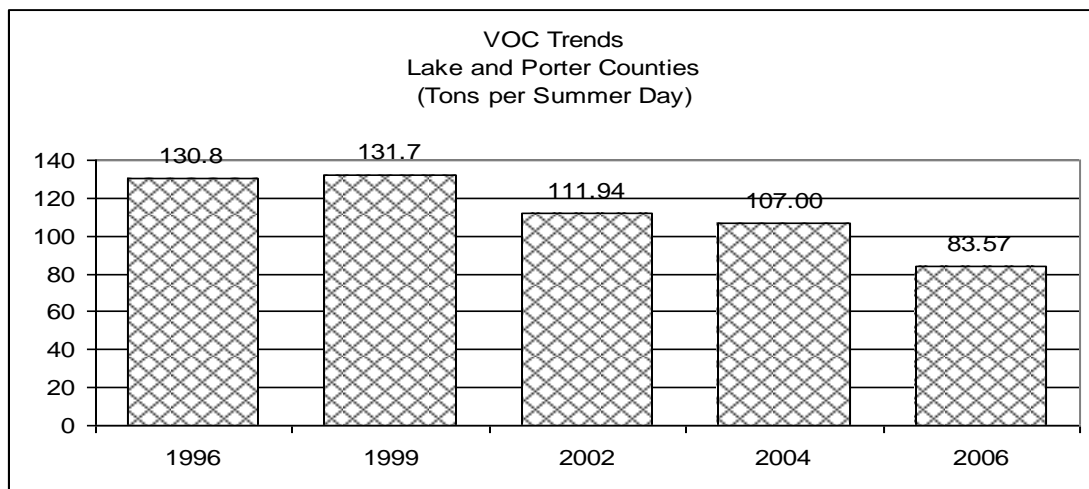


³ Area Source estimates for 2006 use the 2005 inventory.

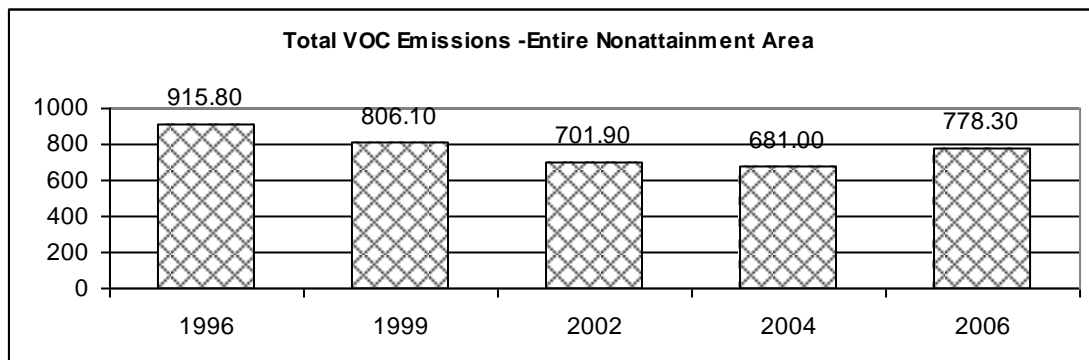
**Graph 4.6 Total NO_x Emissions Trends, 1996 - 2006, Entire Nonattainment Area
(Tons per Summer Day)**



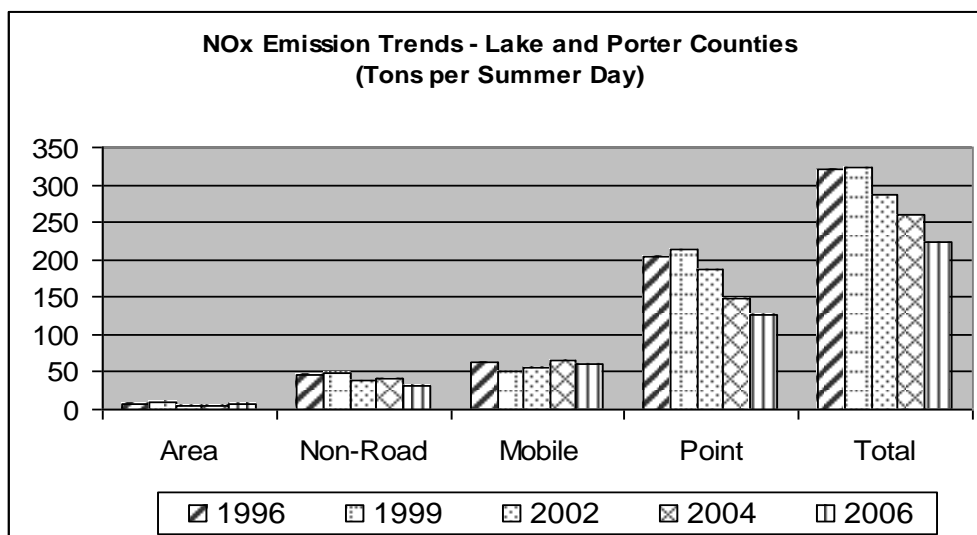
Graph 4.7 VOC Emissions Trends, 1996 - 2006, All Sources in Lake and Porter Counties



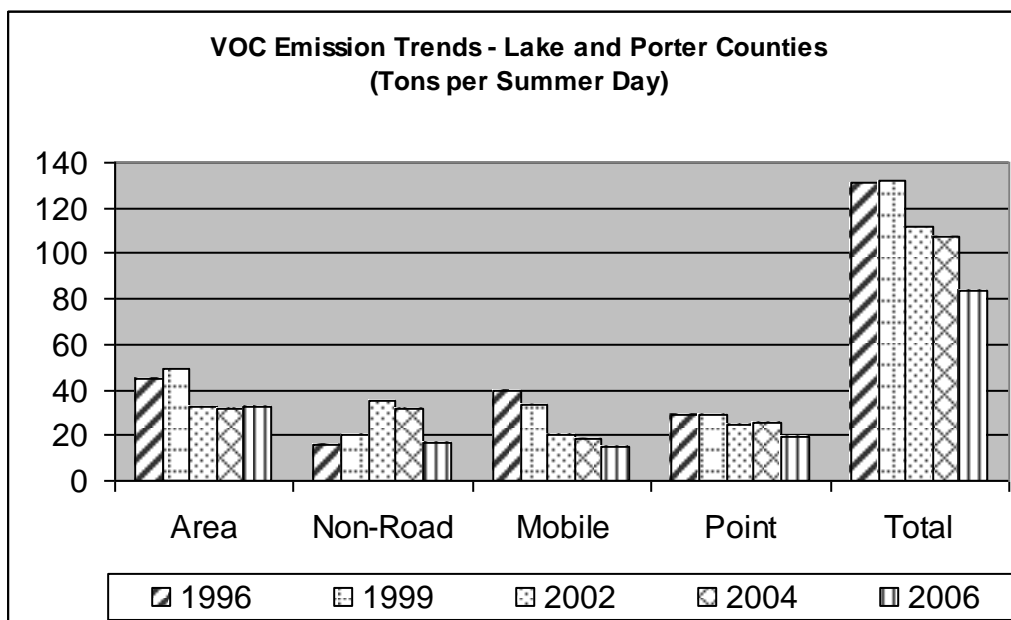
**Graph 4.8 Total VOC Emissions Trends, 1996 - 2006, Entire Nonattainment Area
(Tons per Summer Day)**



Graph 4.9 NO_x Emission Trends by Category, Lake and Porter Counties



Graph 4.10 VOC Emission Trends by Category, Lake and Porter Counties



4.2 Base Year Inventory

IDEM prepared a comprehensive inventory for Lake and Porter counties, including area, mobile, non-road, and point sources for precursors of ozone (volatile organic compounds and nitrogen oxides) for the base year 2006.

- Area sources were grown from the Indiana 2005 periodic inventory submitted to U.S. EPA.

- Mobile source emissions were calculated from MOBILE6.2 produced emission factors and data extracted from the region's travel-demand model. Several adjustments were made to the travel demand model and calculation methodology since 1996. As a result, since the 1996, 1999, and 2002 emission inventories were prepared with slightly different methodology, they do not provide for a true comparison with the 2004 through 2020 estimates. The fluctuations referenced in the data, particularly 1996 through 2002 NO_x emissions, are due to changes in the calculation methodology, not necessarily actual mobile source emissions.
- Point source information was compiled from IDEM's 2006 annual emissions statement database and the 2007 U.S. EPA Air Markets acid rain database⁴.
- Biogenic emissions are not included in these summaries.
- Nonroad emissions for 2006 were grown from the 2005 National Emissions Inventory (NEI). To address concerns about the accuracy of some of the categories in U.S. EPA's nonroad emissions model, the Lake Michigan Air Directors' Consortium (LADCO), contracted with two (2) companies to review the base data and make recommendations. One of the contractors also estimated emissions for two (2) categories not included in U.S. EPA's nonroad model and reviewed model inputs for another. Emissions were estimated for commercial marine vessels and railroads. Recreational motorboat population and spatial surrogates (used to assign emissions to each county) were significantly updated. The populations for the construction equipment category were reviewed and updated based upon surveys completed in the Midwest and the temporal allocation for agricultural sources was also updated by the other contractor. A new nonroad estimation model was provided by U.S. EPA for the 2002 analysis. The 1996 and 1999 nonroad emission estimates were generated by a previous U.S. EPA model, and thus, cannot provide for a true comparison. The fluctuations referenced in the data could be due to changes in the model and methodology, and not necessarily reflect changes in emissions.

The emissions data referenced for Illinois' portion of the nonattainment area (entire nonattainment area) were provided by the State of Illinois via LADCO. This inventory was prepared using similar methodologies. However, it should be noted that the emissions data referenced for Illinois' portion of the nonattainment area is draft and subject to change. Indiana recognizes that revisions to Section 4.0 of this document may be necessary once Illinois prepares a redesignation request and maintenance plan for its portion of the nonattainment area.

Appendix B contains data tables and graphs of all these emissions.

⁴ <http://camddataandmaps.epa.gov/gdm/>

4.3 Emission Projections

In consultation with the U.S. EPA and other stakeholders, IDEM selected the year 2020 as the maintenance year for this redesignation request. This document contains projected emissions inventories for 2010⁵ and 2020⁶.

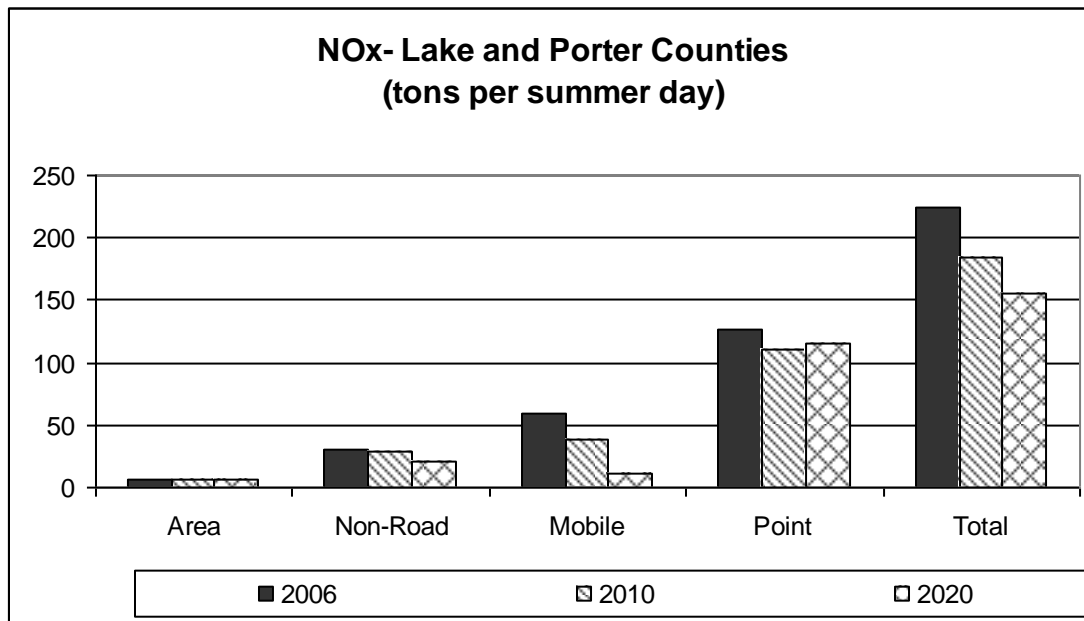
Emission projections were prepared for Lake and Porter counties, as well as for the entire nonattainment area. IDEM, with assistance from LADCO, prepared emission projections for 2010 and 2020 for the Indiana portion of the nonattainment area. IDEM received 2010 and 2020 emission projections from LADCO for the Illinois portion of the nonattainment area.

The detailed inventory information for Lake and Porter counties for 2010 and 2020 is in Appendix B. Emission trends are an important gauge for continued compliance with the ozone standard. Therefore, IDEM performed an initial comparison of the inventories for the base year (2006), interim year (2010), and maintenance year (2020) for Lake and Porter counties and the entire nonattainment area. Graphs 4.11 and 4.13 visually compare the 2006 (base year) estimated emissions with the 2010 and 2020 projected emissions for Lake and Porter counties. Graphs 4.12 and 4.14 visually compare the 2006 (base year) estimated emissions with the 2010 and 2020 projected emission for the entire nonattainment area. Mobile source emission inventories are described in Section 5.0. In addition to LADCO's estimates, point source emissions were projected based upon the statewide EGU NO_x budgets from the Indiana NO_x rule.

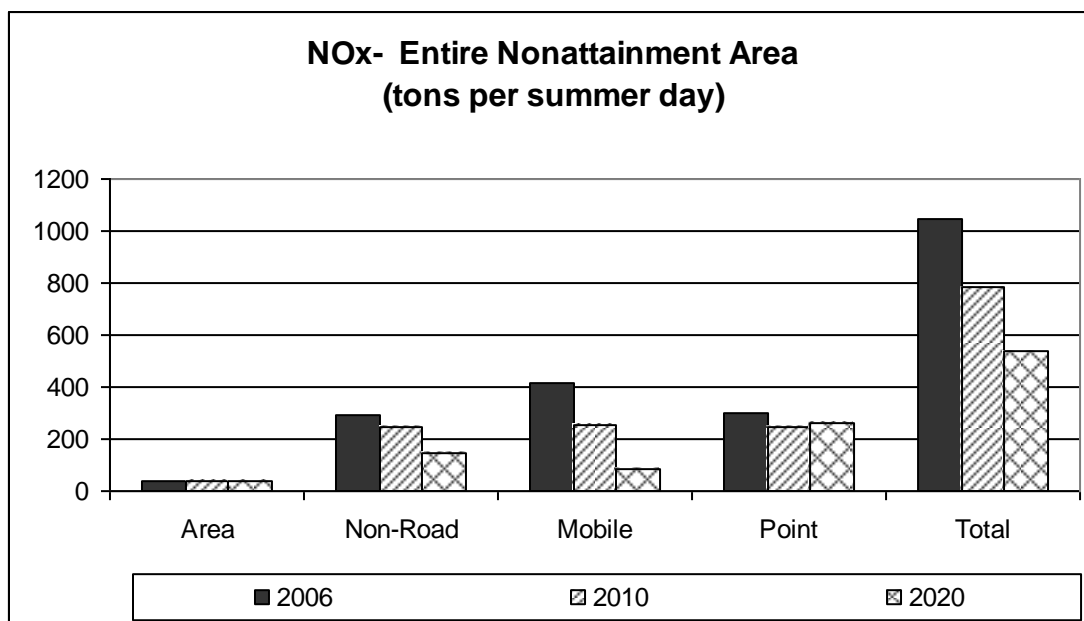
⁵ In Section 4.3 all emissions projections for area, non-road, and point/EGU emission projections for the year 2010 are based on 2009 emission estimates.

⁶ In Section 4.3 all emission projections for area, non-road, and point/EGU emission projections for the year 2020 are based on 2018 emission estimates.

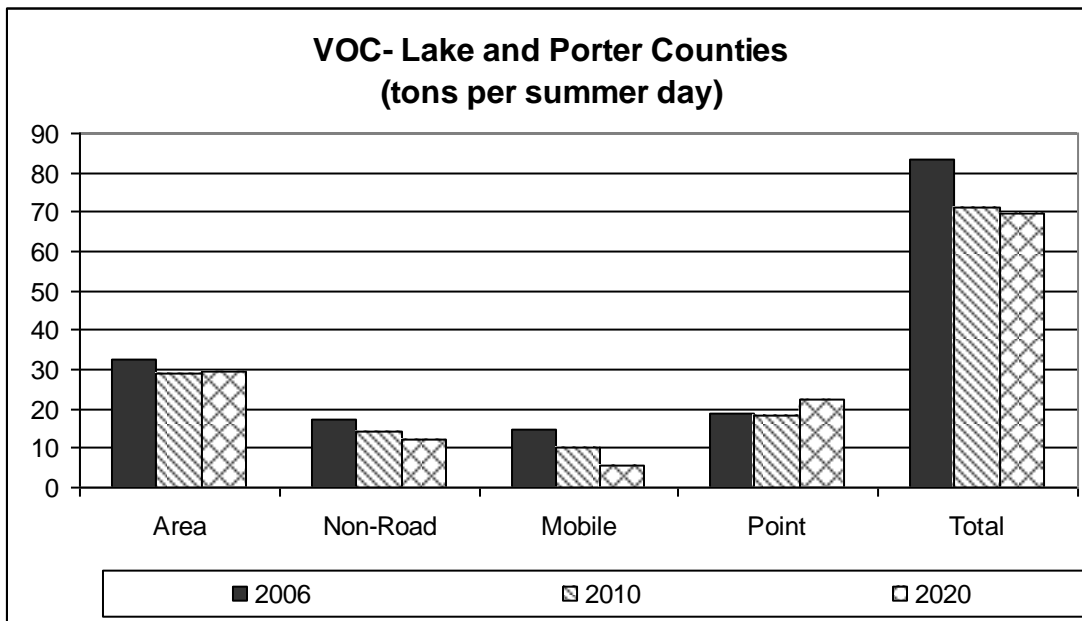
Graph 4.11 Comparison of 2006 Estimated and 2010 and 2020 Projected NO_x Emissions for Lake and Porter Counties



Graph 4.12 Comparison of 2006 Estimated and 2010 and 2020 Projected NO_x Emissions for Entire Nonattainment Area



Graph 4.13 Comparison of 2006 Estimated and 2010 and 2020 Projected VOC Emissions for Lake and Porter Counties



Graph 4.14 Comparison of 2006 Estimated and 2010 and 2020 Projected VOC Emissions for Entire Nonattainment Area

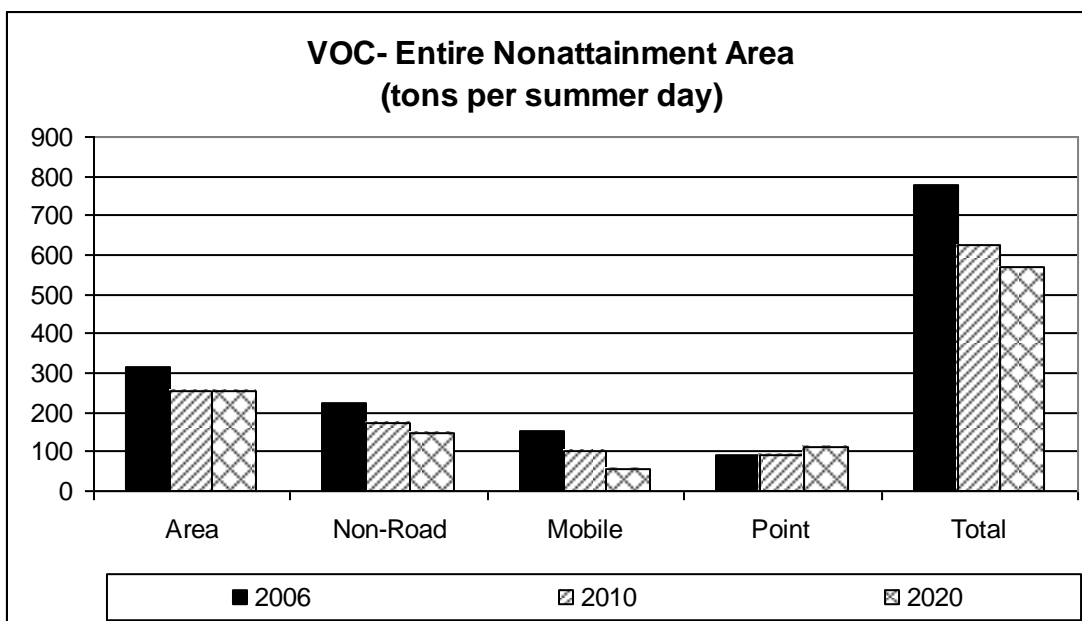


Table 4.1 Comparison of 2006 Estimated and 2020 Projected Emission Estimates in Lake and Porter Counties, Indiana (tons per summer day)

Table 4.1	2006	2020	Change	% change
NO _x	223.86	154.86	-69.0	-30.82
VOC	83.57	69.42	-14.15	-16.93

Table 4.2 Comparison of 2006 Estimated and 2020 Projected Emission Estimates for the Entire Nonattainment Area (tons per summer day)

Table 4.2	2006	2020	Change	% change
NO_x	1049.5	537.8	-511.7	-48.75
VOC	778.3	572	-206.3	-26.50

VOC emissions within Lake and Porter counties are projected to decline by more than 16% between 2006 and 2020, and VOC emissions within the entire nonattainment area are projected to decrease by more than 26%. NO_x emissions within Lake and Porter counties are projected to decline by over 30% between 2006 and 2020. NO_x emissions within the entire nonattainment area are projected to decrease by nearly 49%. Emission reduction benefits from U.S. EPA rules covering the NO_x SIP Call, Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements⁷, Highway Heavy-Duty Engine Rule⁸, and Non-Road Diesel Engine Rule⁹ are factored into the changes. Further, due to implementation of the NO_x SIP Call across the eastern United States, NO_x and ozone levels entering this area will decrease.

4.4 Demonstration of Maintenance

Ambient air quality data from all monitoring sites indicate that air quality in Lake and Porter counties met the NAAQS for ozone in 2008. Furthermore, ambient air quality data from all monitoring sites within the entire nonattainment area indicate that air quality met the NAAQS for ozone in 2008. U.S. EPA's Redesignation Guidance (pg. 9) states, "A state may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emissions rates will not cause a violation of the NAAQS." Emissions projections outlined in Section 4.0 of this document clearly illustrate that VOC and NO_x emissions in Northwestern Indiana and the entire nonattainment area will continue to decline between 2006 (base year) and 2020. Section 7.0 further discusses the implications of these emissions trends and provides an analysis to support these conclusions. Therefore, air quality should meet the NAAQS ozone standard through the projected years of 2010 and 2020.

In Indiana, major point sources in all counties are required to submit air emissions information once every three (3) years or annually if VOC potential to emit is greater than 250 tons per year or NO_x potential to emit is greater than 2500 tons per year, in accordance with the Emission Statement Rule, 326 IAC 2-6. IDEM prepares a new periodic inventory for all ozone precursor emission sectors every three (3) years. These ozone precursor inventories will be prepared for 2008, 2011, and 2014 as necessary to comply with the inventory reporting requirements established in the CAAA. Emissions information will be compared to the 2006 base year and the 2020 projected maintenance

⁷ <http://www.epa.gov/fedrgstr/EPA-AIR/2000/February/Day-10/a19a.htm>

⁸ <http://www.epa.gov/fedrgstr/EPA-AIR/1997/October/Day-21/a27494.htm>

⁹ <http://www.epa.gov/fedrgstr/EPA-AIR/1998/October/Day-23/a24836.htm>

year inventories to assess emission trends, as necessary, to assure continued compliance with the ozone standard.

4.5 Permanent and Enforceable Emissions Reductions

Permanent and enforceable reductions of VOCs and NO_x have resulted in attainment of the 8-hour ozone standard. Some of these reductions were due to the application of Reasonably Available Control Technology (RACT) rules and some were due to the application of tighter federal standards on new vehicles. Also, Title IV of the Clean Air Act and the NO_x SIP Call required the reduction of NO_x from utility sources. Section 6.0 identifies the emission control measures specific to Lake and Porter counties, as well as the implementation status of each measure.

4.6 Provisions for Future Updates

As required by Section 175A(b) of the CAAA, Indiana commits to submit to the Administrator, eight (8) years after redesignation, an additional revision of this SIP. The revision will contain Indiana's plan for maintaining the national primary ozone air quality standard for ten (10) years beyond the first ten (10) year period after redesignation.

5.0 TRANSPORTATION CONFORMITY BUDGETS

5.1 On-Road Emission Estimations

Northwest Indiana Regional Planning Commission (NIRPC) is the Metropolitan Planning Organization (MPO) for the area that includes Lake, Porter, and LaPorte counties. This organization maintains a travel demand forecast model that is used to simulate the traffic in the area and is used to predict what that traffic will be like in future years given growth expectations. The model is used mostly to identify where travel capacity will be needed and to determine the infrastructure requirements necessary to meet that need. It is also used to support the calculation of mobile source emissions. The travel demand forecast model is used to predict the total daily Vehicle Miles Traveled (VMT) and a U.S. EPA software program called MOBILE6 is used to calculate the emissions per mile. The product of these two outputs, once combined, is the total amount of pollution emitted by on-road vehicles for the particular analyzed area.

5.2 Overview

Broadly described, MOBILE6 is used to determine “emission factors,” which are the average emissions per mile (grams/mile) for the ozone precursors: NO_x and VOC. There are numerous variables that can affect the emission factors. The vehicle fleet (vehicles on the road) age and the vehicle types have a major effect on the emission factors. The facility type the vehicles are traveling on (MOBILE6 facility types are Freeway, Arterial, Local and Ramp) and the vehicle speeds also affect the emission factor values. Meteorological factors such as air temperature and humidity, and the area’s Vehicle Inspection/Maintenance program affect the emission factors as well. Once emission

factors are determined, the emission factor(s) is multiplied by the VMT to ultimately determine the quantity of vehicle emissions. VMT data is generated by the region's travel demand model.

5.3 Best Available Data

Depending on the details of the travel demand model, much of MOBILE6 input data for emission factor computation can be found in the model, but some must come from other sources. The NIRPC travel demand model has more detailed data than most models. While almost all models contain traffic speed and road-type data, the NIRPC model contains information on vehicle type as well. The model monitors the movement of three vehicle types: (1) cars, (2) light freight trucks and buses, and (3) heavy trucks. The model also does a better job of speed analysis because it describes 3 times of day: (1) AM (morning) peak hour, (2) PM (afternoon) peak hour, and (3) off peak hours. This allows for a much more thorough and accurate analysis of speeds over the course of the day.

Vehicle Age Distribution

MOBILE6 has 16 different vehicle-type categories differentiated by weight. The first 5 are generally passenger vehicles: cars, vans, and Sport Utility Vehicles (SUVs). The others are different sized trucks and buses and the last is motorcycles. This MOBILE6 vehicle age distribution describes what fraction of each of the 16 vehicle-types is one year old, two years old, etc., up to the 25 and older category. MOBILE6 has a default age profile of each vehicle type taken from national surveys.

Due to its geographic proximity to Chicago, Northwestern Indiana is a through-traffic area for an enormous amount of freight transportation. National default age profiles make sense to use for freight vehicles, but for passenger vehicles, local data exists and was used for the age distribution for these first 5 MOBILE6 vehicle types.

Vehicle Identification Numbers (VIN) provided by the Indiana Bureau of Motor Vehicles (BMV) for the year 2003 for Lake & Porter counties were decoded and split into the first five MOBILE6 vehicle types. These age distributions are not expected to change much over time so they do not change for the different analysis years.

Speeds

Speeds can be input into MOBILE6 in two different ways. MOBILE6 assumes Local and Ramp facility-types have fixed speeds of 12.9 and 34.6 mph, respectively. This cannot be changed; only Arterial and Freeway speeds can be input into MOBILE6. There is an Average Speed command that allows the average Freeway or Arterial speeds to be input. This is used extensively when building cross reference tables for the emission factors mentioned previously. The most accurate and thorough MOBILE6 speed input method is to input speeds via two speed tables (one for each facility-type) which contain the fraction of VMT for each hour of the day that occurs in 14 speed bins: 0-2.5 mph, 2.5-7.5 mph...up to >62.5 mph. Speeds that occur during the peak hours

would be slower than the off peak, for example. MOBILE6 does contain national average default speeds that are useful for comparison purposes.

NIRPC uses the second, more thorough method of inputting speeds. The travel model data are used for speed calculations. Each link of roadway has a speed calculated using the Bureau of Public Roads (BPR) formulas shown below. The link volume, length, and calculated speed are used to determine the VMT fraction to place into the proper speed bin in the speed tables.

The BPR formula is used as follows:

$$\begin{aligned} \text{Amtime} &= \text{length} / (\text{posted speed} * 1.1) * 60 * (1 + 0.15 * (\text{volume} / (2.55 * \text{capacity per lane} * \text{lanes}))^4) \\ \text{Pmtime} &= \text{length} / (\text{posted speed} * 1.1) * 60 * (1 + 0.15 * (\text{volume} / (2.84 * \text{capacity per lane} * \text{lanes}))^4) \\ \text{Optime} &= \text{length} / (\text{posted speed} * 1.1) * 60 * (1 + 0.15 * (\text{volume} / (12 * \text{capacity per lane} * \text{lanes}))^4) \\ \text{Speed} &= \text{length} * 60 / \text{xxtime} \end{aligned}$$

Socioeconomic data

Travel demand models contain hundreds of Travel Analysis Zones (TAZs) that have zone specific information regarding population, employment, destinations and expected growth, among other things. These data are commonly referred to as the “socioeconomic data”. These data are updated most accurately when new census data comes out. This model was updated in 2003 based on 2000 census data. The traffic analyses of future years are then based on growth projections. These growth projects are then put into the TAZs where the growth (or decline) is expected to occur.

5.4 Analysis Years

The travel demand model also contains the road network, thus, the information is time specific. NIRPC has modeled the years 2005, 2010 and 2020. Each future analysis year model contains the road network NIRPC staff expects to exist at the beginning of that year with the concomitant expected socioeconomic growth projections.

5.5 Emission Estimations

Table 5.1 outlines the on-road emission estimates for the Lake and Porter ozone nonattainment area for the years 2006, 2010, and 2020. The 2006 emission estimates are interpolated values based on the travel demand model network for 2005 and 2010. The 2010 and 2020 emission estimates are based on the travel demand model network projected to exist for the years 2010 and 2020 under the Connections 2030 Regional Transportation Plan.

Table 5.1 Emission Estimations for On-Road Mobile Sources for the Lake and Porter Ozone Nonattainment Area

Lake & Porter	2006	2010	2020
VMT (miles/day)	19,141,485	21,194,922	24,958,812
VOC (tons/day)	14.92	9.93	5.71
NO _x (tons/day)	60.09	38.65	11.97

5.6 Motor Vehicle Emission Budget

Table 5.2 contains the motor vehicle emissions budget for the Lake & Porter ozone nonattainment area for the years 2010 and 2020.

Table 5.2 Motor Vehicle Emission Budgets for the Lake and Porter Ozone Nonattainment Area

Lake & Porter	2010	2020
VOC (tons/day)	10.5	6.0
NO _x (tons/day)	40.6	12.6

This budget includes the emission estimates calculated for 2010 and 2020 with a 5% margin of safety. For purposes of establishing the motor vehicle emission budgets, the margin of safety was applied and final budgets were then rounded up to the next tenth of a ton. Since assumptions change over time, IDEM determined a 5% margin of safety to be necessary to account for such changes within the conformity process. The emission estimates derive from the NIRPC travel demand model and MOBILE6 as described above under the expected NIRPC 2030 Long Range Plan, which was adopted on June 21, 2007. The emissions calculation methodology, latest planning assumptions and margin of safety were determined through the interagency consultation process described in the Transportation Conformity Memorandum of Understanding (MOU) for NIRPC.

6.0 CONTROL MEASURES AND REGULATIONS

This section provides specific information on the control measures implemented in Lake and Porter counties, including CAAA requirements and additional state or local measures implemented beyond CAAA requirements.

6.1 Reasonably Available Control Technology (RACT)

As required by Section 172 of the CAAA, in the mid-1990s, Indiana promulgated rules requiring RACT for emissions of VOCs. There were no specific rules required by the CAAA such as RACT for existing sources beyond statewide rules. Statewide RACT rules have applied to all new sources locating in Indiana since that time. The Indiana rules are found in 326 IAC 8. The following is a listing of applicable rules:

- 326 IAC 8-1 Best Available Control Technology-New Facilities
- 326 IAC 8-2 Surface Coating Emission Limitations
- 326 IAC 8-3 Solvent Degreasing Operations
- 326 IAC 8-4 Petroleum Sources
- 326 IAC 8-5 Miscellaneous Operations
- 326 IAC 8-6 Organic Solvent Emission Limitations

Additional rules specifically applicable to Lake and Porter counties are summarized in Section 6.2.

6.2 Implementation of Past SIP Revisions

Lake and Porter counties were previously nonattainment under the 1-hour ozone standard. The area met all of its 1-hour SIP obligations, including a U.S.EPA approved attainment demonstration. All of the control measures outlined within the post-1999 (2002, 2005, and 2007) Rate of Progress plans have been fully implemented. Lake and Porter counties were designated nonattainment for ozone under the 8-hour standard. During 2004-2006, Lake and Porter counties monitored attainment of the NAAQS. Indiana submitted a Redesignation Petition and Maintenance Plan in September 2006, since that plan has not been acted upon yet, the Attainment Demonstration, Rate of Progress Plan, NO_x and VOC RACT requirements are being submitted simultaneously with this updated Redesignation Petition and Maintenance Plan.

The following information outlines the measures implemented in association with previous SIP submittals that have resulted in permanent and enforceable emission reductions in Lake and Porter counties:

Fifteen Percent(15%) Rate of Progress (ROP) Plan

Indiana's final 15% ROP plan was approved by U.S. EPA on July 18, 1997. The measures include a mix of point, area, and mobile source control measures:

1. Enhanced Vehicle Inspection and Maintenance Program

Regulatory Basis: 326 IAC 13-1.1

Implementation Status: Control remains in place.

2. Stage II Vapor Recovery

Regulatory Basis: 326 IAC 8-11-2

Implementation Status: Control remains in place.

3. Reformulated Gasoline Program

Regulatory Basis: CAAA-Federal Control Program

Implementation Status: Control remains in place.

4. National Volatile Organic Compound Emission Standards for Architectural Coatings Rule

Regulatory Basis: 40 CFR Part 59

Implementation Status: Control remains in place.

5. Residential Opening Burning Ban

Regulatory Basis: 326 IAC 4-1

Implementation Status: Control remains in place for all incorporated areas.

6. Non-CTG RACT

Regulatory Basis: 326 IAC 8

Implementation Status: Control remains in place.

1999 Nine Percent(9%) Rate of Progress (ROP) Plan

Indiana's final 1999 9% ROP plan was approved by U.S. EPA on January 26, 2000. The reductions included a variety of state and federal measures that affected various industrial and area sources, such as steel mills, small engines (e.g. lawnmowers), gasoline reformulation, and personal solvent usage. The measures included the following:

1. The National Emission Standards for Benzene from Coke Oven By-Product Recovery Plants

Regulatory Basis: 40 CFR 61 Subpart L

Implementation Status: Control remains in place.

2. National Emission Standards for Coke Oven Batteries,

Regulatory Basis: 40 CFR 63 Subpart L

Implementation Status: Control remains in place.

3. Federal Phase I Reformulated Gasoline on Small Non-Road Engines

Regulatory Basis: Clean Air Act Amendments of 1990; Section 211 of the Clean Air Act

Implementation Status: Control remains in place.

4. Federal Controls on Small Spark-Ignited Engines

Regulatory Basis: Court-ordered standards for small spark-ignited engines; 40 CFR Part 90

Implementation Status: Control remains in place.

5. Commercial/Consumer Solvent Reformulation Rule

Regulatory Basis: Clean Air Act Amendments of 1990; Federal Rule 60 FR 15264

Implementation Status: Control remains in place.

6. Volatile Organic Liquid Storage RACT

Regulatory Basis: 326 IAC 8-9

Implementation Status: Control remains in place.

2002 Nine Percent(9%) Rate of Progress (ROP) Plan

Indiana's 2002 9% ROP plan consists of several federal regulations and some measures specific to Indiana, including state rules and negotiated agreements. The reductions included measures that control the VOC emissions from steel mill sinter plants, non-road mobile sources, and municipal solid waste landfills. The measures included the following:

1. Additional Reductions from Federal Controls on Small Spark-ignited Engines

Regulatory Basis: Court-ordered standards for small spark-ignited engines; 40 CFR Part 90

Implementation Status: Control remains in place.

2. Sinter Plant Rule

Regulatory Basis: 326 IAC 8-13

Implementation Status: Control remains in place.

3. Municipal Solid Waste Landfill

Regulatory Basis: State rule based on the federal New Source Performance Standards for new and existing sources (326 IAC 8-8 and 326 IAC 8-8.1)

Implementation Status: Control remains in place.

2005 Nine Percent(9%) Rate of Progress (ROP) Plan

Since there were surplus emission reductions from previous plans, no emission reductions were necessary to meet the additional 9% reduction in VOC emissions for the 2005 ROP. However, the plan includes a federal regulation that will further reduce the amount of VOCs emitted by non-road small engine sources. The measure includes the following:

1. Further Reductions from Federal Controls on Small Spark-Ignited Engines

Regulatory Basis: Federal Standards for small spark-ignited engines; 40 CFR Part 90

Implementation Status: Control remains in place.

2007 Six Percent(6%) Rate of Progress (ROP) Plan

Indiana's 2007 6% ROP plan consists of several federal regulations and some measures specific to Indiana, including state rules and negotiated agreements. The reductions included measures that control the VOC emissions from petroleum refineries, non-road mobile sources, volatile organic liquid storage operations, cold cleaning degreasing operations, and the reformulation of commercial and consumer products. The measures included the following:

1. Further Reductions from Federal Controls on Small Spark-Ignited Engines

Regulatory Basis: Court-ordered standards for small spark-ignited engines; 40 CFR Part 90

Implementation Status: Control remains in place.

2. Commercial/Consumer Solvent Reformulation Rule

Regulatory Basis: Clean Air Act Amendments of 1990; Federal Rule 60 FR 15264

Implementation Status: Control remains in place.

3. Petroleum Refineries NESHAP

Regulatory Basis: Clean Air Act Amendments of 1990

Implementation Status: Control remains in place.

4. United States Steel-Gary Works Agreed Order with IDEM (March 1996)

Control Method: Halts the use of untreated water for quenching (40 CFR 52.770).

Implementation Status: Control remains in place.

5. Volatile Organic Liquid Storage RACT

Regulatory Basis: 326 IAC 8-9

Implementation Status: Control remains in place.

6. Cold Cleaners

Regulatory Basis: 326 IAC 8-3-8

Implementation Status: Control remains in place.

6.3 Nitrogen Oxides (NO_x) Rule

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. Beginning in 2004, this rule accounts for a reduction of approximately thirty-one percent (31%) of all NO_x emissions statewide compared to the previous uncontrolled years.

Twenty-one other states have also adopted these rules. The result is that significant reductions have occurred regionally and upwind within the nonattainment area because of the number affected units within the region. Graphs 4.3 and 4.4 show that emissions covered by this program have been trending downward since 1999. Table 6.1, compiled from data taken from the U.S. EPA Clean Air Markets website, quantifies the gradual NO_x reductions that have occurred in Indiana as a result of Title IV (Acid Rain) of the CAAA and the NO_x SIP Call Rule. This cap will stay in place through 2008, at which time the Clean Air Interstate Rule (CAIR) will supersede it. On December 23, 2008, CAIR was remanded without vacatur by the D.C. Circuit Court. The 2015 and beyond CAIR cap represents a forty-one percent (41%) reduction compared to 2004 emission levels.

Further, U.S. EPA more recently published Phase II of the NO_x SIP Call that established a budget for large (greater than 1 ton per day emissions) stationary internal combustion engines. This rule decreases emissions statewide from natural gas compressor stations by 4,263 tons during the ozone season. The Indiana Phase II NO_x SIP Call rule became effective February 26, 2006 and implementation began in 2007.

TABLE 6.1 Trends in EGU Ozone Season NO_x Emissions Statewide in Indiana

Statewide Trends	
Year	NO_x Emissions – tons/ozone season
1997	152,834
1998	159,931
1999	149,827
2000	133,881
2001	136,052
2002	113,996
2003	99,283
2004	66,568
2005	55,486
2006	53,768
2007	54,816
Cap 2009-2015	43,654
2015 and Beyond	39,273

6.4 Measures Beyond Clean Air Act Requirements

Reductions in ozone precursor emissions have occurred, or are anticipated to occur, as a result of local and federal control programs. These additional control measures include:

Tier 2 Emission Standards for Vehicles and Gasoline Sulfur Standards¹⁰

In February 2000, U.S. EPA finalized a federal rule to significantly reduce emissions from light-duty trucks, including SUVs to meet an average standard of 0.07 grams of NO_x per mile. Implementation began in 2004 and was completed in 2007. The Tier 2 standards also cover passenger vehicles over 8,500 pounds gross vehicle weight rating (large pickup trucks and SUVs), which are not covered by the current Tier 1 standards. For these vehicles, the standards were phased in beginning in 2008, with full compliance in 2009. The new standards require vehicles to be 77% to 95% cleaner than those on the road today. The standards also reduced the sulfur content of gasoline to 30 ppm beginning in January 2006.

Heavy-Duty Diesel Engines¹¹

In July 2000, U.S. EPA issued a final rule for Highway Heavy Duty Engines, a program that includes low-sulfur diesel fuel standards that took effect in 2004. A second phase of standards and testing procedures took effect in 2007 that reduced highway diesel fuel sulfur content to 15 ppm. The total program is expected to achieve a 95% reduction in NO_x from diesel trucks and buses, a large sector of the mobile sources NO_x inventory.

¹⁰ <http://www.epa.gov/fedrgstr/EPA-AIR/2000/February/Day-10/a19a.htm>

¹¹ <http://www.epa.gov/fedrgstr/EPA-AIR/1997/October/Day-21/a27494.htm>

326 IAC 8-1-6¹²

This is part of Indiana Volatile Organic Compound rules. It applies BACT to new facilities in all counties, thus providing further benefits to Lake and Porter counties.

Clean Air Nonroad Diesel Rule¹³

In May 2004, U.S. EPA issued the Clean Air Nonroad Diesel Rule. This rule applies to diesel engines used in industries such as construction, agriculture, and mining. It also contains a cleaner fuel standard similar to the highway diesel program. The new standards will cut emissions from nonroad diesel engines by over ninety percent (90%). Nonroad diesel equipment, as described in this rule, currently accounts for forty-seven percent (47%) of diesel particulate matter (PM) and twenty-five percent (25%) of nitrogen oxides (NO_x) from mobile sources nationwide. Sulfur levels will be reduced in nonroad diesel fuel by ninety-nine percent (99%) from current levels, from approximately three thousand (3,000) parts per million (ppm) now to (fifteen) 15 ppm in 2010. New engine standards take effect, based on engine horsepower, starting in 2008.

Together, these rules will substantially reduce local and regional sources of ozone precursors. The modeling analyses discussed in Section 7 include these rules and show the ozone concentrations expected to result from their implementation.

Local Reductions

Several permanent and enforceable reductions in emissions from local point sources have occurred beyond Clean Air Act Requirements.

The last operating year for the NIPSCO Mitchell electric generating utility was 2001. If it were to be restarted, it would be required to go through IDEM's PSD/NSR process. Annual reductions in NO_x are over 3000 tons and VOCs approximately 40 tons.

In 2000, the U.S. EPA and BP entered into a consent decree, which included the Whiting Refinery. This agreement called for installation of NO_x control equipment and fuel changes for several units at the refinery. In 2000, annual NO_x emissions were 9798 tons, which were reduced to 3635 tons in 2007, a reduction of over 6000 tons annually. These modifications are included in their federally enforceable Title V permit.

¹²<http://www.in.gov/legislative/iac/T03260/A00080.PDF?>

¹³ <http://www.epa.gov/fedrgstr/EPA-AIR/1998/October/Day-23/a24836.htm>

6.5 Controls to Remain in Effect

Indiana commits to maintaining the aforementioned control measures after redesignation. Indiana hereby commits that any changes to its rules or emission limits applicable to VOC and/or NO_x sources, as required for maintenance of the ozone standard in Lake and Porter counties, will be submitted to U.S. EPA for approval as a SIP revision.

Indiana, through IDEM's Office of Air Quality (OAQ) and its Office of Enforcement, has the legal authority and necessary resources to actively enforce any violations of its rules or permit provisions. After redesignation, it intends to continue enforcing all rules that relate to the emission of ozone precursors in Lake and Porter counties.

6.6 New Source Review Provisions

Indiana has a long standing and fully implemented New Source Review (NSR) program that is outlined in 326 IAC 2. The rule includes the Prevention of Significant Deterioration (PSD) permitting program in 326 IAC 2-2. Indiana's PSD program was conditionally approved on March 3, 2003 (68 FR 9892) and received final approval on May 20, 2004 (69 FR 29071) by U.S. EPA as part of the SIP.

Any facility that is not listed in the 2002 emission inventory, or for the closing of which credit was taken in demonstrating attainment, will not be allowed to construct, reopen, modify, or reconstruct without meeting all applicable permit rule requirements. The review process will be identical to that used for new sources. Once the area is redesignated, OAQ will implement NSR for major sources through the PSD program, which requires an air quality analysis to evaluate whether the new source will threaten the NAAQS.

7.0 MODELING AND METEOROLOGY

7.1 Summary of Modeling Results for National Emission Control Strategies in Final Rulemakings

Although U.S. EPA's Redesignation Guidance does not require modeling for ozone nonattainment areas seeking redesignation, extensive modeling has been performed covering the Northwest Indiana region to determine the effect of national emission control strategies on ozone levels. These modeling analyses determined that Lake and Porter counties were significantly impacted by ozone and ozone precursor transport, and regional NO_x reductions have helped the area attain the 8-hour standard in this area. These results show that even in the absence of CAIR, these counties will continue to attain the standard. Modeling results with or without CAIR do not differ significantly because the summertime CAIR program is essentially the same as the NO_x SIP Call, which was already included in the modeling analysis.

7.2 U.S. EPA Modeling Analysis for HDE Final Rulemaking

U.S. EPA conducted modeling for Tier II vehicles and low-sulfur fuels. This analysis was performed in 2000 to support final rulemaking for the Heavy Duty Engine (HDE) and Vehicle Standards and Highway Diesel Fuel and its expected impact on ozone levels. “Technical Support Document for the Heavy Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements: Air Quality Modeling Analyses” (EPA420-R-00-028) was referenced for support of this ozone redesignation for the two counties. Base year emissions from 1996 were modeled for three ozone episodes: June 12-24, 1995; July 5-15, 1995; and August 7-21, 1995. Results of this modeling show that ozone impacts from these fuel emission control measures, as well as the NO_x SIP Call, would be substantial in Lake and Porter counties. Relative Response Factors (RRF) were calculated for each monitor in Lake and Porter counties for future years 2007 and 2020. IDEM has applied these RRFs to the most recent three-year (2005-2007) design values of 0.085 ppm in Lake County and 0.081 ppm in Porter County. The resulting future year design values for 2007 and 2020 were calculated and are shown below in Table 7.1. The 2007 modeled future year design values for all monitors in Lake and Porter counties are in attainment of the 8-hour ozone NAAQS of 0.08 ppm.

Table 7.1
Modeling Results: U.S. EPA HDE Rulemaking for Lake/Porter Counties

Monitor ID	Monitor Name	County	Design Value 2005-2007	Modeled Relative Response Factor (RRFs)	Future Design Value	Modeled Relative Response Factor (RRFs)	Future Design Value
				2007 Base	2007	2020 Base	2020
180890022	Gary	Lake	0.082	0.9042	0.074	0.8940	0.073
180892008	Hammond	Lake	0.079	0.9049	0.072	0.9015	0.071
180890030	Whiting	Lake	0.085	0.9049	0.077	0.9015	0.077
181270024	Ogden Dunes	Porter	0.081	0.9042	0.073	0.8940	0.072
181270026	Valparaiso	Porter	0.076	0.9246	0.070	0.9113	0.069

7.3 LADCO Modeling Analysis for 8-Hour Ozone Standard Assessment

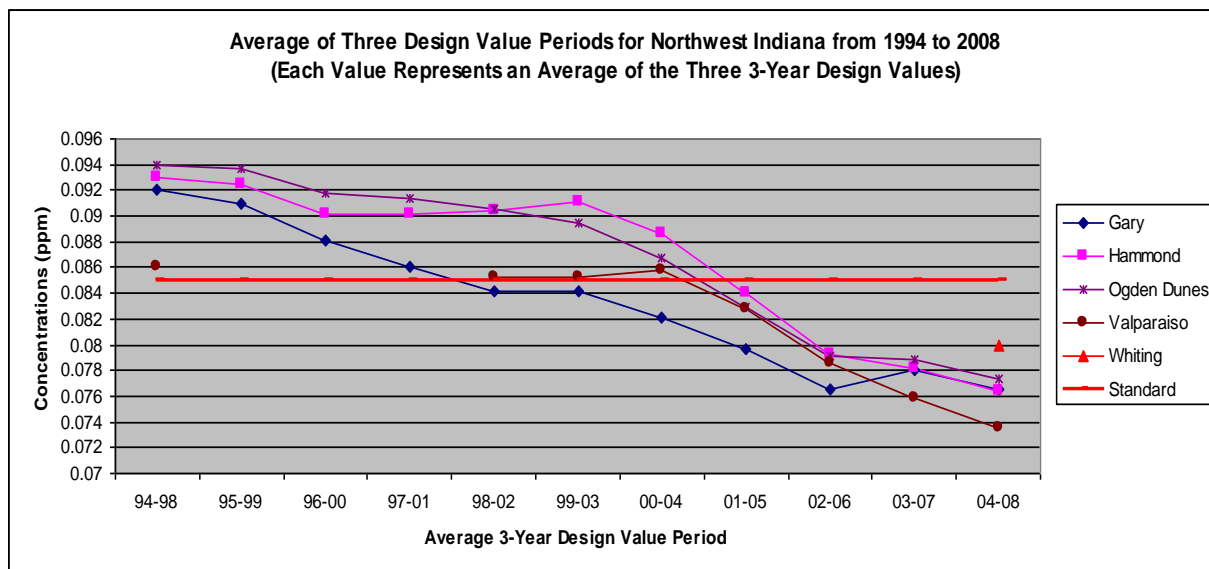
LADCO performed modeling to evaluate the effect of the NO_x SIP Call and Tier II / Low Sulfur rule for future year 2007 ozone in the Lake Michigan area. This modeling was originally designed to assess the 1-hour ozone standard. Further analysis was conducted and documented in LADCO’s White Paper “8-Hour Ozone Assessment,” dated May 2, 2001. Base year design values used were the average of the design values for the three 3 year periods (1994-1996, 1995-1997, and 1996-1998). Base year emissions were taken from 1996 and four ozone episodes were evaluated: June 22-28, 1991; July 14-21, 1991; June 13-25, 1995; and July 7-18, 1995. Results are shown in Table 7.2 below.

Table 7.2
LADCO Modeling Results for 8-Hour Ozone Assessment

Monitor ID	Monitor Name	County	Base Year Average Design Value (ppb)	Future Year Design Value
			'94-'96, '95-'97, '96-'98	2007
180890022	Gary	Lake	0.092	0.084
180892008	Hammond	Lake	0.093	0.085
180890024	Lowell	Lake	0.087	0.079
181270024	Ogden Dunes	Porter	0.094	0.085
181270026	Valparaiso	Porter	0.086	0.078
181270020	Natl. Lakeshore	Porter	0.090	0.082

The resulting future year design values were calculated at 0.085 ppm for both Hammond in Lake County and for Ogden Dunes in Porter County. Base-year average design values (1994-1996, 1995-1997, 1996-1998) used in the LADCO modeling were 0.010 to 0.015 ppm greater than current base year average design values (2004-2006, 2005-2007, 2006-2008) for most monitors. For example, Ogden Dunes has a current design value of 0.077 ppm, substantially below the value used in this analysis. Therefore, the modeling results would be lower if the current base year average design values from 2004 through 2008 were used. Graph 7.1 below shows a comparison of the three base year average design values over the past thirteen years. Each value represents an average of three design values (i.e., 1994-1998 value derived from the average of the design values from 1994-1996, 1995-1997, and 1996-1998). The general trend for the design values at all monitors has dropped over this time period. In fact, the current monitored design values (2004-2008) for Lake and Porter counties are lower than the 2007 modeled results, proving that emission reductions are helping the Northwest Indiana area attain the 8-hour ozone standard. While this modeling is old, it does illustrate that results from control strategies over time have been consistent and design values have decreased.

Graph 7.1
Comparison of Design Values from 1994 through 2007



It should be noted that this modeling was conducted in the year 2000 and used 1996 emission inventories. More recent modeling uses updated emissions inventories from 2005 with revised growth factors and control strategies for emission reductions for future year modeling purposes as well as photochemical modeling updates that better characterize ozone formation and transport. These factors also account for the differences between the older modeling results and current modeling for the NO_x SIP Call and CAIR.

7.4 U.S. EPA Modeling for Clean Air Interstate Rule (CAIR), 2005

On March 10, 2005, the U.S. EPA finalized CAIR. NO_x emissions from power plants will be cut by 1.7 million tons by 2009 and emissions will be reduced by 1.3 million tons in 2015 in 28 eastern states and the District of Columbia. Compared to a 2003 baseline, Indiana will reduce NO_x emissions by 113,000 tons by 2009 and 149,000 tons by 2015. To support this rulemaking, U.S. EPA first conducted a base case future year modeling run to show future year concentrations resulting from existing emissions controls, and then conducted future year modeling with emission reductions attributed to CAIR. Results in Table 7.3 show what the base case modeled results with CAIR's emission reductions included. The modeling was based on 1999 – 2003 (1999-2001, 2000-2002, and 2001-2003) design values. Future year modeling was conducted, including for Lake and Porter counties, and the future year design values for 2010 and 2015 were evaluated for attainment of the 8-hour ozone NAAQS. Results of the base case future year modeling with CAIR show that both Indiana counties will attain the 8-hour ozone NAAQS in 2010 with modeled concentrations below 0.085 ppm and modeled concentrations decreasing further by 2015. On December 23, 2008, CAIR was remanded without vacatur by the D.C. Circuit Court.

Table 7.3
Modeling Results from U.S. EPA for the Clean Air Interstate Rule

County	MSA/CMSA	Design Value (ppm)	Future Design Value (ppm)	Future Design Value (ppm)
		1999-2003	2010 with CAIR	2015 with CAIR
Lake	Hammond	0.0907	0.0828	0.0807
Porter	Ogden Dunes	0.0890	0.0811	0.0786

7.5 LADCO Round 5 Modeling for 8-Hour Ozone Standard

LADCO recently performed updated Comprehensive Air Quality Model (CAMx) modeling for ozone, referred to as “Round 5”, which uses the most recent emissions inventories and model updates. This modeling was performed to support attainment demonstrations for the five-state LADCO region. The photochemical model used by LADCO and Indiana for the 8-hour ozone standard analysis is CAMx version 4.5, developed by Environ. This model has been accepted by U.S. EPA as an approved air quality model for regulatory analysis and attainment demonstrations. Requirements of 40 CFR 51.112 as well as the “Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-hour Ozone NAAQS” (EPA-454/R-05-002, Oct. 2005) are satisfied with the use of CAMx for attainment demonstrations. Meteorology from 2005, as well as 2005 baseyear emissions are used to conduct Round 5 modeling. The ozone modeling metrics for bias, error, fractional bias, and fractional error met U.S. EPA modeling guidance performance criteria. The base-year design value for attainment purposes was calculated from the periods 2003 - 2005, 2004 - 2006, and 2005 - 2007.

Round 5 modeling included several scenarios for attaining the ozone NAAQS. One scenario included the implementation of "on-the-books" controls for future years such as U.S. EPA motor vehicle and fuel standards without the inclusion of CAIR. The future years modeled were 2009, 2012 and 2018. Modeling results, in Table 7.4 below, show ozone concentrations in Northwest Indiana will be below the 8-hour ozone standard of 0.08 ppm.

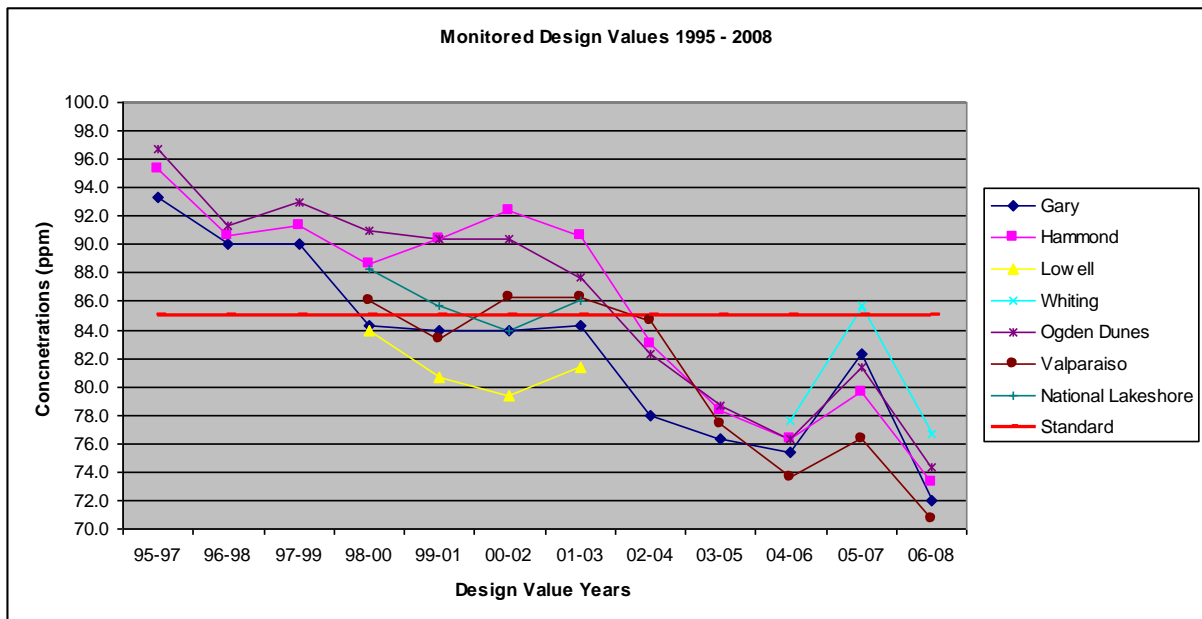
Table 7.4
Application of Round 5 RRFs to Most Current Base-Year Design Values

Monitor ID	Site	2003-2007 Base DV	2009 RRF	2009 Future DV	2012 RRF	2012 Future DV	2018 RRF	2018 Future DV
180890022	Gary	0.078	0.97	0.075	0.96	0.074	0.919	0.071
180890030	Whiting	0.079 *	0.971	0.077	0.96	0.076	0.922	0.073
180892008	Hammond	0.078	0.971	0.075	0.96	0.074	0.922	0.071
181270024	Ogden Dunes	0.078	0.966	0.075	0.953	0.074	0.909	0.071
181270026	Valparaiso	0.075	0.963	0.072	0.949	0.071	0.907	0.068
170310032	Cheltenham, IL	0.072	0.969	0.072	0.958	0.071	0.924	0.068
170314201	Northbrook, IL	0.072	0.981	0.072	0.973	0.072	0.933	0.069
170317002	Evanston, IL	0.075	0.976	0.075	0.967	0.075	0.926	0.071
170971007	IL Beach, IL	0.076	0.976	0.076	0.962	0.075	0.908	0.070
550290004	Door Co	0.089	0.946	0.083	0.919	0.081	0.843	0.074
550590019	Chiwaukeee, WI	0.085	0.972	0.082	0.956	0.080	0.900	0.076
550610002	Kewaunee	0.083	0.945	0.078	0.918	0.075	0.845	0.069
550710007	Manitowoc	0.085	0.951	0.080	0.925	0.078	0.853	0.072
550890009	Harrington Beach, WI	0.083	0.961	0.080	0.939	0.078	0.870	0.072
551010017	Racine, WI	0.080	0.965	0.077	0.947	0.076	0.886	0.071
551170006	Sheboygan, WI	0.088	0.955	0.084	0.930	0.081	0.857	0.075

* Represents 4 year design value averaging period (2004 through 2007)

Red Text indicates value over the 8-hour Ozone Standard

Graph 7.2
Actual Design Values for Northwest Indiana from 1995 through 2008



7.6 Summary of Existing Modeling Results

U.S. EPA and LADCO modeling shows that existing national emission control measures have brought Lake and Porter counties into attainment of the 8-hour ozone NAAQS. Rulemakings to be implemented in the next several years will provide even greater assurance that air quality will continue to meet the standard into the future. Modeling support for the NO_x SIP Call, Heavy Duty Engine and Highway Diesel Fuel, and Tier II/Low Sulfur Fuel and Clean Air Interstate Rule has shown future year design values for Lake and Porter counties will attain the ozone standard with modeled future year design values below 0.085 ppm. On December 23, 2008, CAIR was remanded without vacatur by the D.C. Circuit Court. U.S. EPA has modeled base case future years with existing emission controls only and shown that Lake and Porter counties will attain the 8-hour ozone NAAQS without proposed additional national emission control strategies. The application of the most current relative response factors from LADCO's Round 5 modeling demonstrates that the area will continue to attain the standard into the future. Future national and local emission control strategies will ensure that each county's attainment will be maintained with an increasing margin of safety over time.

7.7 Temperature Analysis for Lake and Porter Counties

Meteorological conditions are one of the most important factors that influence ozone development and transport. A temperature analysis was conducted to determine how the temperatures during the ozone conducive months of April, May, June, July, August, September, and October compare to normal temperatures for the Northwest Indiana area for the years 1971 through 2000. Temperature information was taken from the National Weather Service Station at O'Hare International Airport in Chicago, Illinois and meteorological stations at Lowell, Lake County, and Porter County Municipal Airports. Available normal maximum temperatures by summer months from 1971-2000 for the Northwest Indiana/ Chicago, Illinois area are as follows:

May – 69.9° F

June – 79.2° F

July – 83.5° F

August – 81.2° F

September – 73.9° F

May - September – 77.5° F

Monthly maximum temperatures for the previous 10 years (1999 – 2008) during the summer months are compared to normal summer month temperatures in Table 7.5. Overall, the temperatures during the 1999, 2002, 2005 and 2007 summer months of May, June, July, August, and September were 1% to 4% above normal while temperatures during the 2000, 2001 2003, 2004, 2006 and 2008 summer months were at normal to 3% lower than the normal temperatures. Table 7.5 shows the average temperatures in

Northwest Indiana for each of the past ten years and the percent difference from normal for each year.

Table 7.5

Analysis of Maximum Temperatures for Lake/Porter Counties

(Percent Change from Maximum Temperature (°F) Normals (1971 – 2000))

	Normal Max	1999		2000		2001		2002		2003	
		Max	%	Max	%	Max	%	Max	%	Max	%
May	69.9	73.5	+5	71.8	+3	71.5	+2	65.2	-7	65.4	-6
June	79.2	80	+1	76.8	-3	77.0	-3	81.3	+3	74.5	-6
July	83.5	86.7	+4	78.5	-6	82.3	-1	85.9	+3	81.0	-3
August	81.2	77.6	-4	80.7	-1	82.8	+2	81.8	+1	82.1	+1
September	73.9	76.7	+4	74.5	+1	73.2	-1	79.1	+7	72.1	-2
AVE. May- Sept.	77.5	78.9	+2	76.5	-1	77.4	0	78.7	+1	75.0	-3

	Normal Max	2004		2005		2006		2007		2008	
		Max	%	Max	%	Max	%	Max	%	Max	%
May	69.9	71.3	+2	67.6	-3	69.7	0	75.5	+8	66.2	-5
June	79.2	76.4	-4	82.6	+4	78.8	-1	81.6	+3	80.9	+2
July	83.5	79.6	-5	85.0	+2	85.7	+3	83.5	0	83.8	0
August	81.2	75.1	-8	82.5	+2	83.0	+2	83.2	+2	81.8	+1
September	73.9	77.1	+4	79.3	+7	71.1	-4	79.2	+7	75.2	+2
AVE. May- Sept.	77.5	75.9	-2	79.4	+2	77.7	0	80.6	+4	77.6	0

The number of days with temperatures of 90° F and higher were collected from O'Hare National Weather Service Station and Lowell (Lake County) and Valparaiso (Porter County) meteorological stations and compared to the average number of days from 1995 through 2007 as well as the number of 8-hour ozone exceedance days. Table 7.6 shows this comparison of 8-hour ozone exceedance days and number of 90° F temperature days while Graph 7.3 shows the correlation graphically.

Table 7.6

Comparison of Days with 90° F and 8-Hour Ozone Exceedance Days 1995- 2008

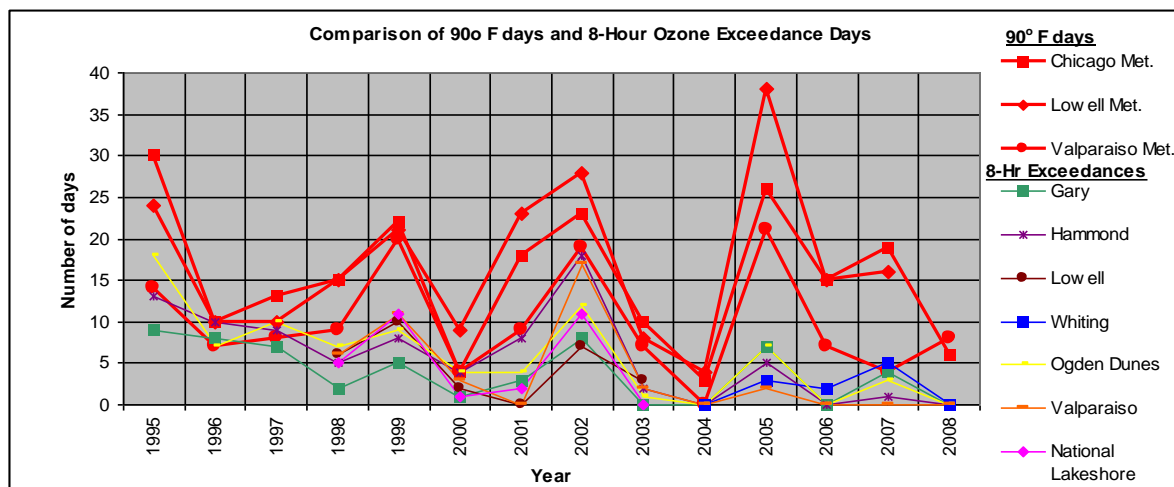
Number of Days with Temperatures of 90° F and higher									
Site	County	Ave. 90° F Days	1995	1996	1997	1998	1999	2000	2001
Chicago, IL	Cook Co.	16.0	30	10	13	15	22	4	18
Lowell	Lake Co.	17.0	24	10	10	15	21	9	23
Valparaiso	Porter Co.	9.9	14	7	8	9	20	4	9
Number of 8-Hour Exceedance Days at Lake/Porter County area ozone monitors									
Monitor	County		1995	1996	1997	1998	1999	2000	2001
Gary	Lake		9	8	7	2	5	1	3
Hammond	Lake		13	10	9	5	8	4	8
Lowell	Lake		N/O	N/O	N/O	6	10	2	0
Ogden Dunes	Porter		18	7	10	7	9	4	4
Valparaiso	Porter		N/O	N/O	N/O	6	11	3	0
National Lakeshore	Porter		N/O	N/O	N/O	5	11	1	2

Number of Days with Temperatures of 90° F and higher									
Site	County	Ave. 90° F Days	2002	2003	2004	2005	2006	2007	2008
Lowell	Lake Co.	17.0	28	8	4	38	15	16	N/A
Valparaiso	Porter Co.	9.9	19	7	0	21	7	4	8
Number of 8-Hour Exceedance Days at Lake/Porter County area ozone monitors									
Monitor	County		2002	2003	2004	2005	2006	2007	2008
Hammond	Lake		18	2	0	5	0	1	0
Lowell	Lake		7	3	N/O	N/O	N/O	N/O	N/O
Ogden Dunes	Porter		N/O	N/O	0	4	2	5	0
Valparaiso	Porter		12	1	0	7	0	3	0
National Lakeshore	Porter		17	2	N/O	N/O	N/O	N/O	N/O

N/A – Not Available

N/O – Not Operational

Graph 7.3
Comparison of Days with 90° F and 8-Hour Ozone Exceedance Days



As can be seen, a greater number of ozone exceedance days per year correlate with a greater number of 90° F days per year. The effects of national control measures appear to have an impact on the number of ozone exceedance days per year. This is evident in that 2005 had a greater number of days with temperatures of 90° F or more but the number of 8-hour exceedance days was low. While other meteorological factors may have influenced this result to some degree, it appears that the lower emissions helped to keep the number of 8-hour ozone exceedance days lower during the ozone-conductive conditions of 2005.

7.8 Summary of Meteorological Conditions

The analysis of the departure from normal of the maximum temperatures during the summer months shows variation as illustrated in Table 7.6 and Graph 7.2. The analysis shows that 15 or more days with temperatures of 90° F and higher occurred in 1995, 1998, 1999, 2001, 2002, 2005, 2006 and 2007. The number of 8-hour ozone exceedance days for those years shows a greater correlation to the number of higher temperature days. However, the years with a lesser number of 90° F days still yielded 8-hour ozone exceedance days. For example, 1996 and 1997 had fewer than the normal amount of 90° F days; however, there were still a significant number of 8-hour ozone exceedances for those years. In comparison, 2003, 2004, 2006 and 2008 were also cooler years, but due to national emission reduction measures in effect, there were fewer ozone exceedances. Lower ozone values correspond to lowered local and regional ozone precursor emissions despite ozone conducive conditions. The 8-hour ozone standard, expressed as a 4th high ozone value averaged over 3 years, accounts for variations in temperature. Despite such variations, ozone values in Lake and Porter counties have steadily decreased since 1995.

8.0 CORRECTIVE ACTIONS

8.1 Commitment to Revise Plan

As noted in Section 4.6 above, Indiana hereby commits to review its Maintenance Plan eight (8) years after redesignation, as required by Section 175(A) of the CAAA.

8.2 Commitment for Contingency Measures

Indiana hereby commits to adopt and expeditiously implement necessary corrective actions in the following circumstances:

Warning Level Response:

A Warning Level Response shall be prompted whenever an annual (1-year) fourth high monitored value of 0.089 ppm occurs in a single ozone season, or a two (2)-year average fourth high monitored value of 0.085 ppm or greater occurs within the maintenance area. A Warning Level Response will consist of a study to determine whether the ozone value indicates a trend toward higher ozone values or whether emissions appear to be increasing. The study will evaluate whether the trend, if any, is likely to continue and, if so, the control measures necessary to reverse the trend taking into consideration ease and timing for implementation, as well as economic and social considerations. Implementation of necessary controls in response to a Warning Level Response trigger will take place as expeditiously as possible, but in no event later than twelve (12) months from the conclusion of the most recent ozone season (September 30).

Should it be determined through the Warning Level study that action is necessary to reverse the noted trend, the procedures for control selection and implementation outlined under “Action Level Response” shall be followed.

Action Level Response

An Action Level Response shall be prompted whenever a violation of the standard (three (3)-year average fourth high monitored value of 0.085 ppm or greater) occurs within the maintenance area. In the event that the Action Level is triggered and is not found to be due to an exceptional event, malfunction, or noncompliance with a permit condition or rule requirement, IDEM will determine additional control measures needed to assure future attainment of NAAQS for ozone. In this case, measures that can be implemented in a short time will be selected and be in place within eighteen (18) months from the close of the ozone season that prompted the Action Level.

Control Measure Selection and Implementation

Adoption of any additional control measures is subject to the necessary administrative and legal process. This process will include publication of notices, an opportunity for public hearing, and other measures required by Indiana law for rulemaking by state environmental boards.

If a new measure/control is already promulgated and scheduled to be implemented at the federal or state level, and that measure/control is determined to be sufficient to address the upward trend in air quality, additional local measures may be unnecessary. Furthermore, Indiana will submit to U.S. EPA an analysis to demonstrate the proposed measures are adequate to return the area to attainment.

8.3 Contingency Measures

Contingency measures to be considered will be selected from a comprehensive list of measures deemed appropriate and effective at the time the selection is made. Listed below are example measures that may be considered. The selection of measures will be based upon cost-effectiveness, emission reduction potential, economic, and social considerations, or other factors that IDEM deems appropriate. IDEM will solicit input from all interested and affected persons in the maintenance area prior to selecting appropriate contingency measures. All of the listed contingency measures are potentially effective or proven methods of obtaining significant reductions of ozone precursor emissions. Because it is not possible at this time to determine what control measure will be appropriate at an unspecified time in the future, the list of contingency measures outlined below is not comprehensive. Indiana anticipates that if contingency measures should ever be necessary, it is unlikely that a significant number (i.e., all those listed below) will be required.

1. Vehicle emissions testing program enhancements (increased weight limit, addition of diesel vehicles, etc.)
2. Asphalt paving (lower VOC formulation)
3. Diesel exhaust retrofits
4. Traffic flow improvements
5. Idle reduction programs
6. Portable fuel container regulation (statewide)
7. Park and ride facilities
8. Rideshare/carpool program
9. VOC cap/trade program for major stationary sources
10. Commercial/consumer solvents (statewide)
11. NO_x Reasonably Available Control Technology

No contingency measure shall be implemented without providing the opportunity for full public participation during which the relative costs and benefits of individual measures, at the time they are under consideration, can be fully evaluated.

9.0 PUBLIC PARTICIPATION

Indiana published notification for a public hearing and solicitation for public comment concerning the draft Redesignation Petition and Maintenance Plan in the Gary Post Tribune, Chesterton Tribune, and the Northwest Indiana Times in Munster, Indiana, on or before December 5, 2008.

A public hearing to receive comments concerning the redesignation request was conducted on January 8, 2009 at the Northwest Indiana Regional Planning Commission's offices in Portage, Indiana and several comments were received. The public comment period closed on January 12, 2009. Appendix D includes a copy of the public notice, certifications of publication, the transcript from the public hearing, public hearing attendance record, copies of all written comments received, and a summary of all comments received that includes IDEM's responses, as applicable.

10.0 CONCLUSIONS

Lake and Porter counties, along with the remaining portion of the nonattainment area, have attained the NAAQS standard for ozone. This petition demonstrates that Lake and Porter counties have complied with the applicable provisions of the 1990 Clean Air Act Amendments regarding redesignation of ozone nonattainment areas. IDEM has prepared a Redesignation Request and Maintenance Plan that meets the requirement of Section 110(a)(1) of the 1990 Clean Air Act.

Indiana has performed an analysis that shows the air quality improvements are due to permanent and enforceable measures and that significant regional NO_x reductions will ensure continued compliance (maintenance) with the standard, even in the absence of CAIR. Additionally, Indiana has ensured that all CAA requirements necessary to support redesignation have been met.

Under the previous 1-hour standard, and under the current 8-hour standard for ozone, controls that are more stringent than in any other portion of Indiana have been implemented in Lake and Porter counties. These controls are comparable to those implemented elsewhere within the nonattainment area, despite the fact that Lake and Porter counties only account for about 7% of the total population within the entire nonattainment area. These controls shall remain in effect following redesignation to ensure continued compliance with the standard.

In addition to the corrective actions (should they be necessary) outlined in this submittal, Indiana continues to participate in the regional air quality planning efforts sponsored by LADCO. The current goal of the planning process is to establish a regional control strategy that provides for attainment of the ozone and fine particle standards throughout the states of Illinois, Indiana, Michigan, Ohio, and Wisconsin. Along with the other LADCO states, Indiana is developing local and statewide emission control measures, where photochemical modeling and culpability analyses demonstrate a clear need, and cost effectiveness analyses justify the implementation of such measures.

Based on this presentation, Indiana's portion of the nonattainment area (Lake and Porter counties) meets the requirements for redesignation under the CAA (Section 107(d)(3)) and U.S. EPA guidance. Furthermore, because this area is subject to transport, additional regional NO_x and VOC reductions will ensure continued compliance (maintenance) with the standards and provide an increased margin of safety.

Consistent with the authority granted to the U.S. EPA under Section 107(d)(3) of the CAA, Indiana hereby requests that Lake and Porter counties be redesignated to attainment simultaneously with U.S. EPA approval of the Redesignation Request and Maintenance Plan provisions contained herein.

Appendix A

Air Quality System (AQS) Data Report Through August 2008

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
QUICK LOOK REPORT (AMP450)

Nov. 3, 2008

EXCEPTIONAL DATA TYPES

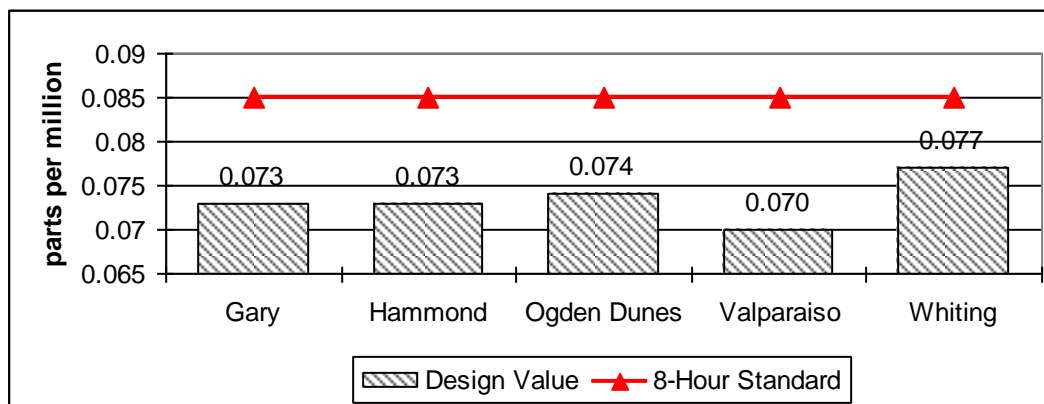
EDT	DESCRIPTION
0	NO EVENTS
1	EVENTS EXCLUDED
2	EVENTS INCLUDED
3	EXCEPTIONAL EVENTS EXCLUDED
4	NATURAL EVENTS EXCLUDED
5	EVENTS WITH CONCURRENCE EXCLUDED
6	EXCEPTIONAL EVENTS WITH CONCURRENCE EXCLUDED
7	NATURAL EVENTS WITH CONCURRENCE EXCLUDED

Ozone (44201)		Indiana				Parts per million (007)												
8-HOUR																		
	P					VALID	NUM	1ST	2ND	3RD	4TH	DAY						
	O					DAYS	DAYS	MAX	MAX	MAX	MAX	MAX						
SITE ID	C	PQAO	CITY	COUNTY	ADDRESS	YEAR	METH	%OBS	MEAS	REQ	8-HR	8-HR	8-HR	8-HR	0.075	CERT	EDT	
18-089-0022	1	520	Gary	Lake	201 MISSISSIPPI	2003	47	96	176	183	0.081	0.08	0.077	0.076	4	Y	0	
18-089-0022	1	520	Gary	Lake	201 MISSISSIPPI	2004	47	100	183	183	0.07	0.064	0.064	0.064	0	Y	0	
18-089-0022	1	520	Gary	Lake	201 MISSISSIPPI	2005	47	96	175	183	0.101	0.1	0.09	0.089	14	Y	0	
18-089-0022	1	520	Gary	Lake	201 MISSISSIPPI	2006	47	98	180	183	0.078	0.074	0.073	0.073	1	Y	0	
18-089-0022	1	520	Gary	Lake	201 MISSISSIPPI	2007	47	79	144	183	0.089	0.089	0.085	0.085	6		0	
18-089-0022	1	520	Gary	Lake	201 MISSISSIPPI	2008	47	77	141	183	0.077	0.063	0.061	0.058	1		0	

18-089-0030	1	520	Whiting	Lake	WHITING HIGH SCHOOL	2004	47	100	183	183	0.076	0.068	0.067	0.064	1	Y	0
18-089-0030	1	520	Whiting	Lake	WHITING HIGH SCHOOL	2005	47	100	183	183	0.103	0.092	0.089	0.088	17	Y	0
18-089-0030	1	520	Whiting	Lake	WHITING HIGH SCHOOL	2006	47	100	183	183	0.086	0.085	0.083	0.081	6	Y	0
18-089-0030	1	520	Whiting	Lake	WHITING HIGH SCHOOL	2007	47	99	182	183	0.094	0.091	0.09	0.088	14		0
18-089-0030	1	520	Whiting	Lake	WHITING HIGH SCHOOL	2008	47	52	95	183	0.066	0.065	0.065	0.061	0		0
18-089-2008	1	520	Hammond	Lake	1300 141 ST STREET	2003	47	96	176	183	0.088	0.088	0.084	0.081	9	Y	0
18-089-2008	1	520	Hammond	Lake	1300 141 ST STREET	2004	47	100	183	183	0.074	0.069	0.067	0.067	0	Y	0
18-089-2008	1	520	Hammond	Lake	1300 141 ST STREET	2005	47	99	182	183	0.095	0.09	0.089	0.087	10	Y	0
18-089-2008	1	520	Hammond	Lake	1300 141 ST STREET	2006	47	100	183	183	0.082	0.077	0.076	0.075	3	Y	0
18-089-2008	1	520	Hammond	Lake	1300 141 ST STREET	2007	47	96	176	183	0.087	0.082	0.079	0.077	4		0
18-089-2008	1	520	Hammond	Lake	1300 141 ST STREET	2008	47	97	177	183	0.072	0.072	0.070	0.068	0		0
18-127-0024	1	520	Dunes Ogden	Porter	84 DIANA RD/ WATER	2003	47	100	183	183	0.086	0.084	0.08	0.077	6	Y	0
18-127-0024	1	520	Dunes Ogden	Porter	84 DIANA RD/ WATER	2004	47	100	183	183	0.078	0.077	0.072	0.069	2	Y	0
18-127-0024	1	520	Dunes Ogden	Porter	84 DIANA RD/ WATER	2005	47	99	181	183	0.109	0.098	0.091	0.090	14	Y	0
18-127-0024	1	520	Dunes Ogden	Porter	84 DIANA RD/ WATER	2006	47	100	183	183	0.076	0.075	0.074	0.070	1	Y	0
18-127-0024	1	520	Dunes Ogden	Porter	84 DIANA RD/ WATER	2007	47	97	177	183	0.091	0.089	0.089	0.084	9		0
18-127-0024	1	520	Dunes	Porter	84 DIANA RD/ WATER	2008	47	100	183	183	0.082	0.072	0.070	0.069	1		0
18-127-0026	1	520	Valparaiso	Porter	VALPARAISO WATER	2003	47	100	183	183	0.09	0.09	0.082	0.082	12	Y	0
18-127-0026	1	520	Valparaiso	Porter	VALPARAISO WATER	2004	47	100	183	183	0.084	0.081	0.077	0.072	3	Y	0
18-127-0026	1	520	Valparaiso	Porter	VALPARAISO WATER	2005	47	100	183	183	0.086	0.085	0.083	0.078	9	Y	0
18-127-0026	1	520	Valparaiso	Porter	VALPARAISO WATER	2006	47	99	182	183	0.078	0.074	0.072	0.071	1	Y	0
18-127-0026	1	520	Valparaiso	Porter	VALPARAISO WATER	2007	47	93	171	183	0.084	0.083	0.081	0.080	6		0
18-127-0026	1	520	Valparaiso	Porter	VALPARAISO WATER	2008	47	80	147	183	0.066	0.062	0.062	0.061	0		0

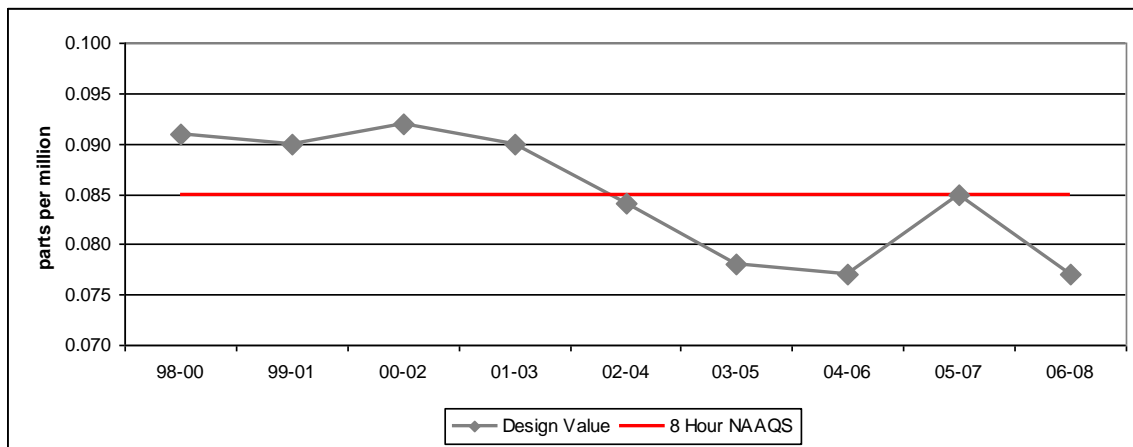
Fourth Highest Daily Values

Site	2003	2004	2005	2006	2007	2008	03-05 avg	04-06 avg	05-07 avg	06-08 avg
GARY	0.076	0.064	0.089	0.073	0.085	0.058	0.076	0.075	0.082	0.073
HAMMOND	0.081	0.067	0.087	0.075	0.077	0.068	0.078	0.076	0.079	0.073
OGDEN DUNES	0.077	0.069	0.090	0.070	0.084	0.069	0.078	0.076	0.081	0.074
VALPARAISO	0.082	0.072	0.078	0.071	0.080	0.061	0.077	0.073	0.076	0.070
WHITING	N/A	0.064	0.088	0.081	0.088	0.062	N/A	0.077	0.085	0.077



Historic Design Values

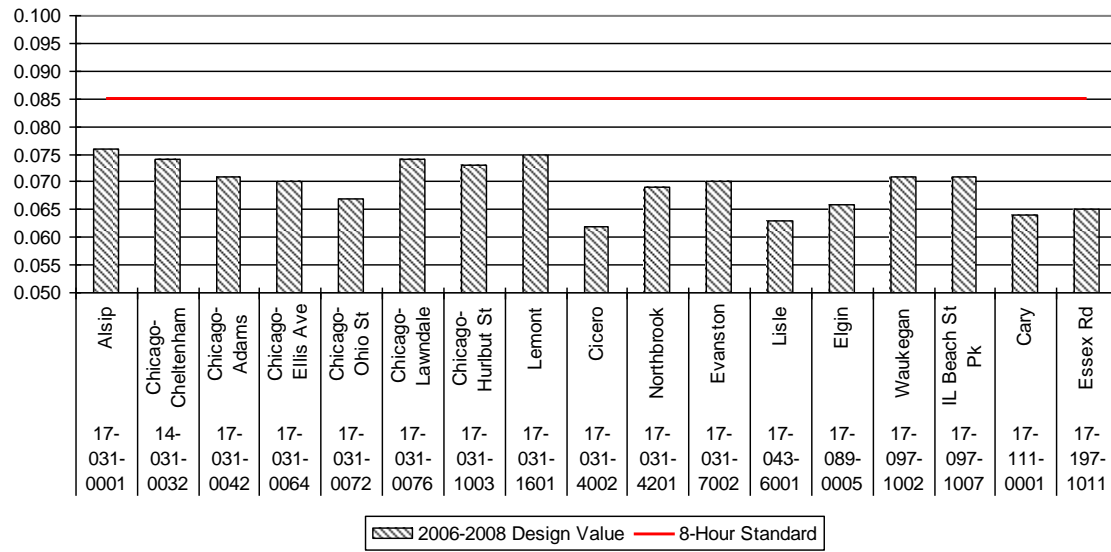
	Gary	Hammond	Ogden Dunes	Valparaiso	Whiting
98-00	0.084	0.088	0.091	0.086	n/a
99-01	0.084	0.090	0.09	0.083	n/a
00-02	0.084	0.092	0.09	0.086	n/a
01-03	0.084	0.090	0.087	0.086	n/a
02-04	0.078	0.083	0.082	0.084	n/a
03-05	0.076	0.078	0.078	0.077	n/a
04-06	0.075	0.076	0.076	0.073	0.077
05-07	0.082	0.079	0.081	0.076	0.085
06-08	0.073	0.073	0.074	0.070	0.077



**Local Monitoring (Design Value) Data for Illinois Counties
2003-2008**

County	Site	2003	2004	2005	2006	2007	2008	03-05 avg	04-06 avg	05-07 avg	06-08 avg
Cook	Alsip	0.077	0.065	0.084	0.078	0.085	0.066	0.075	0.075	0.082	0.076
Cook	Chicago-Cheltenham	0.080	0.067	0.076	0.075	0.082	0.066	0.074	0.073	0.078	0.074
Cook	Chicago-Adams	0.078	0.069	0.080	0.073	0.084	0.058	0.076	0.074	0.080	0.071
Cook	Chicago-Luella	0.069						0.069			
Cook	Chicago-Ellis Ave	0.067	0.054	0.084	0.070	0.079	0.063	0.068	0.069	0.076	0.070
Cook	Chicago-Ohio St	0.075	0.060	0.081	0.065	0.075	0.063	0.072	0.068	0.073	0.067
Cook	Chicago-Lawndale	N/A	0.068	0.084	0.075	0.080	0.066	0.076	0.075	0.080	0.074
Cook	Chicago-Hurlbut St	0.077	0.067	0.083	0.077	0.079	0.063	0.076	0.075	0.080	0.073
Cook	Lemont	0.075	0.067	0.086	0.070	0.085	0.071	0.076	0.074	0.080	0.075
Cook	Cicero	0.070	0.059	0.075	0.060	0.068	0.060	0.068	0.064	0.066	0.062
Cook	Des Plaines	0.073	0.064	0.079				0.072	0.072		
Cook	Northbrook	0.080	0.068	0.081	0.068	0.076	0.063	0.076	0.072	0.076	0.069
Cook	Evanston	0.082	0.075	0.082	0.072	0.080	0.058	0.080	0.076	0.076	0.070
DuPage	Lisle	0.066	0.065	0.078	0.062	0.072	0.057	0.070	0.068	0.070	0.063
Kane	Elgin	0.076	0.069	0.087	0.062	0.075	0.061	0.077	0.072	0.075	0.066
Lake	Waukegan	0.074	0.068	0.087	0.071	0.081	0.061	0.076	0.075	0.080	0.071
Lake	IL Beach St Pk	0.078	0.071	0.090	0.068	0.080	0.067	0.080	0.076	0.079	0.071
McHenry	Cary	0.079	0.068	0.087	0.057	0.074	0.063	0.078	0.071	0.073	0.064
Will	Sout	0.077	0.064					0.071	0.070		
Will	Essex Rd	0.073	0.068	0.077	0.068	0.071	0.057	0.073	0.071	0.072	0.065
Highlighted values represent the most recent monitoring data available											

2006-2008 Average

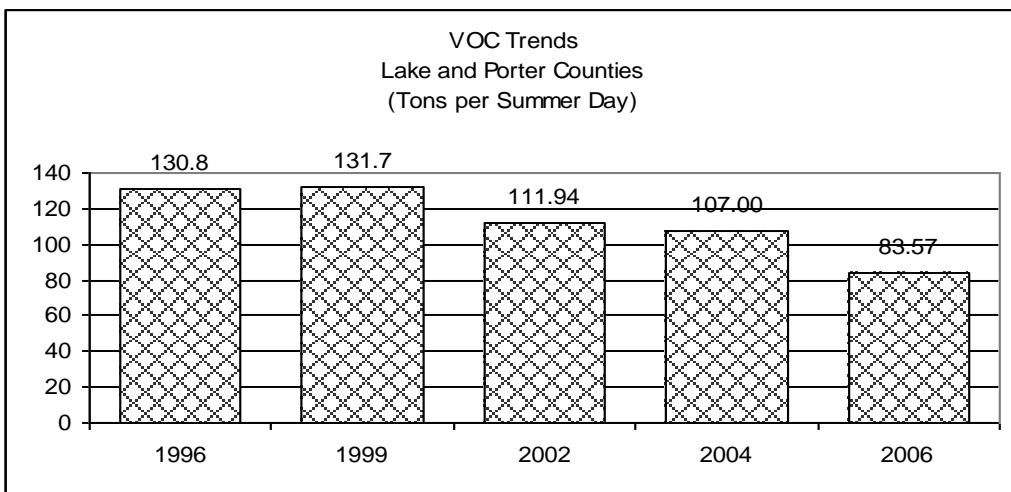
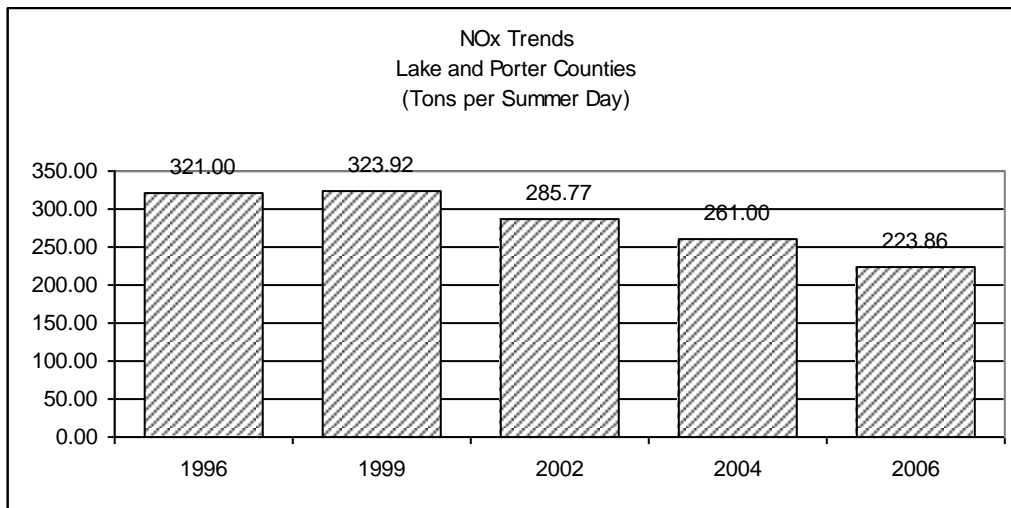


Appendix B

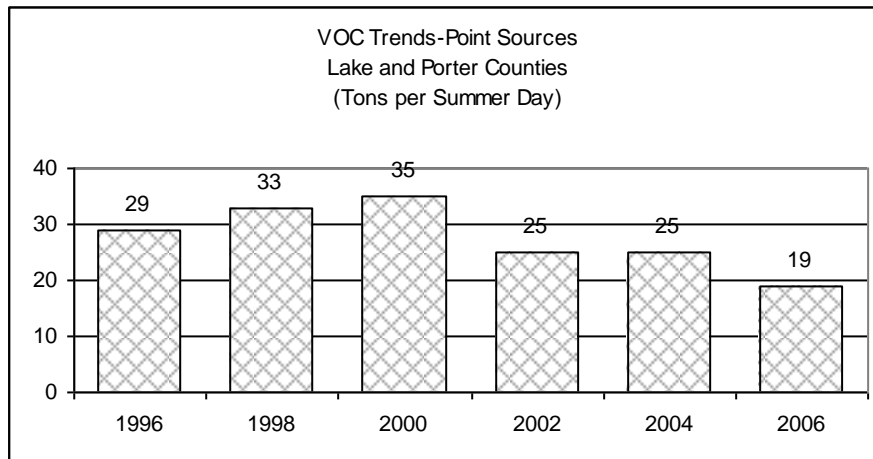
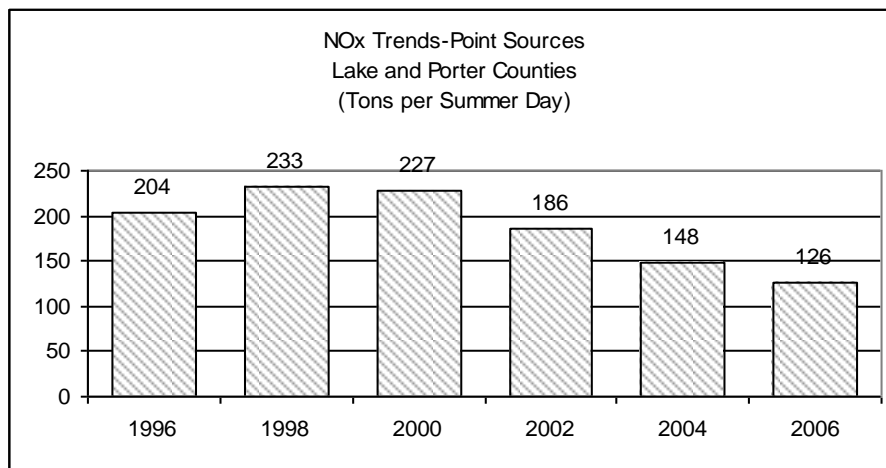
Emission Inventories

NO_x and VOC Emissions Trends, 1996 - 2006, All Sources in Lake and Porter Counties

Total – Lake and Porter Counties (Tons per Summer Day)		
Year	NO _x	VOC
1996	321.00	130.80
1999	323.92	131.70
2002	285.77	111.94
2004	261.00	107.00
2006	223.86	83.57

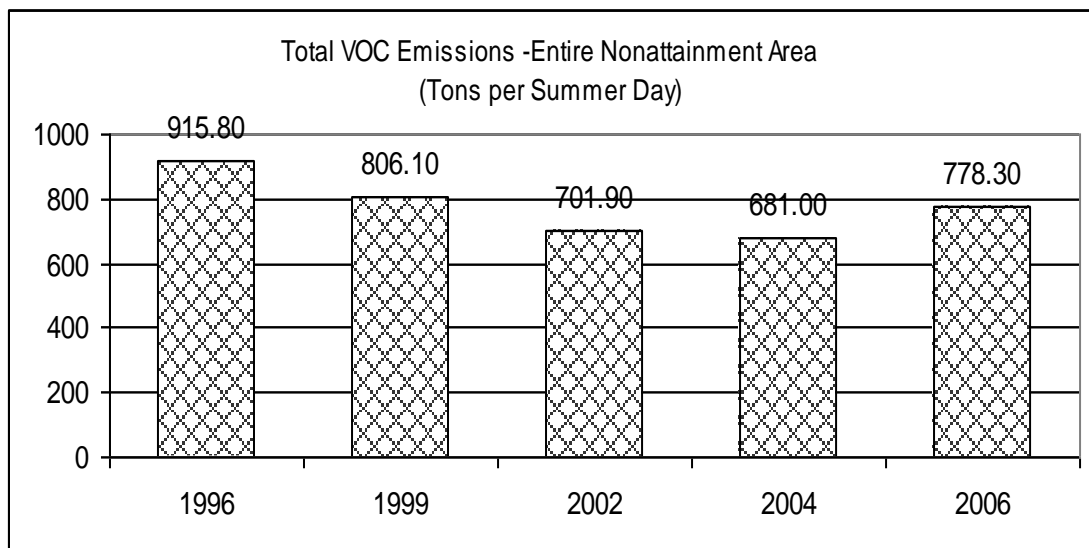
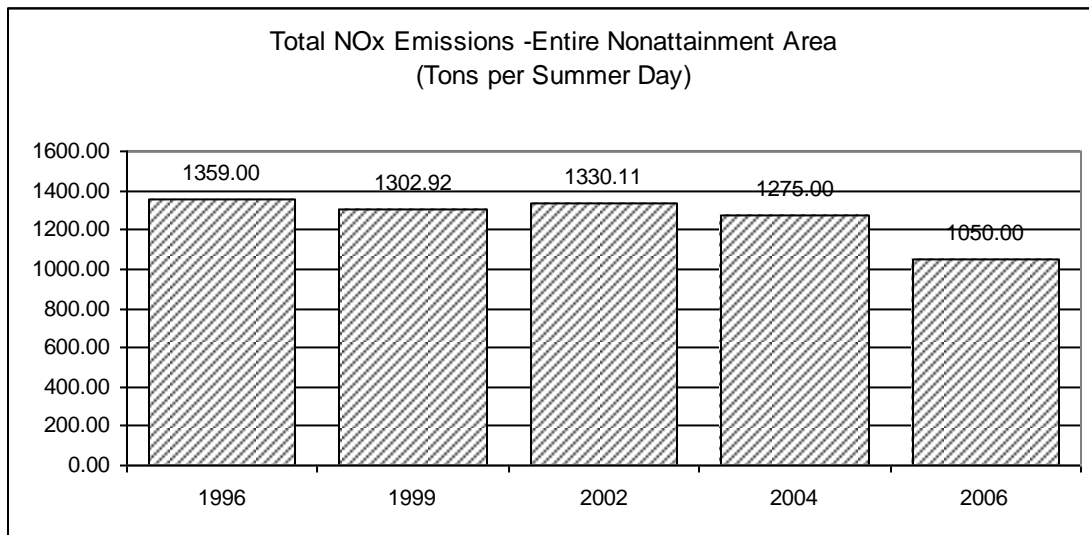


Point – Lake and Porter Counties (Tons per Summer Day)		
Year	NOx	VOC
1996	204	29
1998	233	33
1999	227	35
2002	186	25
2004	148	25
2006	126	19

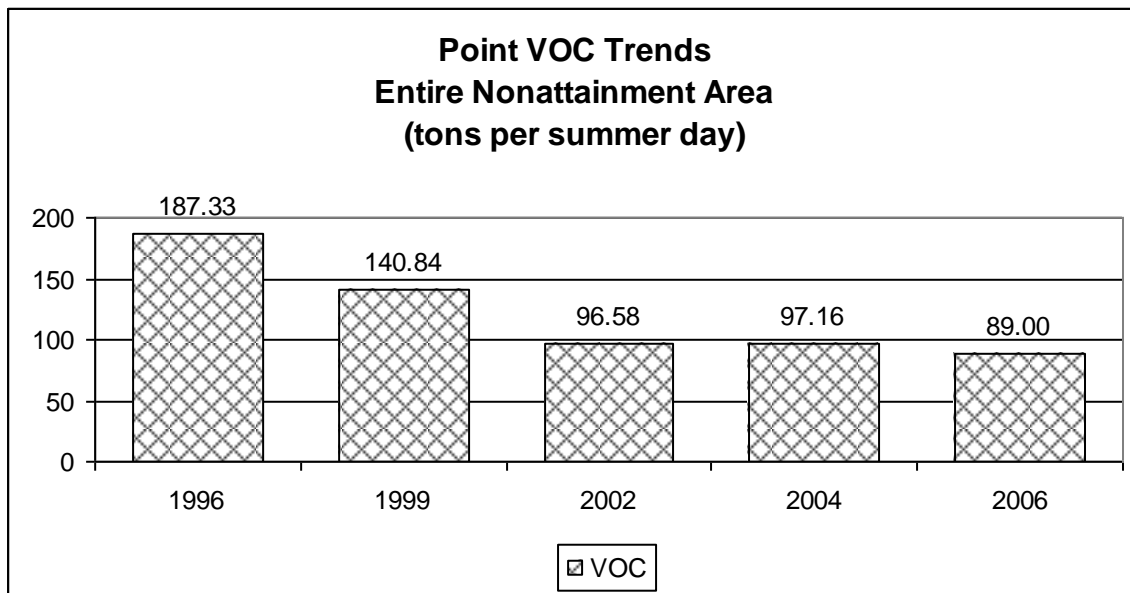
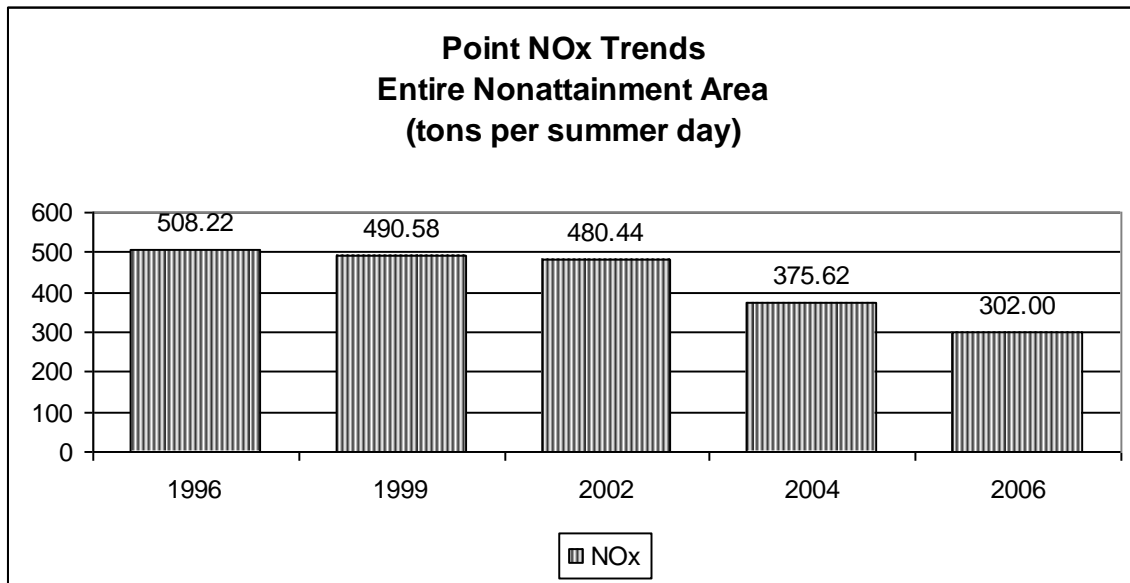


**NO_x and VOC Emissions Trends, 1996 - 2006, All Sources in the Entire
Nonattainment Area Counties**

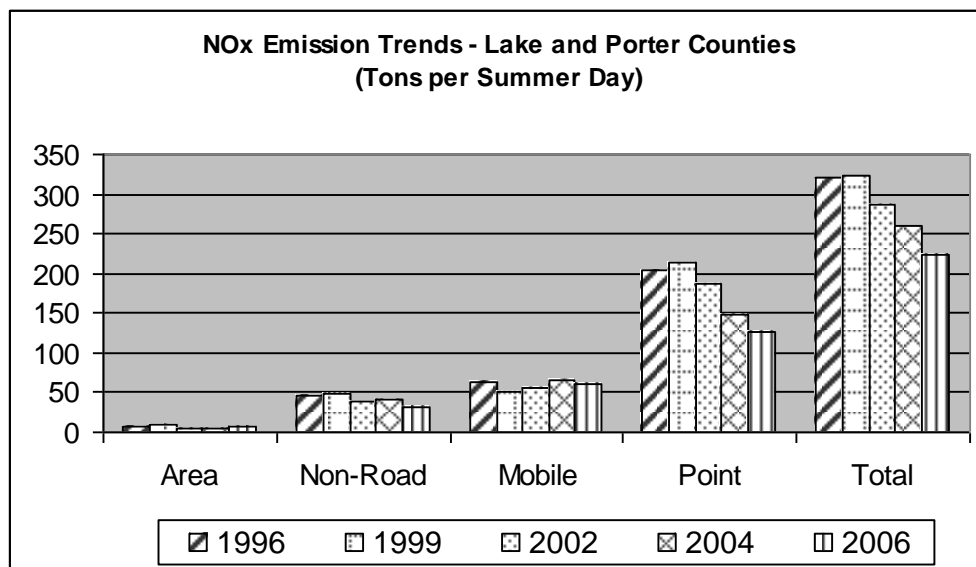
Total - Entire Nonattainment Area (Tons per Summer Day)-		
Year	NO_x	VOC
1996	1359.00	915.80
1999	1302.92	806.10
2002	1330.11	701.90
2004	1275.00	681.00
2006	1050.00	778.30

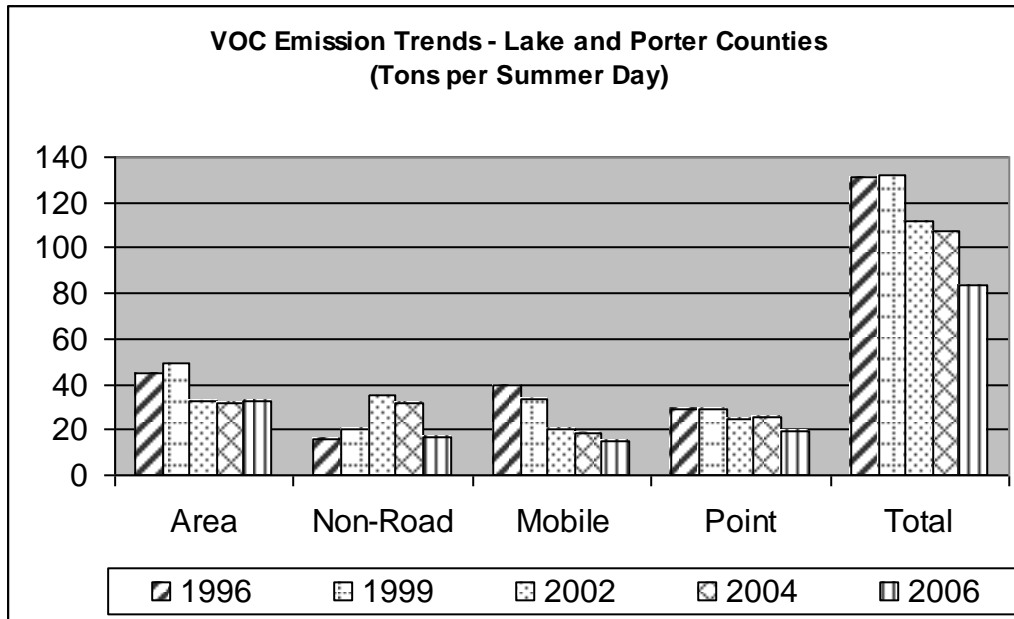


Point Trends - Entire Nonattainment Area (Tons per Summer Day)-		
Year	NOx	VOC
1996	508.22	187.33
1999	490.58	140.84
2002	480.44	96.58
2004	375.62	97.16
2006	302.00	89.00



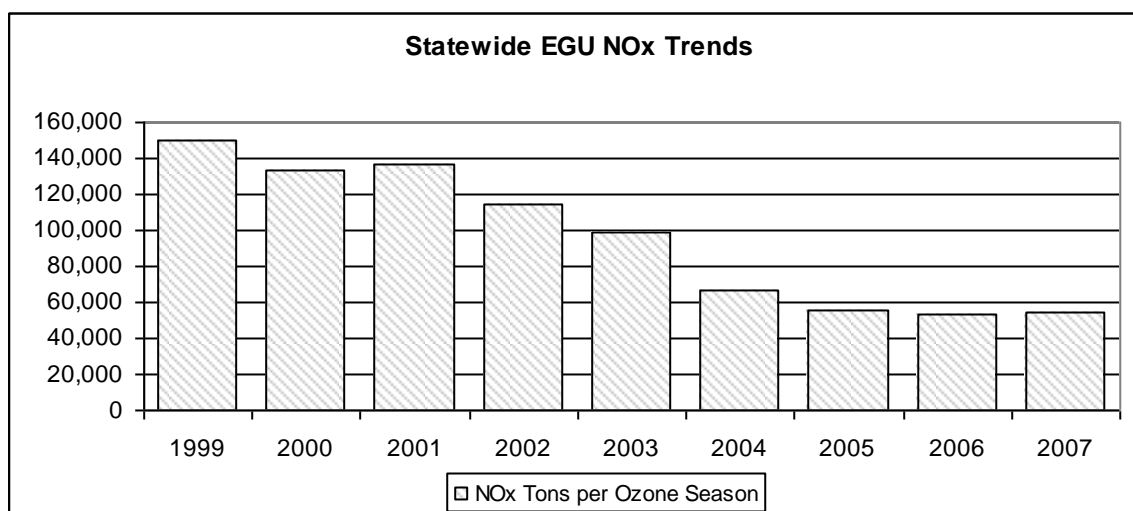
Lake and Porter Counties (Tons per Summer Day)					
Sector	NO _x 1996	NO _x 1999	NO _x 2002	NO _x 2004	NO _x 2006
Area	8.02	10.36	5.72	5.76	6.45
Non-road	45.7	49.07	38.61	40.64	31.17
Mobile	63.14	49.92	55.00	65.95	60.09
Point	204.22	214.58	186.44	148.22	126.15
Total	321.08	323.93	285.77	260.57	223.86
Sector	VOC 1996	VOC 1999	VOC 2002	VOC 2004	VOC 2006
Area	45.19	49.59	32.37	31.34	32.47
Non-road	16.23	19.98	35.09	31.63	17.14
Mobile	40.05	33.29	20.00	18.90	14.92
Point	29.33	28.84	24.58	25.43	19.04
Total	130.80	131.70	111.94	107.30	83.57





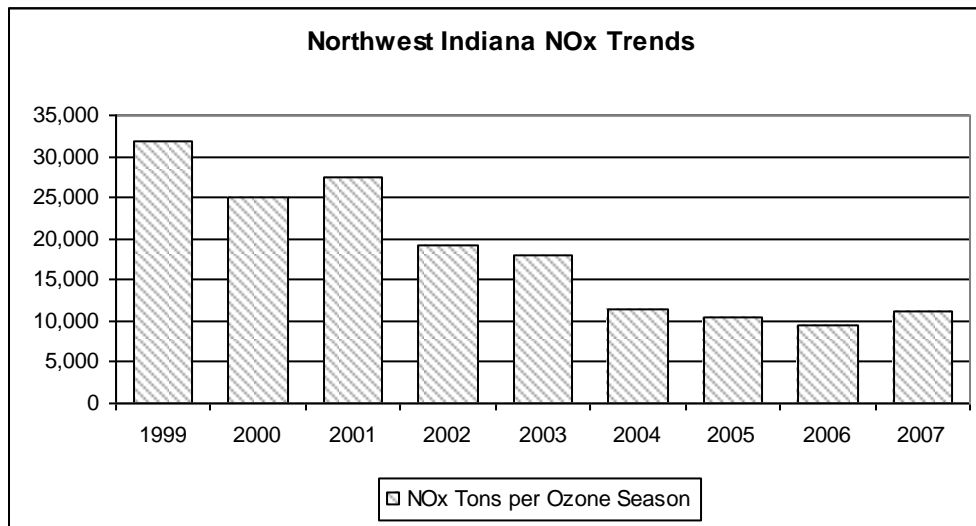
Statewide EGU NO_x Trends

Year	NO _x Emissions - tons/ozone season
1997	152,834
1998	159,931
1999	149,827
2000	133,881
2001	136,052
2002	113,996
2003	99,283
2004	66,568
2005	55,486
2006	53,768
2007	54,816



Northwest Indiana NO_x Trends

Year	NOx Tons per Ozone Season
1999	31,815
2000	25,028
2001	27,394
2002	19,260
2003	17,966
2004	11,419
2005	10,537
2006	9,567
2007	11,230



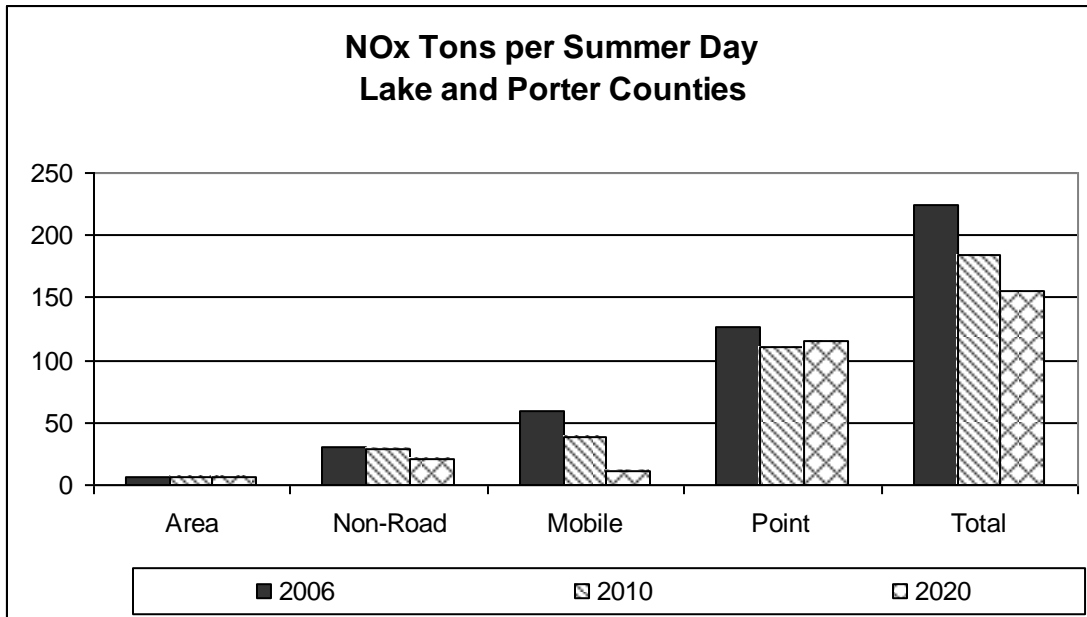
Appendix C

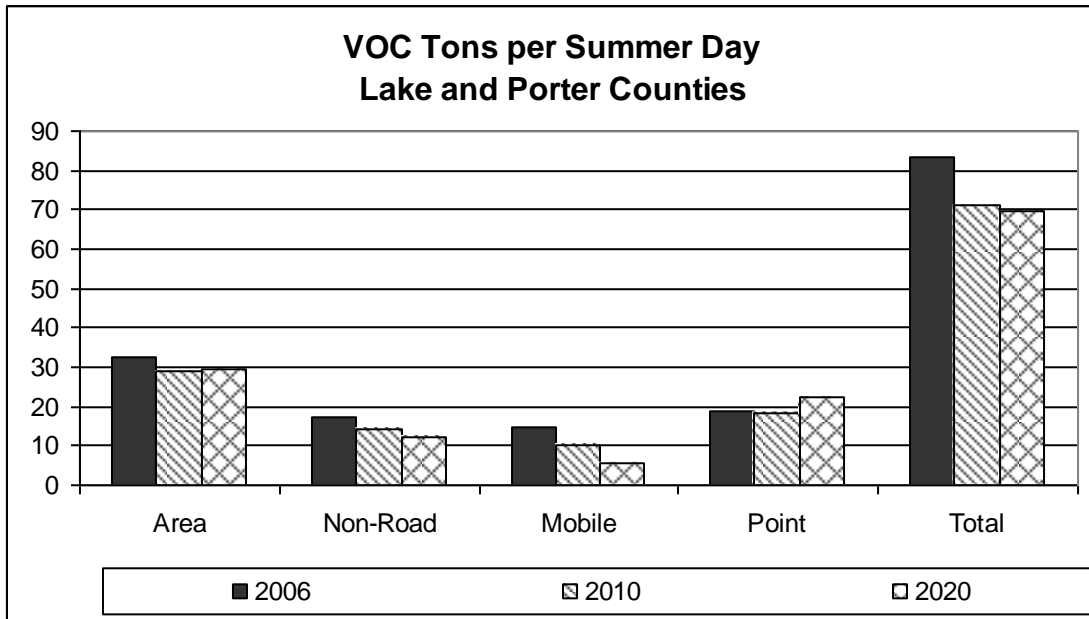
2010 and 2020 Projected Emissions Inventory

Lake and Porter Counties

(Tons per Summer Day)

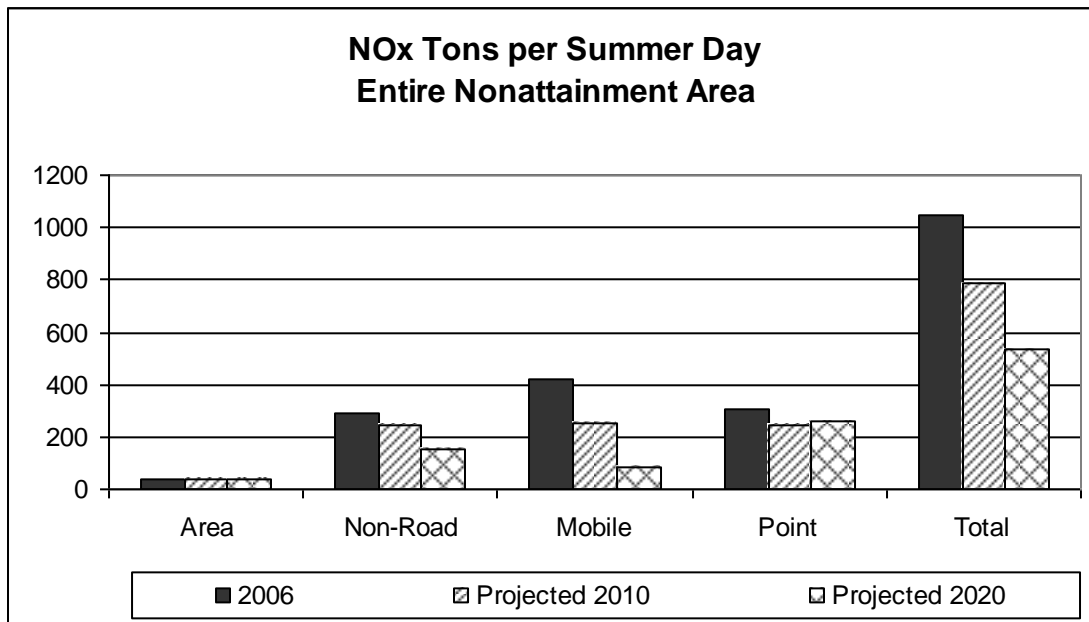
Sector	NO _x 2006	NO _x 2010	NO _x 2020
Area	6.45	6.59	6.77
Non-road	31.17	28.50	21.37
Mobile	60.09	38.65	11.97
Point	126.15	110.49	114.75
Total	223.86	184.23	154.86
Sector	VOC 2006	VOC 2010	VOC 2020
Area	32.47	28.8	29.24
Non-road	17.14	14.11	12.22
Mobile	14.92	9.93	5.71
Point	19.04	18.18	22.25
Total	83.57	71.02	69.42

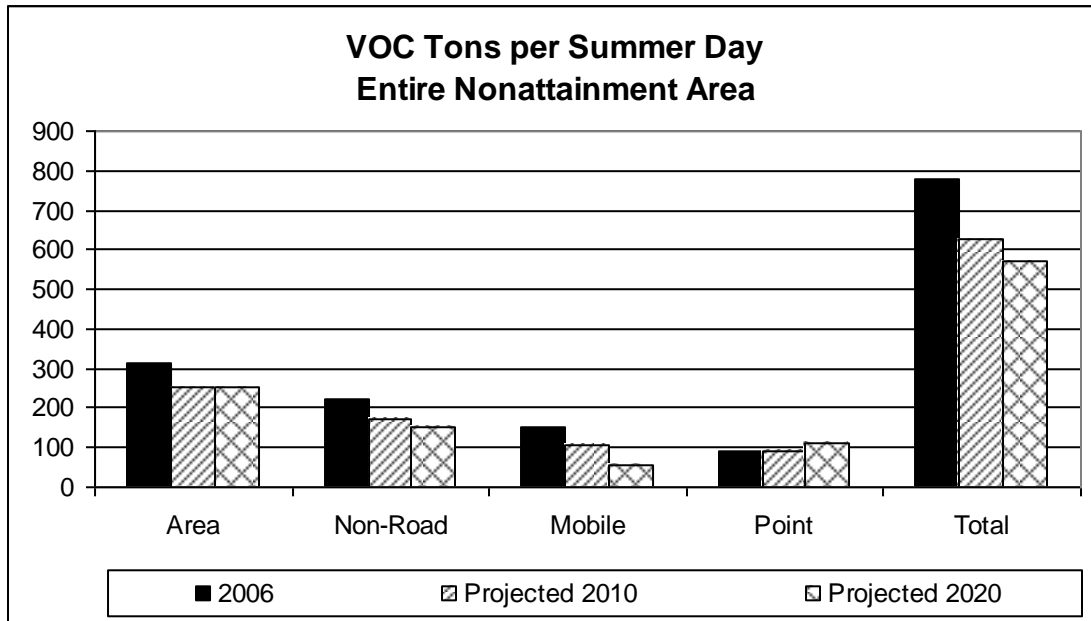




2010 and 2020 Projected Emissions Inventory
Entire Nonattainment Area
(Tons per Summer Day)

Sector	NO _x 2006	NO _x 2010	NO _x 2020
Area	38.50	41.00	41.00
Non-road	290.00	243.00	150.00
Mobile	419.00	254.00	84.86
Point	302.00	247.00	262.00
Total	1049.5	785.00	537.80
Sector	VOC 2006	VOC 2010	VOC 2020
Area	313.40	254.00	254.00
Non-road	222.00	174.09	150.00
Mobile	153.92	104.00	55.00
Point	89.00	93.00	113.00
Total	778.30	625.00	572.00





Appendix D

Public Participation Documentation

- **Legal Notice of Public Hearing**
- **Publisher's Claims**
 - **Chesterton Tribune**
 - **Northwest Indiana Newspapers**
 - **Post-Tribune**
- **Public Hearing Attendance Record**
- **Public Hearing Transcript**
- **Written Comments**
 - **Charlotte Read, Save the Dunes Council**
 - **Pages from Redesignation Request with Handwritten Comments from Mark Strimbu, NISOURCE**
- **Summary/Response to Comments Received at Public Hearing**

Legal Notice of Public Hearing

LEGAL NOTICE OF PUBLIC HEARING
State Implementation Plan Revisions
Concerning the 8-Hour Ozone Standard,
for Lake and Porter counties.

Notice is hereby given under 40 CFR 51.102 that the Indiana Department of Environmental Management (IDEM) will hold a public hearing on Thursday, January 8, 2009. The purpose of this hearing is to receive public comment concerning the following State Implementation Plan documents specific to Lake and Porter counties in association with the 8 hour ozone standard:

- Draft Redesignation Petition and Maintenance Plan.
- Attainment Demonstration
- Demonstration of compliance with requirements pertaining to Reasonably Available Control Measures for volatile organic compounds
- Request for waiver for Reasonably Available Control Measure requirements for oxides of nitrogen.
- Demonstration of Rate of Further Progress

The meeting will convene at 6:00 p.m. (local time) at the Northwest Indiana Regional Planning Commission's offices, located at 6100 Southport Road, Portage, Indiana. All interested persons are invited and will be given opportunity to express their views concerning the draft documents.

These State Implementation Plan documents are being drafted and submitted consistent with United States Environmental Protection Agency (USEPA) guidance.

Copies of the draft documents will be available on or before December 5, 2008 to any person upon request and at the following locations:

- Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, 100 North Senate, Room N1003, Indianapolis, Indiana.
- Indiana Department of Environmental Management, Northwest Regional Office, 8380 Louisiana Street, Merrillville, Indiana
- Crown Point Community Library, 214 South Court Street, Crown Point, Indiana.
- Valparaiso Public Library, 103 Jefferson Street, Valparaiso, Indiana.
- Gary Public Library, 220 West 5th Avenue, Gary, Indiana.
- Hammond Public Library, 564 State Street, Hammond, Indiana.
- Whiting Public Library, 1735 Oliver Street, Whiting, Indiana.

Electronic versions of the documents are also available for public inspection at the following website: <http://www.in.gov/idem/4658.htm>

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

IDEM will also accept written comments through January 12, 2009. Mailed comments should be addressed to:

Northwest Indiana State Implementation Plan for Ozone
Scott Deloney, Chief
Air Programs Branch, Office of Air Quality – Mail Code 61-50
100 North Senate Avenue
Indiana Department of Environmental Management
Indianapolis, IN 46206-2251

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

For additional information contact Christine Pedersen, at the Indiana Department of Environmental Management, Office of Air Quality, Room 1001, Indiana Government Center North, 100 North Senate Avenue, Indianapolis or call (317) 233-5684 or (800) 451-6027 ext. 3-5684 (in Indiana).

Scott Deloney, Chief
Air Programs Branch
Office of Air Quality

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

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

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

Publisher's Claims

12/11

Indiana Department of Environmental Management
(Governmental Unit)

To: Chesterton Tribune
193 S. Calumet Rd.
PO Box 919
Chesterton, IN 46304

Dr.

Porter County, Indiana

Newspaper Code 64002

PUBLISHER'S CLAIM

LINE COUNT

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

Head -- number of lines

Body – number of lines

Tail -- number of lines

Total number of lines in notice

COMPUTATION OF CHARGES

92 lines, _____ columns wide equals _____ equivalent lines
at 0.526 cents per line

\$ 48.39

Additional charge for notices containing rule or tabular work
(50 percent of above amount)

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

TOTAL AMOUNT OF CLAIM

\$ 48.39

DATA FOR COMPUTING COST

Width of single column 12.2 ems

Number of insertions one

Size of type 6 point

Pursuant to the provisions and penalties of Chapter 155, Acts 1953,

I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid. *mc*

Warren Canright

Warren Canright

Date: December 4, 2008

Title: Publisher

PUBLISHER'S AFFIDAVIT

State of Indiana)
) ss:
Porter County)

Personally appeared before me, a notary public in and for said county and state, the undersigned Warren Canright who, being duly sworn, says that he is publisher of the Chesterton Tribune newspaper of general circulation printed and published in the English language in the town of Chesterton in state and county aforesaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for one time(s), the dates of publication being as follows:

December 4, 2008

Warren Cartright

Subscribed and sworn to before me this 4 day of December, 2008

Corinne M. Peppers

Corinne M. Peffers, Notary Public Porter Co.

My commission expires: August 14, 2014

IN FAVOR OF
THE CHESTERTON TRIBUNE INC
P O BOX 919
CHESTERTON IN 46304

ON ACCOUNT OF APPROPRIATION FOR

In the sum of \$

35-0996671

I certify that the within claim is true and correct, that the services therein itemized and for which charge is made were ordered by me and were necessary to the public business.

I have examined the within claim
and hereby certify as follows:

That it is in proper form

That it is duly authenticated
as required by law.

That it is based upon statutory authority.

correct
That it is apparently incorrect

I certify that the within claim is

Rate/Square	5.39	8.06	10.76	13.45
-------------	------	------	-------	-------

Number of Insertions 1 2 3 4

12.2 Em Column

Type size 1 2 3 4

5.5	0.574	0.858	1.146	1.432
-----	-------	-------	-------	-------

6.5	0.486	0.726	0.969	1.212
-----	-------	-------	-------	-------

7.5	0.421	0.629	0.840	1.050
-----	-------	-------	-------	-------

9	0.351	0.524	0.700	0.873
---	-------	-------	-------	-------

12	0.263	0.393	0.525	0.656
----	-------	-------	-------	-------

Rate/Square	5.39	8.06	10.76	13.45
-------------	------	------	-------	-------

PUBLIC NOTICE OF PUBLIC HEARING

The Indiana Department of Environmental Management (IDEM) has received comments from the following individuals:

- Christopher H. Gault, Young Scientist
Columbia River Center,
Portland, Oregon
- Notices recently given under 40 CFR 151.102 that the Indiana Department of Environmental Management (IDEM) will have a public hearing on Thursday, January 8, 2009. The purpose of this meeting is to receive public comment concerning the follow-up State Implementation Plan documents specific to Lake and Porter counties associated with the 6-hour ozone standard.
- Draft Processional Permitting and Maintenance Plan
- "Adaptive" Demonstration
- Demonstration of Compliance with requirements pertaining to the implementation of the Black Creek Measures On-site Land Compaction
- Projected Water for Reasonably Available Contaminant Loadings for Ozone Depletion
- Demonstration of State of Public Progress

The meeting will convene at 8:00 pm (local time) at the Northwest Indiana Regional Planning Commission offices located at 8100 Southport Road, Portage, Indiana. All interested persons are invited and will be given opportunity to express their views concerning the draft documents.

These State Implementation Plan documents are being drafted and submitted pursuant to United States EPA's Clean Air Act and Regional Planning Commission rules. Copies of the draft documents will be available online before December 15, 2009 to any person upon request and at the following locations:

- Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, 100 North Senate Avenue, Room 1003, Indianapolis, Indiana; Department of Environmental Management, Northwest Regional Office, 6315 Virginia Street, Suite 17, Merrillville, Indiana;
- Crown Point Community Library, 214 South Court Street, Crown Point, Indiana;
- Gary Public Library, 103 Jefferson Street, Valparaiso, Indiana;
- Gary Public Library, 220 West 6th Avenue, Gary, Indiana;
- Hammond Public Library, 664 State Street, Hammond, Indiana;
- Whiting Public Library, 1735 Oliver Street, Whiting, Indiana;

Electronic versions of the documents are also available for public inspection at the following website:
<http://www.in.gov/idem/4458.htm>.

All statements will be heard, but for the accuracy of the record, statements should be submitted in writing. Written comments may be submitted by the deadline indicated to receive written comments at the public hearing.

IDEM will also accept written comments through January 12, 2009. Mailed comments should be addressed to: Governor, Indiana State Implementation Plan for Ozone Depletion, Indiana Department of Environmental Management Branch Offices of Air Quality - Mail Code 61-5101, 100 North Senate Avenue, Indianapolis, IN 46206-2251.

In addition to accepting written submissions, proposed public hearings may be open to public inspection. IDEM staff and copies may be made available to any person upon payment of reproduction costs. Any person heard or represented at the hearing for requesting notice shall be given written notice of actions resulting from the hearing.

For more information contact Christine Pedersen, the Indiana Department of Environmental Management, Office of Air Quality, Room 1001, Indiana Government Center North, 100 North Senate Avenue, Indianapolis, OR call (317) 233-5884 or (800) 451-6027 ext. 35884 (toll-free).

Sue Peterson, Chief
Air Program Branch
Office of Air Quality

Individuals requiring reasonable accommodations to participate in this hearing should contact the IDEM Americans with Disabilities Act (ADA) coordinator at: Airtel ADA Coordinator.

For more information, contact the Environmental Management Mail Code 50-1D,

100 North Senate Avenue,
Indianapolis, IN 46204-2251.
Or call: (317) 233-1785 (voice) or (317) 232-6565 (TDD). Please provide a minimum of 72 hours' notice.

(December 4, 2008)

14868.5

IDEM

(Governmental Unit)

Lake County, Indiana

To: Northwest Indiana Newspapers

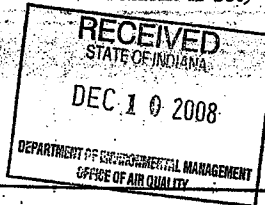
601-45th Avenue, Munster, IN 46321

PUBLISHER'S CLAIM

LINE COUNT

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

Head - number of lines
Body - number of lines
Tail - number of lines
Total number of lines in notice



COMPUTATION OF CHARGES

151 lines 1 columns wide equals 151 equivalent lines at 29.8 cents per line

Additional charge for notices containing rule or tabular work

(50 percent of above amount)

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

\$ 45.00

online

10.00

TOTAL AMOUNT OF CLAIM

\$ 55.00

20158957

DATA FOR COMPUTING COST

Width of single column 6.4 ems

Number of insertions 1

Size of type 12 point

YOUR COPY
PAID

Pursuant to the provisions and penalties of Chapter 135, Acts 1953,

I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

Date: December 5, 2008

Title:

Legal Clerk

PUBLISHER'S AFFIDAVIT

State of Indiana)

) ss:

Lake County)

Personally appeared before me, a notary public in and for said county and state, the undersigned H. Stephens who, being duly sworn, says that 5 he is Legal Clerk of the TIMES newspaper of general circulation printed and published in the English language in the (city) (town) of Munster in the state and county aforesaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for 1 time, the dates of publication being as follows:

December 5, 2008

Subscribed and sworn to before me this 5 day of December 2008.

My commission expires: 6-13-2015

Janice C. Meloy
Notary Public

Beginning
(over)

Form No. _____ Warrant No. _____

IN FAVOR OF _____

I have examined the within claim and hereby certify as follows:

That it is in proper form.

That it is duly authenticated as require by law.

That it is based upon statutory authority.

That it is apparently correct.

Allowed _____, 80 _____

In the sum of \$ _____

I certify that the within claim is true and correct; that the services therein itemized and for which charge is made were ordered by me and were necessary to the public business.

80 _____

LEGAL ADVERTISING

TABLE SHOWING PRICE PER LINE AND PER INSERTION

Type	6.48 per Column
Size	No. of Insertions
5.5	.298 .447 .395 .745

Date of Svc: 12/5/08 (Date & Descr = 30 Char. Max.) Other Descr: Public Hearing 0 Zone Standard.
Amt: \$3500 Fund: 3240 Acct: 520700 Src. Type: 00000
Proj: 14060 Dept: 197049 Bdgt. Ref: 2609 PCBU: 00495
Grant: 495409051050000 Actv. ID: 0000900
Only) Prog. Int: 12/18/08 Acct. Int: 12/22/08
S. Type: _____

ACCOUNT #8091350

INDIANA DEPT OF ENVIRON MGT

PT4936

36 IDEM FISCAL/ACCOUNTING

POST-TRIBUNE

Dr.

(Government Unit)

LAKE

County, Indiana

1433 E. 83RD AVE., MERRILLVILLE, IN 46410-6307

PUBLISHER'S CLAIM

LINE COUNT

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Head - number of lines.

Body - number of lines.

Tail - number of lines.

Total number of lines in notice

COMPUTATION OF CHARGES

81.00

2

162.00

lines at3200..... cents per line

Additional charge for notices containing rule or tabular work
(50 percent of above amount)

51.84

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

.51.84

DATA FOR

[illegible]

L55, Acts 1953.

just and correct, that the amount claimed is legally due, after allowing all just credits, and that

48

Title CREDIT-MANAGER

PUBLISHER'S AFFIDAVIT

State of Indiana)
Lake County .) SS

Personally appeared before me a notary public in and for said county and state, the undersigned **MARIBEL DELBREY**

being duly sworn, says that he/she is _____ LEGAL CLERK

of the **POST-TRIBUNE** a **DAILY**

newspaper of general circulation printed and published in the English language in the city of
MERRILLVILLE
in state and county

aforsaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for 1 time, the dates of publication being as follows.

12/2

Subscribed and sworn to before me this 2nd day of Dec. 2009

Notary Public

January 16, 2016

My commission expires _____

ACCOUNT #8091350

INDIANA DEPT OF ENVIRON MGT

PT4936

36
IDEM FISCAL/ACCOUNTING

POST-TRIBUNE

(Government Unit)

County, Indiana

1433 E. 83RD AVE., MERRILLVILLE, IN 46410-6307

PUBLISHER'S CLAIM

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COMPUTATION OF CHARGES

81.00

2

162.00

lines at3200 cents per line

\$ 51.84

Additional charge for notices containing rule or tabular work
(50 percent of above amount)

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

51.84

[illegible]

L55, Acts 1953.

just and correct, that the amount claimed is legally due, after allowing all just credits, and that

Title CREDIT MANAGER

PUBLISHER'S AFFIDAVIT

State of Indiana)
Lake County) SS

Personally appeared before me a notary public in and for said county and state, the
undersigned MARIBEL DELBREY who.

being duly sworn, says that he/she is **LEGAL CLERK** who
of the **POST-TRIBUNE** a **DAILY**

newspaper of general circulation printed and published in the English language in the city of
MERRILLVILLE
in state and county
aforesaid, and that the printed matter attached hereto is a true copy, which was duly published
in said paper for 1 time the dates of publication being as follows.
8 HR OZONE STANDARD

12/2 mainline 11000
Subscribed and sworn to before me this 2nd day of Dec. 2008

January 16, 2016 Notary Public

My commission expires January 16, 2016

Public Hearing Attendance Record

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Page _____

PUBLIC HEARING ATTENDANCE RECORD

Title of Public Hearing: _____ Location: NIRPC Date: 1/8/2009
(Portage, IN)

Please print all the information:

NAME	ORGANIZATION/ COMPANY	PHONE NUMBER	ADDRESS
OMP Burkholder	P-T		
Mark Strimbu	NISource	219-647-5209	FOIE, 864th Ave, Merrillville, IN
John Ross	M Source	219 647 5240	" " " " " 46410
Kay Nelson	NWI Forum	219 763 6303	knelson@nwiforum.org 6100 Southport Portage
Jim Alexander	U.S. Steel	219 888 3387	JMAlexander@USS.com
Kathy Luther	NIRPC	219 763 6060	kluther@nirpc.org 6100 Southport, Portage 46383
DAVE BETHONS	U.S. STEEL	219-888-2938	DC.BETHONS@USS.com
Charlotte Reed	Save the Aeneas	219-936 2724	no 1453 N. Trement, Charleston, IN 46304
Tim Thompson	BP	219 473-2110	2815 Indianapolis Blvd, Whiting IN 46394

Public Hearing Transcript

1 P R O C E E D I N G S

2

3

4

5

6

7 INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM)

8 State Implementation Plan Revisions Concerning the 8-Hour Ozone

9 Standard, for Lake and Porter Counties

10

11 January 8, 2009

12 6:00 p.m. (local time)

13 Northwest Indiana Regional Planning Commission

14 6100 Southport Road, Portage, Indiana

15

16

17

18

19

20

21

22

23

24 Josephine Ross, Notary Public

25

1
2 MR. DELONEY: This is a public hearing concerning the
3 following State Implementation Plan revisions. The revisions
4 action includes: Draft Redesignation Petition and Maintenance
5 Plans association with the 1997, 8-hour ozone standard, for the
6 Indiana portion of the Chicago-Gary-Lake County IL-IN
7 Nonattainment Area. A Draft Attainment Demonstration for
8 the Indiana portion of the Chicago-Gary-Lake County IL-IN
9 Nonattainment Area. A Rate of Further Progress Demonstration
10 for the Indiana portion of the Chicago-Gary-Lake County IL-IN
11 Nonattainment Area. A request for waiver for Reasonably
12 Available Control Technology Requirements specifically
13 applicable for oxide of nitrogen or NOx. Reasonably Available
14 Control Technology applicability analysis for volatile organic
15 compounds or VOC. This hearing is being held to conform to the
16 provision in 40CFR Part 51 regarding public hearings for State
17 Implementation Plans.

18 My name is Scott Deloney. I am Chief of the Air Programs
19 Branch for the Indiana Department of Environmental Management's
20 Office of Air Quality. I have been appointed to act as hearing
21 officer for this public hearing. Also here from the Department
22 of Environmental Management are Chris Pederson to my right and
23 then to my left Brian Wolff, Ken Ritter, and Eric Bailey.

24 All of us have been involved in preparing these
25 documents. Notice of the time and place of the hearing was

1 given as provided by law by publication in the following
2 newspapers: The Times, located in Munster, Indiana; the
3 Post-Tribune, located in Merrillville, Indiana; and the
4 Chesterton Tribune, located in Chesterton, Indiana.

5 The purpose of this public hearing is to provide
6 interested persons an opportunity to offer comments to the
7 State regarding the draft State Implementation Plan revisions
8 for the Indiana portion of the Chicago-Gary-Lake County IL-IN
9 Nonattainment Area.

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

17 Any person who is heard or represented at this hearing or
18 who requests notice may be given written notice of the final
19 action taken on this State Implementation Plan submittal.
20 Please indicate on the appearance card if you wish to receive
21 such notification. When appearance cards have been completed,
22 they should be handed to me and I will include them with the
23 official record of this proceeding. Again, the cards that I am
24 referring to are on the back table next to the sign in sheet.

25 Oral statements will be heard, but written statements may

1 be handed to me or mailed to the Office of Air Quality on or
2 before close of business on Monday, January 12, 2008. A
3 written transcript of the hearing is being made. The
4 transcript will be made for public inspection and a copy of the
5 transcript will be made available to any person upon payment
6 of the copying cost.

7 After the conclusion of this public hearing, I will
8 prepare a written report summarizing the comments received at
9 the hearing and recommending such changes which maybe necessary
10 to these documents.

11 I would like to introduce the following documents into
12 record: First, a notice of public hearing. A Draft
13 Redesignation Petition and Maintenance Plan in association with
14 the 8-hour ozone standard. A Draft Attainment Demonstration
15 for the Indiana portion of the Nonattainment Area. A Rate of
16 Further Progress Demonstration for the Indiana portion of the
17 Nonattainment Area. Also contained within a request of waiver
18 for Reasonably Available Control Technology Requirements
19 for oxides of nitrogen including enclosure. And finally a
20 Reasonably Available Control Technology applicability analysis
21 for Volatile Organic Compounds.

22 Finally, I would like to briefly go over the contents of
23 the draft document.

24 In 1997, the United States Environmental Protection Agency
25 established a new more stringent standard for ozone, referred

1 to as the 8-hour ozone standard. The standard itself was
2 established at 0.08 parts per million measured over an 8-hour
3 period. With the Guidelines on Data Handling Conventions
4 for the 8 hour ozone National Ambient Air Quality Standard
5 (NAAQS), published by the U.S. EPA in December of 1998,
6 the U.S. EPA established parts per million in three significant
7 figures as the basis for computation of 8-hour ozone
8 concentrations. In accordance with this guidance, three
9 significant digits are used to determine the area's design
10 value and for conducting attainment tests, specifically,
11 because the third decimal digit is rounded 0.084 parts per
12 million is the largest concentration that is less than or equal
13 to the standard of 0.08 parts per million. Therefore, an ozone
14 concentration equal to or greater than 0.085 parts per million
15 is considered to be above or in violation of the standard.
16 Legal challenges to the new standard for ozone resulted in
17 delayed implementation of the standard until February of 2001
18 when the Supreme Court ruled that the U.S. EPA could proceed
19 with implementation of the new standard providing that the U.S.
20 EPA's implementation is consistent with clean air act. The
21 U.S. EPA's first action in implementing the new standard
22 for ozone was to designate areas throughout the country as
23 attainment, nonattainment, or unclassifiable. The
24 Chicago-Gary-Lake County IL-IN area, specifically, Lake and
25 Porter Counties, Indiana were designated nonattainment under

1 the 8-hour standard on April 15, 2004. This designation was
2 based on the monitored design value of 0.090 parts per million.
3 This design value derived from an average of the fourth highest
4 ozone values over the previous three years, those being 2001
5 through 2003. At the conclusion of the 2005 ozone season all
6 monitors within the Indiana portion of the Chicago-Gary-Lake
7 County IL-IN Nonattainment Area measured air quality that met
8 the ambient air quality standards for ozone. In July 2006,
9 IDEM held a public hearing and submitted a final redesignation
10 request and maintenance plan for the Indiana portion of the
11 Nonattainment Area to U.S. EPA. In September 2006, the Whiting
12 monitor in Lake County reviolated the standard.
13 September 2006, being the close of the 2006, excuse me, 2007,
14 the close of the 2007 ozone season. The most recent design
15 value for the area is 0.077 parts per million. Which is based
16 on an average of the the annual forth highest ozone values for
17 the years 2006 through 2008. The design value represents ozone
18 concentrations that are well below the 1997 national ambient
19 air quality standard; thus, the area and eligibility is to be
20 redesignated to attainment under the 1997, 8-hour ozone
21 standard and classified as maintenance. The Indiana Department
22 of Environmental Management has also prepared the following
23 documents: A Draft Attainment Demonstration for the Indiana
24 portion of the Nonattainment Area which demonstrates that the
25 area will; in fact, obtain the standard by the statutory

1 deadline of 2010. A Rate of Further Progress Demonstration for
2 the Indiana portion of the nonattainment area which
3 demonstrates that area has achieved the required emission
4 reductions to achieve attainment of the standard. As well as,
5 two additional documents which include a request for a waiver
6 for Reasonably Available Control Technology requirements
7 applicable for oxides of nitrogen supported by the fact that
8 no additional reductions are necessary to obtain the standard.
9 And finally a Reasonably Available Control Technology
10 applicability analysis for volatile organic compounds which
11 demonstrates that all required controls are; in fact, already
12 in place. The Indiana Department of Environmental Management
13 has prepared these documents for the Indiana portion of the
14 Nonattainment Area in accordance with U.S. EPA guidance and in
15 coordination with the State of Illinois. The draft documents
16 demonstrate that the area's attain this 1997, 8-hour ozone
17 standard based on monitored concentrations and that
18 the reductions of monitored concentrations are; in fact,
19 attributable to permit and enforceable reductions in precursor
20 emissions. Specifically reductions of both volatile organic
21 compounds and oxides of nitrogen.

22 Furthermore, the draft documents outline the following:
23 Precursor emissions of volatile organic compounds and oxides of
24 nitrogen will continue to decline in the future. Due to
25 existing and future emission controls the area's air quality is

1 not projected to worsen and should improve further over time.

2 A commitment for all existing emission controls
3 to; in fact, remain in place. A commitment to revise the plan
4 within eight years of redesignation. A commitment to adopt and
5 expeditiously implement necessary corrective actions if a
6 warning or action level response is triggered. A mobile source
7 emissions budget for transportation conformity purposes. This
8 concludes my comments regarding the State Implementation Plans
9 for the Chicago-Gary-Lake County IL-IN Nonattainment Area.

10 This public hearing is now open for public comment.

11 Are there any public -- I know that we have two speakers
12 that have comments tonight and I will be calling upon them. If
13 anyone else, based on comments provided by others decide that
14 they would like to speak this evening that would be fine.
15 I just ask that you introduce yourself so that the court
16 reporter can; in fact, get that into record.

17 Oh, I'm sorry. I should probably clarify, if I mention
18 2008 as the Monday January 12, deadline for submitting public
19 comments, that's Monday January 12, 2009. Thanks, Chris.

20 Did you get that? Good.

21 All right. I've got two speakers' cards here. First up
22 would be Mark Strimbu who is representing NiSource.

23 MR. STRIMBU: I'm Mark Strimbu. I'm with NiSource
24 the Environmental Health and Safety Department. I'm speaking
25 on behalf of NiSource. First of all, I'd like to thank IDEM.

1 I support them for continuing this process that was begun
2 several years ago and recognizes the improvements of air
3 quality in this area and would finally give us acknowledgement
4 of those achievements.

5 I have a few comments and you can probably see here I have
6 notes in the margins of the documents that were presented as
7 just kind of typos or places where clarifications are being
8 requested. And to summarize them basically, we are looking for
9 the clarifications on tables where the emissions area, and or,
10 the time period that the emissions are being referenced. We
11 stand a little bit of improvement by clarrifications. I'm
12 making these suggestions in specific places. Also there's a
13 few places where there's yellow highlights in the documents and
14 there's really no place where I could see -- where I was
15 supposed to intend -- so I was just asking for some
16 clarification of those points. In general, there's a few pages
17 where there's comments made about the care program and as you
18 mentioned earlier in your presentation today up here at the
19 meeting that there was a court action cited on the 23rd of
20 December just recommending that any kind of update that would
21 be relevant to these documents in that regard be added to this
22 document, as well as for clarification. Hopefully of all of
23 these comments will help address any concerns that EPA may have
24 as far as technical correctness of the document, as well as
25 anybody that comes and picks this up in the future, and is

1 trying to reference to see exactly what was going on. With
2 that, I'd like to thank IDEM for their continued efforts, and
3 I'll give these to you.

4 MR. DELONEY: I can take them, Mark. Thank you.

5 And then next I have Kay Nelson who is representing the
6 Northwest Forum.

7 MRS. NELSON: My name is Kay Nelson. I'm the
8 Director of Enviromental Affairs for the Northwest Indiana
9 Forum. The forum is a regional economic development
10 organization whose membership is about 120 members of the
11 business community here in Northwest Indiana representing not
12 only our large industries but health care industries, financial
13 instutions, and universities. We are appreciative of the
14 opportunity to speak to you here this evening and support your
15 inititive in this. The forum recognizes the significant
16 efforts that have been made historically by the business and
17 general community in Northwest Indiana that resulted in the
18 improvements of our air quality. This air quality improvement
19 represents the serious commitment by businesses in their
20 compliance efforts and personal lifestyle modifications that
21 our general public have made during ozone season. In
22 recognition of the importance of air quality improvements for
23 our quality of life. This accomplishment is a milestone. The
24 fact that you're able to make this application, and we are very
25 excited to see this and hope that our residents recoginze this

1 important milestone that we've accomplished today. Thank you.

2 MR. DELONEY: Thank you.

3 I do not have any comment cards. Does anybody else wish
4 to go on record with statements this evening?

5 MRS. READ: I just have a couple of questions. I'm
6 Charlotte Read. For the first time I've run into something
7 called relative response -- reduction factor.

8 MR. DELONEY: Relative reduction factor or relative
9 response factor?

10 MRS. READ: Well, it was relatively new to me. It
11 was supposed to be one of the modeling elements that you used
12 to model attainment and when I looked and it doesn't seem to
13 be. I looked at the bigger package at the library and it
14 talked about the -- how much the relative response factors --
15 they didn't have a high performance number, or the accuracy or
16 the usability there was a little question in terms of how to
17 predict. I can't find it in this.

18 MR. DELONEY: Okay. That's something that Ken Ritter
19 is here for, actually. He's our technical support.

20 MRS. READ: How come they have a large, a high margin
21 of error?

22 MR. RITTER: Okay. First of all, what they are is
23 it's kind of a new technique the EPAs developed for analyzing.
24 The reason to begin with is that we're not basing our judgement
25 of whether or not the area's gonna achieve attainment in the

1 future based on the absolute value that the model spits out.
2 What they are recommending instead is, you go ahead and you
3 input all of your emissions and so on from the so-called base
4 year, which in one case was 2005, and you run the model and you
5 compare the data that you model to the actual monitor values
6 and that has to be within a certain range of error so that it's
7 correct and acceptable for use and then what you do, you put in
8 your inputs for the future year, in this case 2009, to show
9 attainment for before 2010. And you predict a number out there
10 into the future and so say that your base year was -- we'll,
11 say for ease of math -- it's a hundred and say that your
12 predicted value is 80. So your relative reduction factor --
13 the 80 over 100 -- so it's roughly about 80 percent, 0.80.
14 What you do then is you go back and take your actually monitor
15 value during the base year of 2005 and multiply that by 80
16 percent and that's what the projection is out in 2009.

17 Does that make sense?

18 MRS. READ: It makes sense as a prediction.

19 MR. RITTER: So you do that for every monitor in the
20 area. So that way, like I say, you have this factor and the
21 factor will be different for each monitor. Each monitor will
22 react different because of location of the emissions and where
23 there might be a shoreline or inland or whatever so each
24 reduction factor will be slightly different. So we do it
25 individually or each monitor.

1 MRS. READ: What did you do to make these projections
2 before you had relative response factor -- relative reduction
3 factor, previously? So this is new. What was used for before?

4 MR. RITTER: Well, we used an absolute value. We
5 would have said that, in this case again, maybe our value was
6 gonna be 80 parts per million. That was gonna be the absolute
7 number, okay? In this way, you're actually relating it to
8 actual monitored values.

9 MRS. READ: The design values were not related to
10 monitor values?

11 MR. RITTER: Yeah. You take the monitor design value
12 and -- Okay. First of all, you've established that your
13 baseline modeling matches closely your actual monitor design
14 values, okay. Then you put in new inputs for reflecting
15 emissions in your future year and so forth, and you have to
16 project it and you get that projected number. And so we're
17 assuming that reduction that applies in the model since it
18 jibes up closely with the actual monitor design values to begin
19 with that that reduction factor will be accurate. So you take
20 the actual individual design values that you've monitored over
21 the years and multiply it by the reduction factor for that
22 specific site.

23 MRS. READ: My concern is that looking at these
24 numbers, Ogden Dunes and Hammond still seem to be very close
25 to, in some cases the RRF factor number still comes above the

1 standard. Still we're saying that you model in respect to be
2 in attainment now and some of the numbers in here and close to
3 those two sites generally.

4 MR. RITTER: Are those taken using the 1996 baseline
5 values? Some of the modeling we used was earlier data and in
6 those cases, the modeling at that time may have shown that the
7 site would still be over, but when you look at the actual data
8 that we've collected in 2005, 2006, 2007 the design values are
9 substantially lower than they were in '96.

10 MRS. READ: Those two still seem to be the sites in
11 Northwest Indiana, Lake and Porter still seem to be closest to
12 the standard and I would say most likely to not meet it in the
13 future. That's my concern. I don't know and I don't think you
14 know either.

15 MR. RITTER: Could you cite which table that you're
16 looking at?

17 MRS. READ: There's a couple. While I'm looking, the
18 other question I had, I think it said that this hearing
19 was also supposed to be on the emissions inventory and when
20 I looked at the emissions inventory package at the Valpraiso
21 Library it was just summaries. Vehicles and so forth and so on
22 as opposed to a list of what sources make up the emissions
23 inventory. So I was surprised that you wouldn't have, say, a
24 comment period tonight would also include comments on the
25 emissions inventory, but without specific numbers -- I couldn't

1 find them. I probably could find from like 2005 and look in
2 what's in my huge file.

3 MR. RITTER: Yeah. Our emissions inventory for Lake
4 and Porter Counties was prepared In 2004 and it was public
5 noticed in 2005 and formally submitted to EPA in 2006. This
6 particular series of documents did not include the baseline
7 inventory for the area. That was a submittal that ws actually
8 do in September of 2006.

9 MRS. READ: The public notice document was the big
10 package. It said that the hearing would also be on the
11 emissions inventory.

12 MR. DELONEY: The emissions data contained? Or do
13 you mean in relationship to the NOx waiver?

14 MRS. READ: The public hearing on the emissions
15 inventory. When I looked at that particular -- a lot of those
16 were consolidated. I can go back and find it.

17 MR. DELONEY: Yeah. I do have it in front of me,
18 Charlotte. I'm not sure what you might be refering to. Maybe
19 after the meeting if you would'nt mind I'd be happy to chat
20 with you about it.

21 MRS. READ: I have it with me and I wrote it down and
22 that's why.

23 MR. DELONEY: Okay. Yeah. I have the notice too, as
24 it was published, and what we were referencing were the
25 redesignation petition, the attainment demonstration, the

1 available, excuse me, the request for waiver for NOx,
2 demonstration of rate of further progress, as well as the
3 trends analysis for additional VSECTGs.

4 MRS. READ: In the pending scene, which I don't see
5 here, the emissions inventory, as I say, was composites.
6 Doesn't really tell anything.

7 MR. DELONEY: Are there specific portions of
8 the emissions inventory that you want to look at?

9 MRS. READ: Until I see it, I don't know.

10 MR. DELONEY: Okay. They're all posted online at the
11 same location that all of these documents are posted on our
12 website. They're all listed right under Lake and Porter
13 Counties and all of that information.

14 MRS. READ: That would have been useful. If you want
15 all the gritty details.

16 MR. DELONEY: To put that link in there? We can do
17 that for the final submittal before it's made.

18 Does anybody else wish to make any formal statements for
19 the record concerning this cause? If not, before I close the
20 public hearing, I'd like to make everybody aware that all five
21 of us will be here following the hearing if you have any
22 additional questions or anything concerning this matter or
23 anything else associated with air quality. With that said, in
24 the absence of any further comments, these proceedings are
25 hereby concluded. Thank you.

1 STATE OF INDIANA

2 COUNTY OF PORTER

3 CERTIFICATE OF COURT REPORTER

4 I, Josephine Ross, notary public, reporter of the,
5 County of Porter, State of Indiana, do hereby certify that I am
6 the court reporter of said court, duly appointed and sworn to
7 report the evidence of causes tried therein.

8 That upon the hearing in this cause, beginning on the
9 8th of January, 2009, I took down, by machine shorthand, all of
10 the statements of counsel, the evidence given during the
11 hearing of this cause, objections of counsel thereto, and the
12 rulings of the Court upon such objections, the introduction of
13 exhibits, the objections thereto, and the Court's rulings
14 thereon.

15 I further certify that the foregoing transcript, as
16 prepared, is full, true, correct, and complete.

17 WITNESS MY HAND and seal, this 20th day of
18 January, 2009.

19
20 
21 Josephine Ross, Notary Public

22
23 NOTARY SEAL
24
25

**Written Comments Received at Public
Hearing on January 8, 2009**



132 S. CALUMET RD. • CHESTERTON, IN 46304

VOICE: (219) 926-7777

FAX: (219) 926-6662

317-233-5967

TO: SCOTT DE LONEY

AIR PROGRAMS BRANCH

FROM: Charlotte Read

MESSAGE: Same the Dunes Comments

on O₃ Redesignation Petition RequestThis transmission is 5 pages including this cover.

1453 North Tremont Road
Chesterton, IN 46304
January 12, 2009

Northwest Indiana State Implementation Plan for Ozone
Scott Deloney, Chief
Air Programs Branch, Office of Air Quality – Mail Code 61-50
100 North Senate Avenue
Indiana Department of Environmental Management
Indianapolis, IN 46206-2251

Dear Mr. Deloney:

This comments supplement comments made on behalf of Save the Dunes Council June 29, 2008, presented at the Lake County Public Library, June 29, 2006. A copy of those comments is attached.

The documents reviewed for these comments include the 8-hour Ozone Attainment Demonstration and Technical Support Document for the Indiana portion of the Chicago-Gary-Lake County, IL-IN "Moderate" Ozone Nonattainment Area Lake and Porter Counties, Indiana; and Request for Redesignation and Maintenance Plan for Ozone Attainment in the 8-Hour Ozone Nonattainment Area, Lake and Porter Counties, Indiana.

Uncertainties remain that the attainment plan petition now out for public review will accomplish meeting the 0.085 standard by June, 2009. For example, emissions data for the Illinois portion of the nonattainment area is draft and subject to change. as of November 2008. This may require revisions to Section 4.0 of the Emission Inventory submitted by Indiana. Trends in tons of VOCs per summer day in Lake and Porter County show estimated increases in both area and point sources by 2020. Attainment status will allow new to prepare an Air Quality Analysis of the impact of the new request. As pointed out in our June statement, this is significantly less protective than offsetting increased emissions as is now the cases.

In the Conclusions Section of the Request document, it indicates that regional air quality planning efforts sponsored by LADCO is to establish a regional control strategy that provides for attainment of the ozone and fine particle standards throughout Illinois, Indiana, Ohio and Michigan. It states further that Indiana is developing local and statewide emission control measures where photochemical modeling and culpability analyses demonstrate a clear need, and cost effectiveness analyses justify the implementation of such measures. This would indicate that attainment of the 8-hour standard in Lake and Porter Counties is not a sure thing.

In addition, the Conclusions Section of the Attainment Demonstration Document note: "Although the 2008 photochemical modeling results were slightly above 0.085 ppm, the 2008 results were very close to demonstrating attainment, and the 2009 photochemical

modeling results do demonstrate attainment." This would also indicate that actual attainment may not be a sure thing at least in 2009.

Much weight is given in the mobile source budget section to Tier II vehicle standards, nonroad standards, low sulfur diesel, etc., yet status of compliance with these federal standards in Lake and Porter counties is not discussed nor any quantification of reductions from them provided. Yet, we are told that despite increases in VOC emissions in the out year of 2020, reductions in mobile sources will compensate for those projected increases.

The Mobile Source Emissions Budget (p. 53, Attainment Demonstration), uses a 5% cushion (increase?) for the 2009 budget, but notes that IDEM and partners will be conducting additional air quality modeling to adjust on-road mobile emissions as well as any changes due to constant review and evaluation of model inputs.

Temperature information comes generally from O'Hare Airport. It should be supplemented or perhaps replaced for Lake and Porter Counties with temperature data coming from local monitors.

US EPA recommends that modeled attainment demonstration test [5.1.10] should be used in a "relative" sense rather than an "absolute" sense. "Future years design values are calculated using the RRF [relative response factor (something new)] and gives a relative estimate of modeled concentrations, based on growth and control factors.

The potential impact of emissions from Indiana and the Chicago area on Holland, Michigan is being modeled.

While recognizing the improvements that Indiana and federal air pollution control programs for ozone have had on air quality improvements in Lake and Porter County, we believe that redesignation to attainment at this time is premature.

Sincerely,



Charlotte J. Read
First Vice President
Save the Dunes Council

PS: At the January 8 public hearing, I asked about the public comment provisions for the final 2005 emissions inventory used in the full attainment demonstration contained at Section 3.3, entitled Emission Inventories. I got an unsatisfactory response. I am still puzzled as to what "will be subject to public comment along with the full attainment demonstration" and when.

Comments Presented by Susan MiHalo, President, Save the Dunes
June 29, 2006
Lake County Public Library

Save the Dunes Council appreciates the opportunity to address air quality issues in Northwest Indiana. We have worked with you for years to reduce pollution and improve air quality. We are encouraged by the air quality improvements to date and future reductions which will happen because of the Clean Air Interstate Rule (CAIR).

However, we have serious concerns about re-designating Lake and Porter Counties as attainment for ozone for the following reasons:

1. There is uncertainty over a major source of NOx and SO2 in Lake County. The Dean Mitchell power plant, located in Gary along the Lake Michigan lakefront was closed in 2002. Now, a recent settlement before the IURC is revisiting the issue to determine whether to re-open the plant. Mitchell is currently in the SIP inventory, but has not operated for almost 5 years. Should the plant re-open, these emissions could negatively impact air quality.
2. Should the petition be granted, Northwest Indiana will lose the current offset provision which requires new sources to offset increased emissions. We understand this would not be required as an "attainment area".
3. All monitors should be considered. We have a concern that information from existing air monitors has not been considered for this decision. For example, it is our understanding that an ambient air monitor exists just south of U.S. 12 on the Mittal Steel property. We urge the state to include that information in any submission to EPA, or, to at least recognize that those monitors exist or to state why they are not being included.
4. It is our belief that the threshold for the trigger for the maintenance plan is too high. At 89 ppb, this is over the current standard.
5. Unusual weather occurrences should be considered, regardless of the fact that you are using three-year averages. We have had relatively cool summers the past two years, especially in 2004. Even considering those cool years, the 4th highest readings for Gary was 0.089, for Hammond was 0.087, and for Ogden Dunes was 0.090. To protect public health there needs to be a margin of safety should the climate continue to get warmer, as indicated by recent news reports about global warming.

And making unsubstantiated statements in the petition, such as "Ozone formation in the future will be influenced less by meteorological conditions," on page 43 is misleading. Instead, you should have stated that the longer averaging time and the averaging of three years' data reduce the influence of unusual meteorological conditions in any given year. But this still does not take into account unusual weather conditions that may occur over a period of years. How often do you hear about a 1-year drought? Weather just does not work that way.

6. There are many new sources proposed for Northwest Indiana including large intermodal surface transportation facilities, increased airport development, and a new power plant now under study. The impact from these developments must be considered as part of any redesignation effort.

In addition, this petition ignores new sources that may develop in the Chicago Metropolitan area that may adversely affect our ambient air standard. Lake and Porter Counties do not exist in an island unto themselves. Cook County has received an "F" on Ozone in the American Lung Association's 2006 State of the Air 2006 Report. Incidentally, Lake County and Porter Counties also received an "F's" in this report.

Breaking these counties from the Chicago Metropolitan area also would create incentives for additional sprawl development in Lake County, and more particularly, Porter County, according to a report provided to the U.S. Congress by the Congressional Research Service of the Library of Congress in 2004. That is one of the reasons why Metropolitan Statistical Areas were created for attainment, according to this report.

7. This petition flies in the face of regional and interstate cooperation to improve air quality. It sends a message to the rest of the region that all the work we have done together over the years toward achieving attainment is meaningless. If we were in attainment, I'm not sure we would have had the impetus to implement idle air technology at our truck stops, technology that will remove 20 million pounds of diesel emissions and save 1 million gallons of diesel fuel annually, according to a recent news report in The Times of Northwest Indiana.

8. We also feel compelled to remind everyone that the Indiana Dunes National Lakeshore lies in these counties. According to the EPA, ground-level ozone interferes with the ability of plants to produce and store food, so that growth, reproduction and overall plant health are compromised. By weakening sensitive vegetation, ozone makes plants more susceptible to disease. These effects can significantly decrease the natural beauty of an area, such as the Indiana Dunes National Lakeshore.

Therefore, based on these reasons, we urge Indiana to withdraw the Petition for Redesignation to EPA that is the subject of today's hearing. We will also be submitting written comments prior to the July 7 deadline.

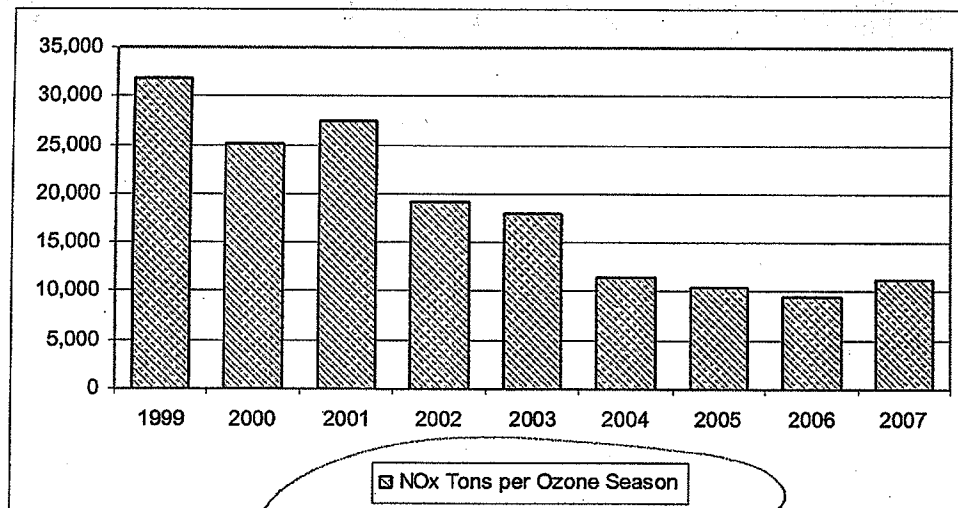
**Pages from Redesignation Request with Handwritten
Comments from Mark Strimbu, NISOURCE**

decreasing substantially in response to national programs affecting all EGUs, such as the Acid Rain program and the NO_x SIP Call. Other sectors of the inventory also impact ozone formation, but large regional sources such as EGUs have a substantial impact on the formation of ozone.

These data were taken from U.S. EPA's Clean Air Markets database². Data are available sooner for these units than other point sources in the inventory because of the NO_x SIP Call budget and trading requirements. Information from 2003 is significant because some EGUs started operation of their NO_x SIP Call controls in order to generate Early Reduction Credits for their future year NO_x budgets. The first season of the NO_x SIP Call budget period began May 31, 2004.

As part of the NO_x SIP Call, the states were required to adopt into their rules a budget for all large EGUs. Indiana's budget is found in 326 IAC 10-4. The budget represents a statewide cap on NO_x emissions. Although each unit is allocated emissions based upon historic heat input, utilities can meet this budget by over-controlling certain units or purchasing credits from the market to account for overages at other units. To summarize, NO_x emissions have dramatically decreased over the years as represented on these graphs. These emissions, capped by the state rule, should remain at least this low through the maintenance period covered by this request.

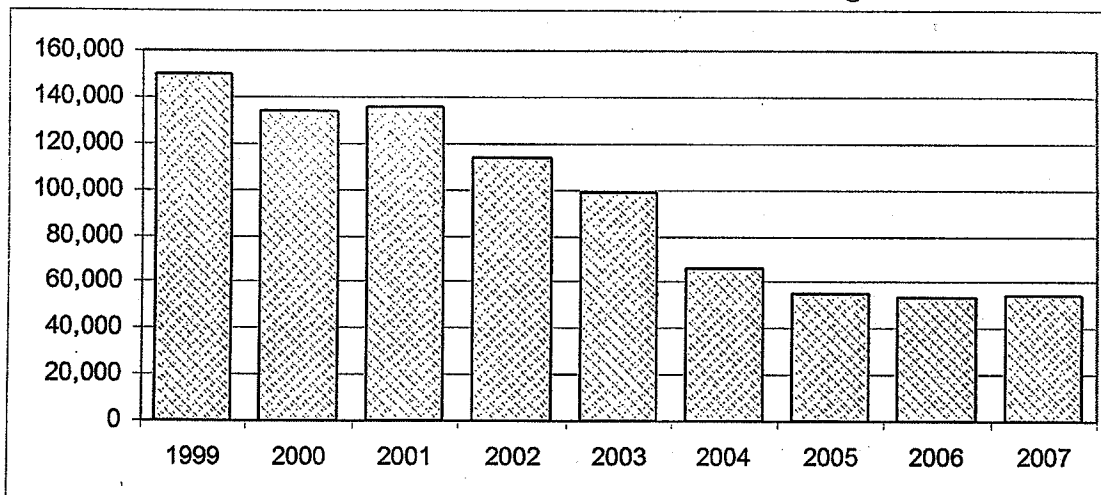
**Graph 4.3 NO_x Emissions from Northwest Indiana Electric Generating Units
1999-2007**



² <http://www.epa.gov/airmarkets/>

*Caption -
annual
or O₃ season tons?
see Graph 4.3
caption*

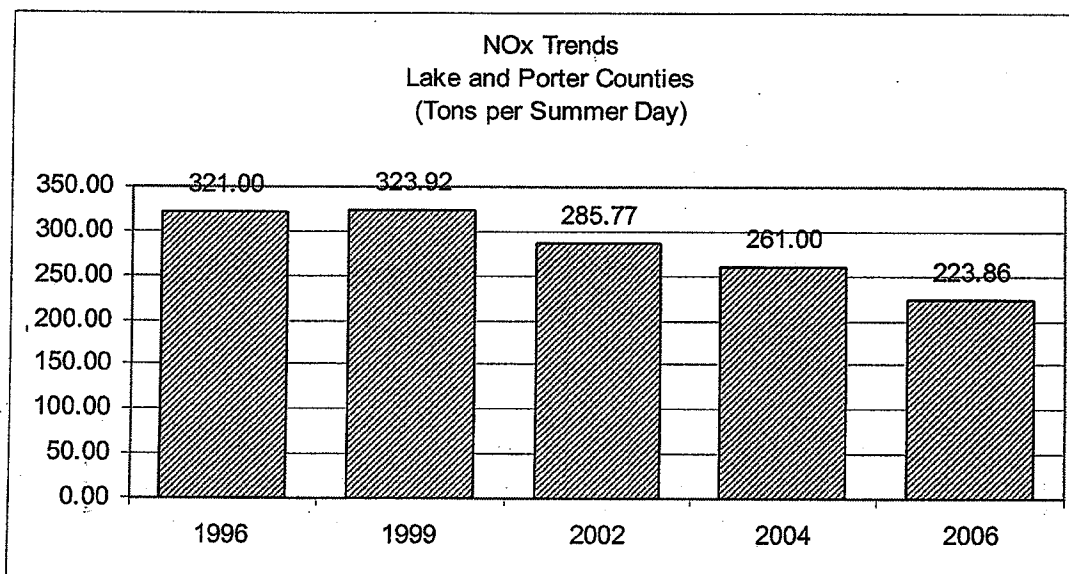
Graph 4.4 Statewide NO_x Emissions from Electric Generating Units 1999-2007



All Anthropogenic Sources

Periodic inventories, which include emissions from all sectors (mobile, area³, non-road, and point sources) were prepared for 1996, 1999, 2002, 2004, and 2006. Graphs 4.5, 4.6, 4.7, and 4.8 show the trends for the total emissions for all anthropogenic source categories (within Lake and Porter counties, and the entire nonattainment area), which also roughly follow the years of monitored air quality trends discussed in Section 3.0. Graphs and data tables of emissions from each source category are available in Appendix B.

Graph 4.5 NO_x Emissions Trends, 1996 - 2006, All Sources in Lake and Porter Counties



³ Area Source estimates for 2006 use the 2005 inventory.

- Mobile source emissions were calculated from MOBILE6.2 produced emission factors and data extracted from the region's travel-demand model. Several adjustments were made to the travel demand model and calculation methodology since 1996. As a result, since the 1996, 1999, and 2002 emission inventories were prepared with slightly different methodology, they do not provide for a true comparison with the 2004 through 2020 estimates. The fluctuations referenced in the data, particularly 1996 through 2002 NO_x emissions, are due to changes in the calculation methodology, not necessarily actual mobile source emissions.
- Point source information was compiled from IDEM's 2006 annual emissions statement database and the 2007 U.S. EPA Air Markets acid rain database⁴.
- Biogenic emissions are not included in these summaries.
- Nonroad emissions for 2006 were grown from the 2005 National Emissions Inventory (NEI). To address concerns about the accuracy of some of the categories in U.S. EPA's nonroad emissions model, the Lake Michigan Air Directors' Consortium (LADCO), contracted with two (2) companies to review the base data and make recommendations. One of the contractors also estimated emissions for two (2) categories not included in U.S. EPA's nonroad model and reviewed model inputs for another. Emissions were estimated for commercial marine vessels and railroads. Recreational motorboat population and spatial surrogates (used to assign emissions to each county) were significantly updated. The populations for the construction equipment category were reviewed and updated based upon surveys completed in the Midwest and the temporal allocation for agricultural sources was also updated by the other contractor. A new nonroad estimation model was provided by U.S. EPA for the 2002 analysis. The 1996 and 1999 nonroad emission estimates were generated by a previous U.S. EPA model, and thus, cannot provide for a true comparison. The fluctuations referenced in the data could be due to changes in the model and methodology, and not necessarily reflect changes in emissions.

The emissions data referenced for Illinois' portion of the nonattainment area (entire nonattainment area) were provided by the State of Illinois via LADCO. This inventory was prepared using similar methodologies. However, it should be noted that the emissions data referenced for Illinois' portion of the nonattainment area is draft and subject to change. Indiana recognizes that revisions to Section 4.0 of this document may be necessary once Illinois prepares a redesignation request and maintenance plan for its portion of the nonattainment area.

Appendix B contains data tables and graphs of all these emissions.

⁴ <http://camddataandmaps.epa.gov/gdm/>

4.3 Emission Projections

In consultation with the U.S. EPA and other stakeholders, IDEM selected the year 2020 as the maintenance year for this redesignation request. This document contains projected emissions inventories for 2010⁵ and 2020⁶.

Emission projections were prepared for Lake and Porter counties, as well as for the entire nonattainment area. IDEM, with assistance from LADCO, prepared emission projections for 2010 and 2020 for the Indiana portion of the nonattainment area. IDEM received 2010 and 2020 emission projections from LADCO for the Illinois portion of the nonattainment area.

How
will these
updates
impact
the
EPA
approval
process?

The detailed inventory information for Lake and Porter counties for 2010 and 2020 is in Appendix B. Emission trends are an important gauge for continued compliance with the ozone standard. Therefore, IDEM performed an initial comparison of the inventories for the base year (2006), interim year (2010), and maintenance year (2020) for Lake and Porter counties and the entire nonattainment area. Graphs 4.11 and 4.13 visually compare the 2006 (base year) estimated emissions with the 2010 and 2020 projected emissions for Lake and Porter counties. Graphs 4.12 and 4.14 visually compare the 2006 (base year) estimated emissions with the 2010 and 2020 projected emission for the entire nonattainment area. Mobile source emission inventories are described in Section 5.0. In addition to LADCO's estimates, point source emissions were projected based upon the statewide EGU NO_x budgets from the Indiana NO_x rule.

⁵ In Section 4.3 all emissions projections for area, non-road, and point/EGU emission projections for the year 2010 are based on 2009 emission estimates.

⁶ In Section 4.3 all emission projections for area, non-road, and point/EGU emission projections for the year 2020 are based on 2018 emission estimates.

year inventories to assess emission trends, as necessary, to assure continued compliance with the ozone standard.

4.5 Permanent and Enforceable Emissions Reductions

Permanent and enforceable reductions of VOCs and NO_x have resulted in attainment of the 8-hour ozone standard. Some of these reductions were due to the application of Reasonably Available Control Technology (RACT) rules and some were due to the application of tighter federal standards on new vehicles. Also, Title IV of the Clean Air Act and the NO_x SIP Call required the reduction of NO_x from utility sources. Section 6.0 identifies the emission control measures specific to Lake and Porter counties, as well as the implementation status of each measure.

4.6 Provisions for Future Updates

As required by Section 175A(b) of the CAAA, Indiana commits to submit to the Administrator, eight (8) years after redesignation, an additional revision of this SIP. The revision will contain Indiana's plan for maintaining the national primary ozone air quality standard for ten (10) years beyond the first ten (10) year period after redesignation.

5.0 TRANSPORTATION CONFORMITY BUDGETS

5.1 On-Road Emission Estimations

Northwest Indiana Regional Planning Commission (NIRPC) is the Metropolitan Planning Organization (MPO) for the area that includes Lake, Porter, and LaPorte counties. This organization maintains a travel demand forecast model that is used to simulate the traffic in the area and is used to predict what that traffic will be like in future years given growth expectations. The model is used mostly to identify where travel capacity will be needed and to determine the infrastructure requirements necessary to meet that need. It is also used to support the calculation of mobile source emissions. The travel demand forecast model is used to predict the total daily Vehicle Miles Traveled (VMT) and a U.S. EPA software program called MOBILE6.2 is used to calculate the emissions per mile. The product of these two outputs, once combined, is the total amount of pollution emitted by on-road vehicles for the particular analyzed area.

check
for consistency
with reference
to MOBILE
model in
TSD,
make change
as needed.

5.2 Overview

Broadly described, MOBILE6.2 is used to determine "emission factors," which are the average emissions per mile (grams/mile) for the ozone precursors: NO_x and VOC. There are numerous variables that can affect the emission factors. The vehicle fleet (vehicles on the road) age and the vehicle types have a major effect on the emission factors. The facility type the vehicles are traveling on (MOBILE6.2 facility types are Freeway, Arterial, Local and Ramp) and the vehicle speeds also affect the emission factor values. Meteorological factors such as air temperature and humidity, and the area's Vehicle Inspection/Maintenance program affect the emission factors as well. Once emission

5. Volatile Organic Liquid Storage RACT

Regulatory Basis: 326 IAC 8-9

Implementation Status: Control remains in place.

6. Cold Cleaners

Regulatory Basis: 326 IAC 8-3-8

Implementation Status: Control remains in place.

6.3 Nitrogen Oxides (NO_x) Rule

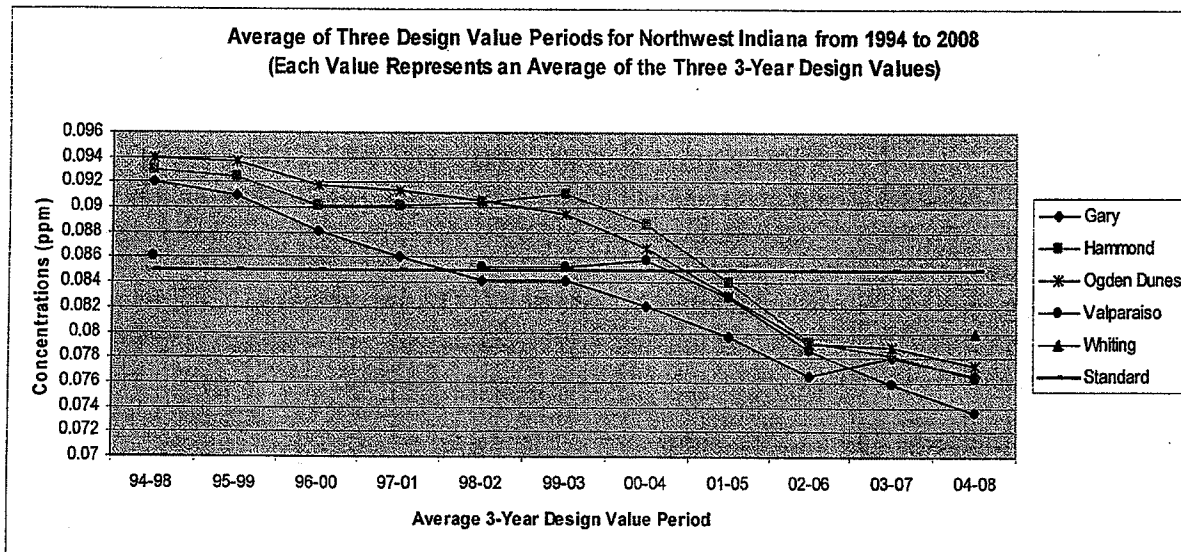
The U.S. EPA NO_x SIP Call required twenty-two states to adopt rules that would result in significant emission reductions from large EGUs, industrial boilers, and cement kilns in the eastern United States. Indiana adopted this rule in 2001. Beginning in 2004, this rule accounts for a reduction of approximately thirty-one percent (31%) of all NO_x emissions statewide compared to the previous uncontrolled years.

Twenty-one other states have also adopted these rules. The result is that significant reductions have occurred regionally and upwind within the nonattainment area because of the number affected units within the region. Graphs 4.3 and 4.4 show that emissions covered by this program have been trending downward since 1999. Table 6.1, compiled from data taken from the U.S. EPA Clean Air Markets website, quantifies the gradual NO_x reductions that have occurred in Indiana as a result of Title IV (Acid Rain) of the CAAA and the NO_x SIP Call Rule. This cap will stay in place through 2008, at which time The Clean Air Interstate Rule (CAIR) was to supersede. On July 11, 2008, the D.C. Circuit Court of Appeals vacated CAIR. While NO_x emission reductions associated with CAIR were projected to lower ozone concentrations in Northwest Indiana, modeling results in Section 7.0 show that the 8-hour NAAQS can still be met with the vacatur of CAIR.

update
CAIR status?

Further, U.S. EPA more recently published Phase II of the NO_x SIP Call that established a budget for large (greater than 1 ton per day emissions) stationary internal combustion engines. This rule decreases emissions statewide from natural gas compressor stations by 4,263 tons during the ozone season. The Indiana Phase II NO_x SIP Call rule became effective February 26, 2006 and implementation began in 2007.

Graph 7.1
Comparison of Design Values from 1994 through 2007



It should be noted that this modeling was conducted in the year 2000 and used 1996 emission inventories. More recent modeling uses updated emissions inventories from 2005 with revised growth factors and control strategies for emission reductions for future year modeling purposes as well as photochemical modeling updates that better characterize ozone formation and transport. These factors also account for the differences between the older modeling results and current modeling for the NO_x SIP Call and CAIR.

7.4 U.S. EPA Modeling for Clean Air Interstate Rule (CAIR), 2005

On March 10, 2005, the U.S. EPA finalized CAIR. NO_x emissions from power plants were projected to be cut by 1.7 million tons by 2009 and emissions were to be reduced by 1.3 million tons in 2015 in 28 eastern states and the District of Columbia. Compared to a 2003 baseline, Indiana would have reduced NO_x emissions by 113,000 tons by 2009 and 149,000 tons by 2015. To support this rulemaking, U.S. EPA first conducted a base case future year modeling run to show future year concentrations resulting from existing emissions controls, and then conducted future year modeling with emission reductions attributed to CAIR. Results in Table 7.3 show what the base case modeled results without CAIR's emission reductions included. The modeling was based on 1999 – 2003 (1999-2001, 2000-2002, and 2001-2003) design values. Future year modeling was conducted, including for Lake and Porter counties, and the future year design values for 2010 and 2015 were evaluated for attainment of the 8-hour ozone NAAQS. Results of the base case future year modeling without CAIR show that both Indiana counties will attain the 8-hour ozone NAAQS in 2010 with modeled concentrations below .085 ppm and modeled concentrations decreasing further by 2015.

↑
0.085

Table 7.3
Modeling Results from U.S. EPA for the Clean Air Interstate Rule

County	MSA/CMSA	Design Value (ppm)	Future Design Value (ppm)	Future Design Value (ppm)
		1999-2003	2010 without CAIR	2015 without CAIR
Lake	Hammond	0.091	0.0832	0.0816
Porter	Ogden Dunes	0.089	0.0814	0.0793

update
CAIR
status ?

On July 11, 2008, the D.C. Circuit Court of Appeals vacated U.S. EPA's Clean Air Interstate Rule. While NO_x emission reductions associated with CAIR were projected to lower ozone concentrations in the Northwest Indiana by 0.001 parts per million or less, CAIR was created primarily as a control strategy for PM_{2.5}. Therefore, air quality benefits for reducing ozone concentrations as a result of CAIR are not as great and the vacatur of CAIR does not significantly impact future year 8-hour ozone design values for the Northwest Indiana area.

7.5 LADCO Round 5 Modeling for 8-Hour Ozone Standard

LADCO recently performed updated Comprehensive Air Quality Model (CAMx) modeling for ozone, referred to as "Round 5", which uses the most recent emissions inventories and model updates. This modeling was performed to support attainment demonstrations for the five-state LADCO region. The photochemical model used by LADCO and Indiana for the 8-hour ozone standard analysis is CAMx version 4.5, developed by Environ. This model has been accepted by U.S. EPA as an approved air quality model for regulatory analysis and attainment demonstrations. Requirements of 40 CFR 51.112 as well as the "Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-hour Ozone NAAQS" (EPA-454/R-05-002, Oct. 2005) are satisfied with the use of CAMx for attainment demonstrations. Meteorology from 2005, as well as 2005 baseyear emissions are used to conduct Round 5 modeling. The ozone modeling metrics for bias, error, fractional bias, and fractional error met U.S. EPA modeling guidance performance criteria. The base-year design value for attainment purposes was calculated from the periods 2003 - 2005, 2004 - 2006, and 2005 - 2007.

Round 5 modeling included several scenarios for attaining the ozone NAAQS. One scenario included the implementation of "on-the-books" controls for future years such as U.S. EPA motor vehicle and fuel standards without the inclusion of CAIR. The future years modeled were 2009, 2012 and 2018. Modeling results, in Table 7.4 below, show ozone concentrations in Northwest Indiana will be below the 8-hour ozone standard of 0.08 ppm.

7.6 Summary of Existing Modeling Results

U.S. EPA and LADCO modeling shows that existing national emission control measures have brought Lake and Porter counties into attainment of the 8-hour ozone NAAQS. Rulemakings to be implemented in the next several years will provide even greater assurance that air quality will continue to meet the standard into the future. Modeling support for the NO_x SIP Call, Heavy Duty Engine and Highway Diesel Fuel, and Tier II/Low Sulfur Fuel show future year design values for Lake and Porter counties will attain the ozone standard with modeled future year design values below 0.08 ppm. CAIR was vacated in July 11, 2008 and LADCO conducted modeling without the emissions reductions associated with CAIR. LADCO's results continue to show future year design values below 0.08 ppm. U.S. EPA modeled base case future years with existing emission controls only and showed that Lake and Porter counties will attain the 8-hour ozone NAAQS without proposed additional national emission control strategies. The application of the most current relative response factors from LADCO's Round 5 modeling demonstrates that the area will continue to attain the standard into the future. Future national and local emission control strategies will ensure that each county's attainment will be maintained with an increasing margin of safety over time.

CAIR
status
update ?

7.7 Temperature Analysis for Lake and Porter Counties

Meteorological conditions are one of the most important factors that influence ozone development and transport. A temperature analysis was conducted to determine how the temperatures during the ozone conducive months of April, May, June, July, August, September, and October compare to normal temperatures for the Northwest Indiana area for the years 1971 through 2000. Temperature information was taken from the National Weather Service Station at O'Hare International Airport in Chicago, Illinois and meteorological stations at Lowell, Lake County, and Porter County Municipal Airports. Available normal maximum temperatures by summer months from 1971-2000 for the Northwest Indiana/ Chicago, Illinois area are as follows:

May – 69.9° F

June – 79.2° F

July – 83.5° F

August – 81.2° F

September – 73.9° F

May - September – 77.5° F

Monthly maximum temperatures for the previous 10 years (1999 – 2008) during the summer months are compared to normal summer month temperatures in Table 7.5. Overall, the temperatures during the 1999, 2002, 2005 and 2007 summer months of May, June, July, August, and September were 1% to 4% above normal while temperatures during the 2000, 2001 2003, 2004, 2006 and 2008 summer months were at normal to 3%

Local Monitoring (Design Value) Data for Illinois Counties

2003-2008

County	Site	2003	2004	2005	2006	2007	2008	03-05 avg	04-06 avg	05-07 avg	06-08 avg
Cook	Alsip	0.077	0.065	0.084	0.078	0.085	0.066	0.075	0.075	0.082	0.076
Cook	Chicago-Cheltenham	0.080	0.067	0.076	0.075	0.082	0.066	0.074	0.073	0.078	0.074
Cook	Chicago-Adams	0.078	0.069	0.080	0.073	0.084	0.058	0.076	0.074	0.080	0.071
Cook	Chicago-Luella	0.069						0.069			
Cook	Chicago-Ellis Ave	0.067	0.054	0.084	0.070	0.079	0.063	0.068	0.069	0.076	0.070
Cook	Chicago-Ohio St	0.075	0.060	0.081	0.065	0.075	0.063	0.072	0.068	0.073	0.067
Cook	Chicago-Lawndale	N/A	0.068	0.084	0.075	0.080	0.066	0.076	0.075	0.080	0.074
Cook	Chicago-Hurlbut St	0.077	0.067	0.083	0.077	0.079	0.063	0.076	0.075	0.080	0.073
Cook	Lemont	0.075	0.067	0.086	0.070	0.085	0.071	0.076	0.074	0.080	0.075
Cook	Cicero	0.070	0.059	0.075	0.060	0.068	0.060	0.068	0.064	0.066	0.062
Cook	Des Plaines	0.073	0.064	0.079				0.072	0.072		
Cook	Northbrook	0.080	0.068	0.081	0.068	0.076	0.063	0.076	0.072	0.076	0.069
Cook	Evanston	0.082	0.075	0.082	0.072	0.080	0.058	0.080	0.076	0.076	0.070
DuPage	Lisle	0.066	0.065	0.078	0.062	0.072	0.057	0.070	0.068	0.070	0.063
Kane	Elgin	0.076	0.069	0.087	0.062	0.075	0.061	0.077	0.072	0.075	0.066
Lake	Waukegan	0.074	0.068	0.087	0.071	0.081	0.061	0.076	0.075	0.080	0.071
Lake	IL Beach St Pk	0.078	0.071	0.090	0.068	0.080	0.067	0.080	0.076	0.079	0.071
McHenry	Cary	0.079	0.068	0.087	0.057	0.074	0.063	0.078	0.071	0.073	0.064
Will	Sout	0.077	0.064					0.071	0.070		
Will	Essex Rd	0.073	0.068	0.077	0.068	0.071	0.057	0.073	0.071	0.072	0.065

significance of
yellow ~~highlights~~
highlights these columns?

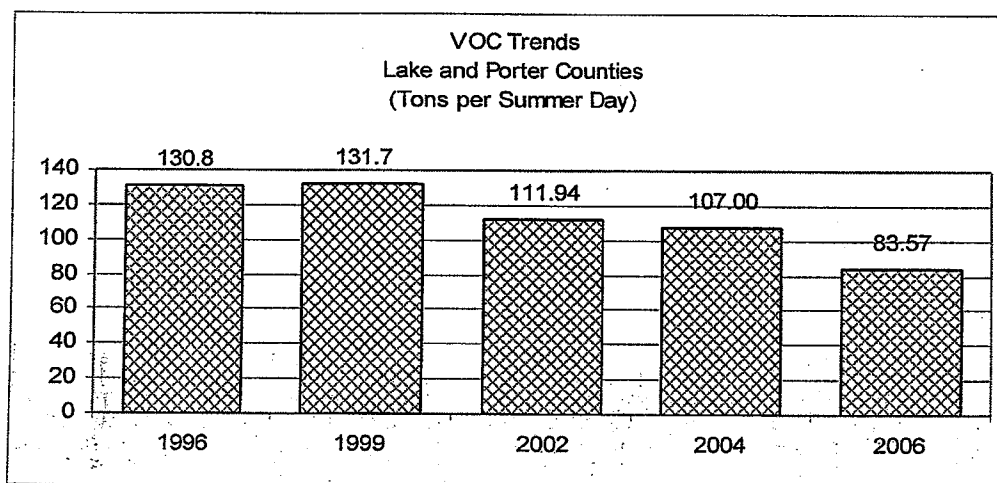
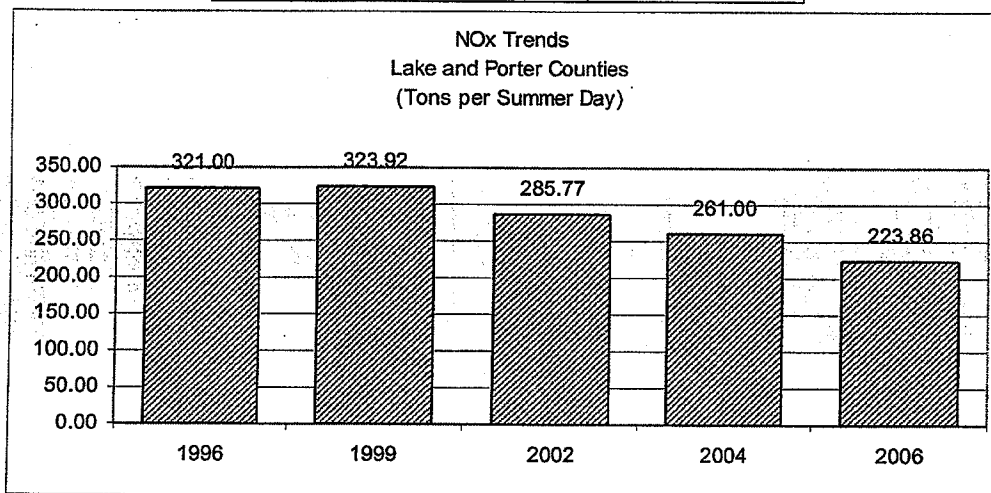
Appendix B

Emission Inventories

NOx and VOC Emissions Trends, 1996 - 2006, All Sources in Lake and Porter Counties

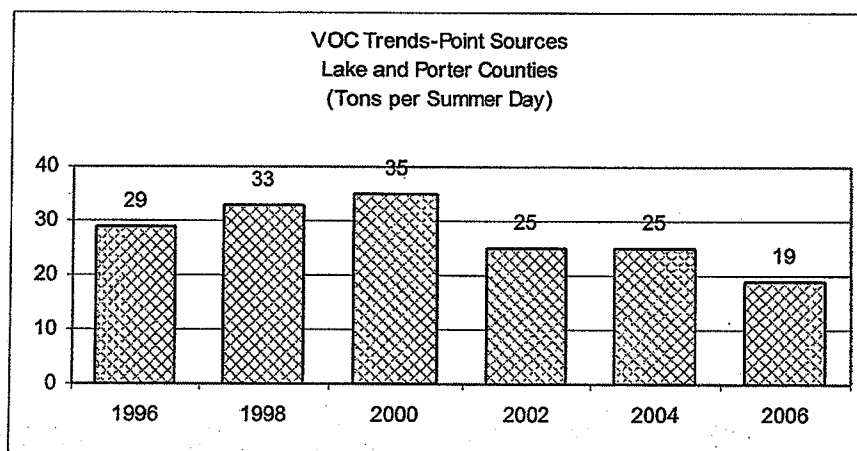
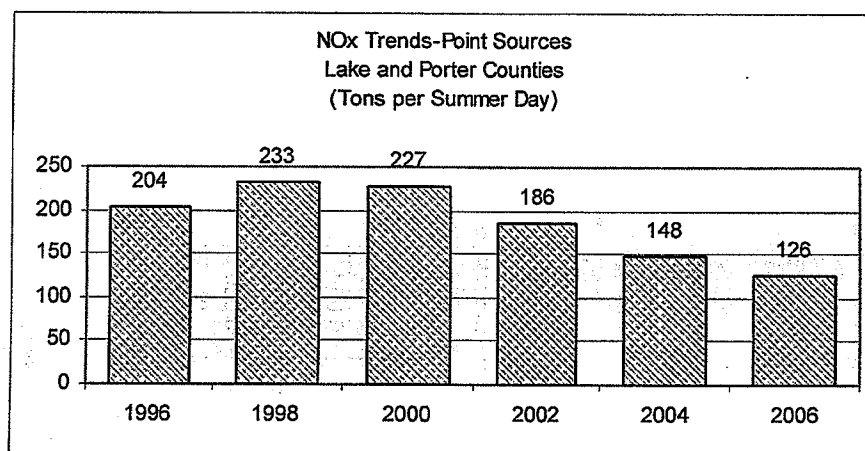
Total - Lake and Porter Counties		
Year	NO _x	VOC
1996	321.00	130.80
1999	323.92	131.70
2002	285.77	111.94
2004	261.00	107.00
2006	223.86	83.57

clarify
 tons annual?
 ozone season?
 summer day



clarify →
 tons annual?
 " Ozone season?
 " summer day?

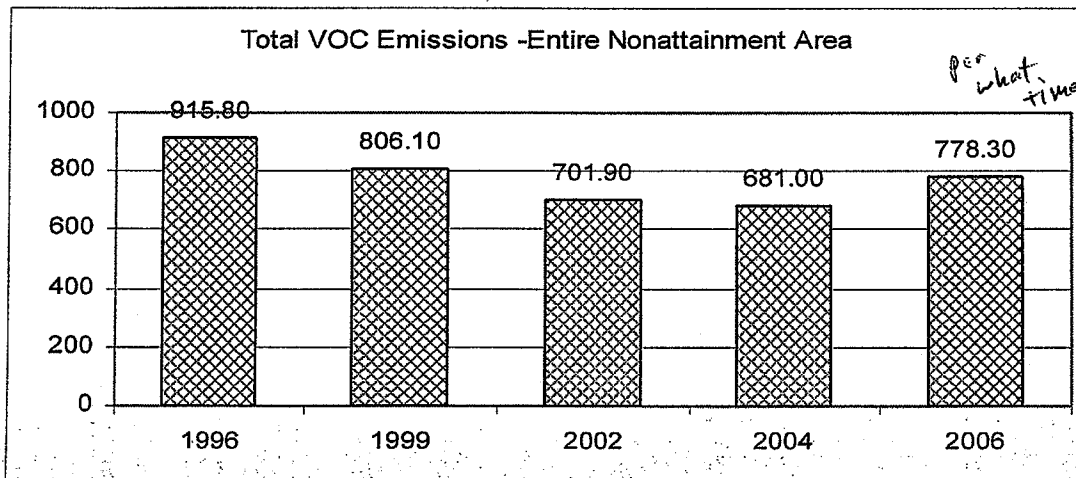
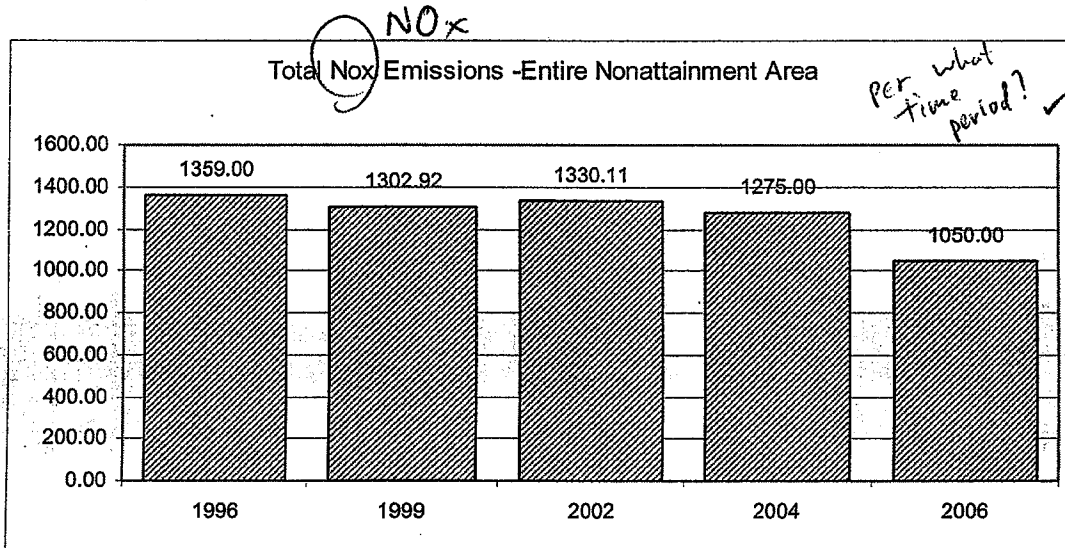
Point – Lake and Porter Counties		
Year	NOx	VOC
1996	204	29
1998	233	33
1999	227	35
2002	186	25
2004	148	25
2006	126	19



**NOx and VOC Emissions Trends, 1996 - 2006, All Sources in the Entire
Nonattainment Area Counties**

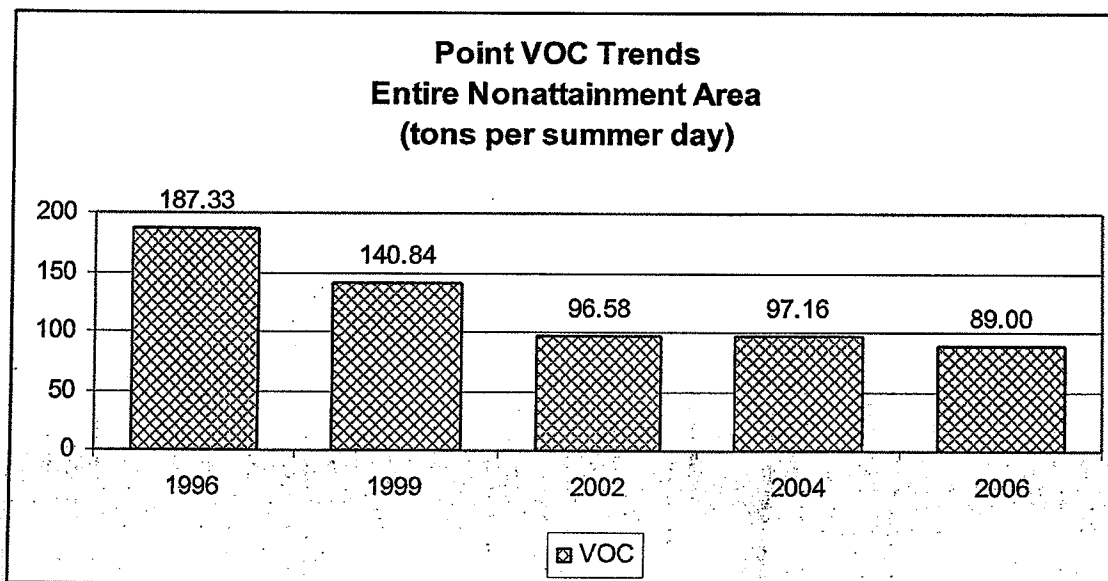
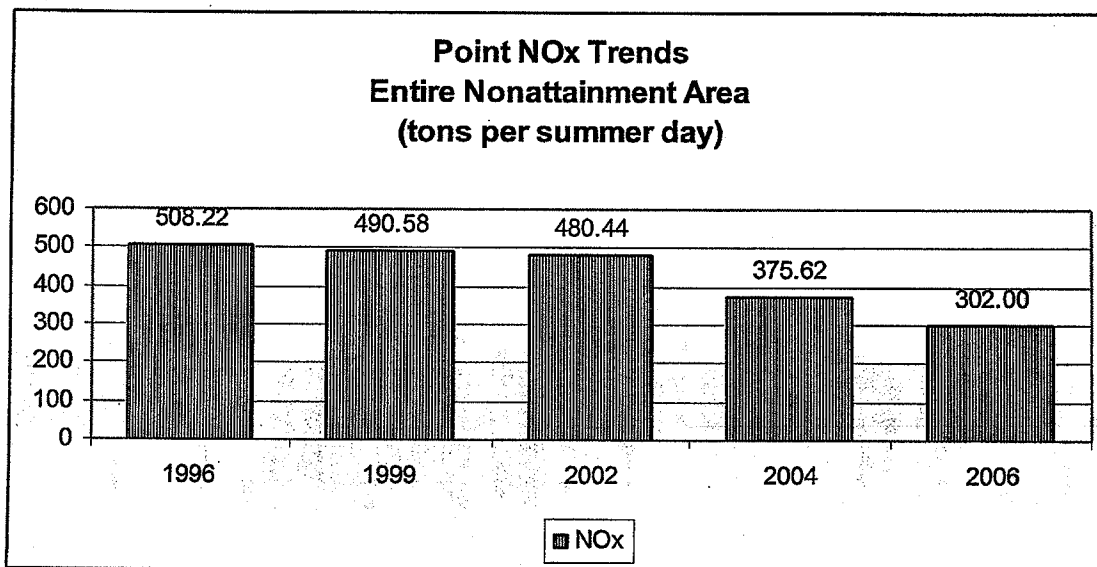
Total - Entire Nonattainment Area -		
Year	NOx	VOC
1996	1359.00	915.80
1999	1302.92	806.10
2002	1330.11	701.90
2004	1275.00	681.00
2006	1050.00	778.30

clarify
time period
tens annual
summer
day ✓



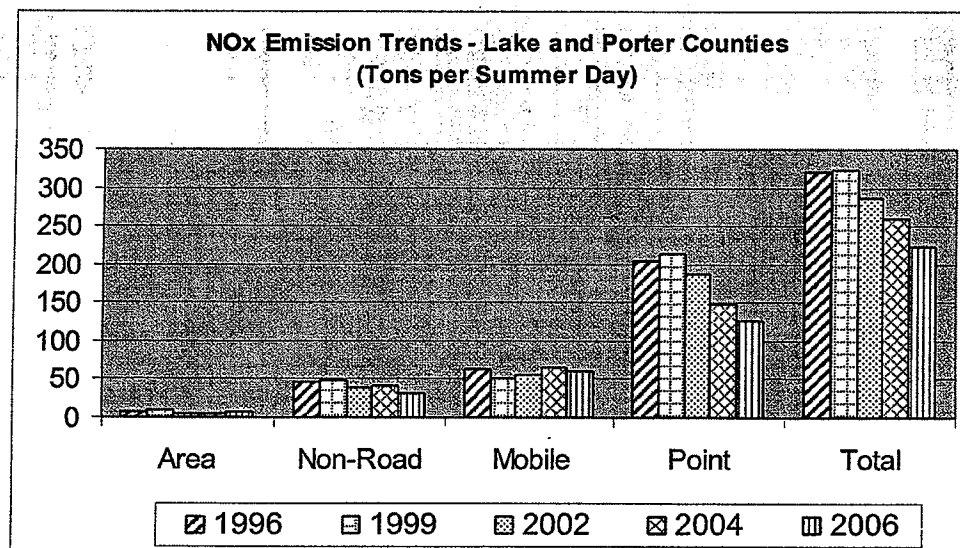
clarify tons and time period (e.g.) *per year*
per ozone season
per summer day

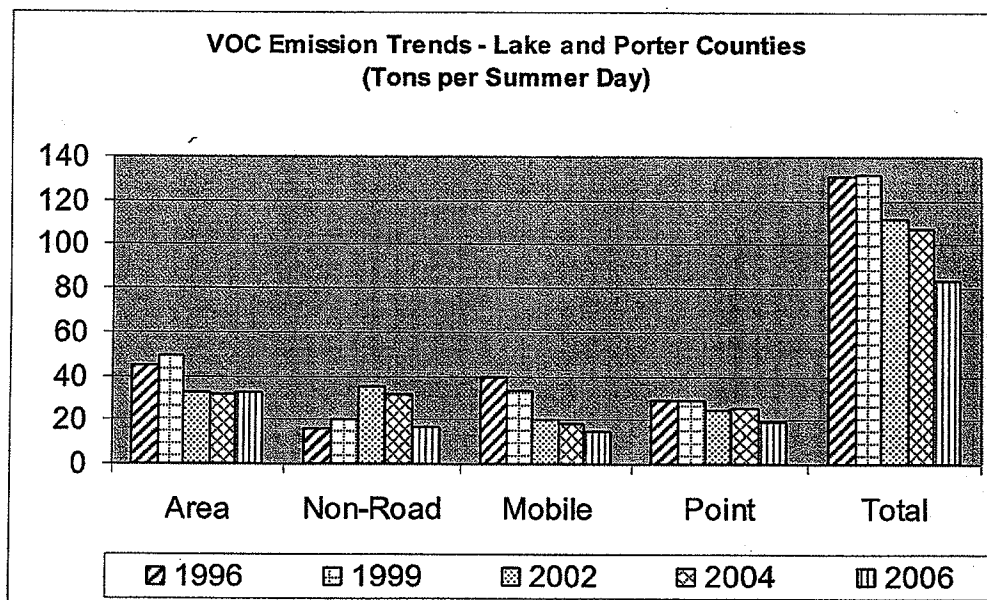
Point Trends - Entire Nonattainment Area -		
Year	NOx	VOC
1996	508.22	187.33
1999	490.58	140.84
2002	480.44	96.58
2004	375.62	97.16
2006	302.00	89.00



clarify tons ✓
 per year?
 ~ ozone season
 ~ summer day

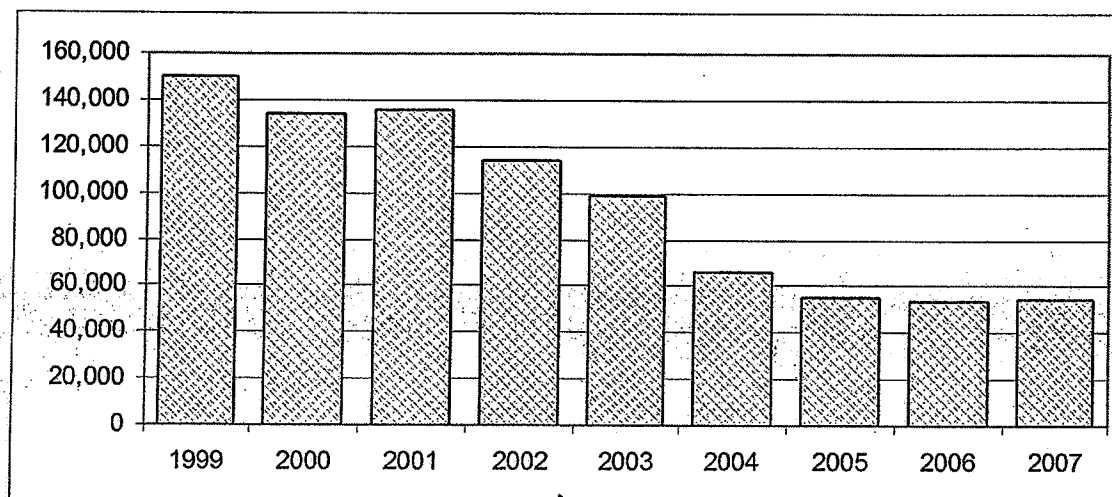
Lake and Porter Counties					
Sector	NO _x 1996	NO _x 1999	NO _x 2002	NO _x 2004	NO _x 2006
Area	8.02	10.36	5.72	5.76	6.45
Non-road	45.7	49.07	38.61	40.64	31.17
Mobile	63.14	49.92	55.00	65.95	60.09
Point	204.22	214.58	186.44	148.22	126.15
Total	321.08	323.93	285.77	260.57	223.86
Sector	VOC 1996	VOC 1999	VOC 2002	VOC 2004	VOC 2006
Area	45.19	49.59	32.37	31.34	32.47
Non-road	16.23	19.98	35.09	31.63	17.14
Mobile	40.05	33.29	20.00	18.90	14.92
Point	29.33	28.84	24.58	25.43	19.04
Total	130.80	131.70	111.94	107.30	83.57





Statewide EGU NO_x Trends

Year	NO _x Emissions - tons/ozone season
1997	152,834
1998	159,931
1999	149,827
2000	133,881
2001	136,052
2002	113,996
2003	99,283
2004	66,568
2005	55,486
2006	53,768
2007	54,816



clarify ↑

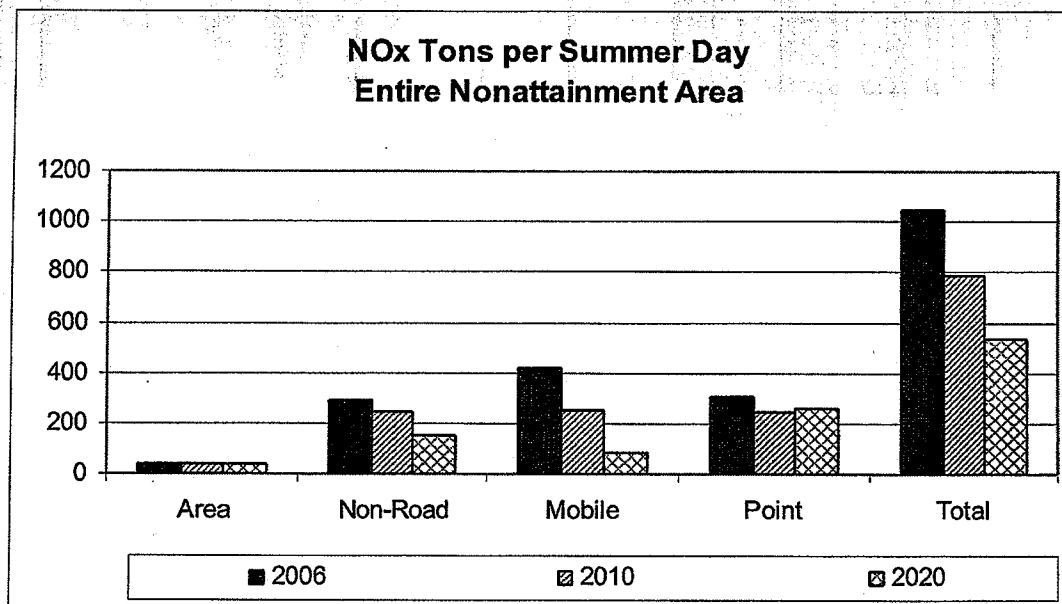
EGU
statewide NO_x Trend

tons/ozone season?

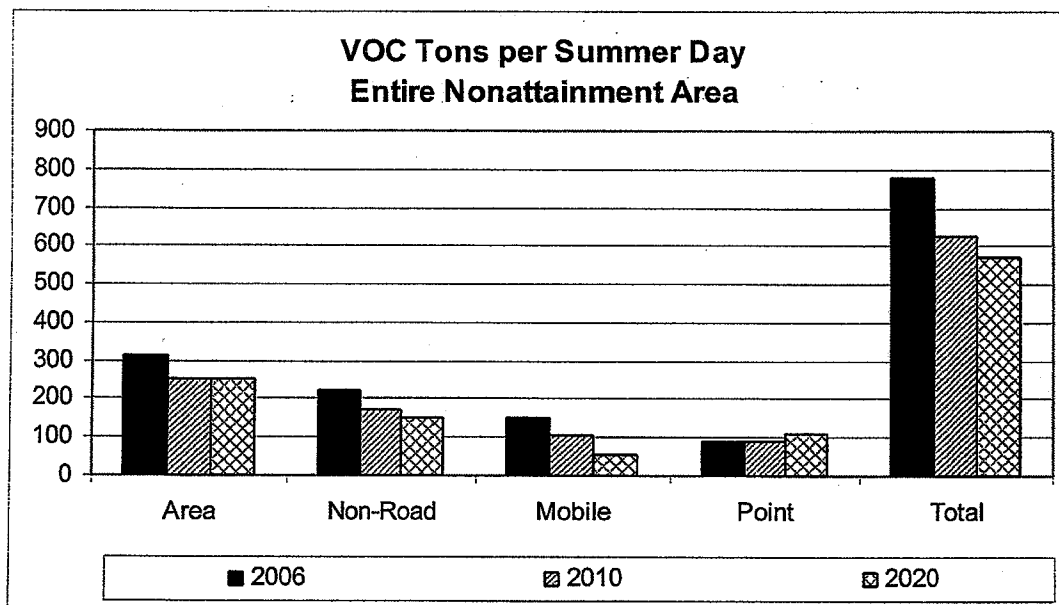
2010 and 2020 Projected Emissions Inventory

Entire Nonattainment Area

Sector	NO _x 2006	NO _x 2010	NO _x 2020
Area	38.50	41.00	41.00
Non-road	290.00	243.00	150.00
Mobile	419.00	254.00	84.86
Point	302.00	247.00	262.00
Total	1049.5	785.00	537.80
Sector	VOC 2006	VOC 2010	VOC 2020
Area	313.40	254.00	254.00
Non-road	222.00	174.09	150.00
Mobile	153.92	104.00	55.00
Point	89.00	93.00	113.00
Total	778.30	625.00	572.00



copy Header from p^{re} C-3?



↑ ↑
projected? projected?

**Summary/Response to Comments Received at Public
Hearing on January 8, 2009**

Lake and Porter Counties Indiana Redesignation Request and Maintenance Plan in Association with the 8-hour Ozone Standard

Summary/Response to Comments Received at Public Hearing

IDEM requested public comment on the draft Redesignation Request and Maintenance Plan, Attainment Demonstration, Demonstration of compliance with requirements pertaining to Reasonably Available Control Measures for volatile organic compounds, Request for waiver for Reasonably Available Control Measure requirements for oxides of nitrogen and Demonstration of Rate of Further Progress for Lake and Porter counties from December 5, 2008 to January 12, 2009. A public hearing was also held on January 8, 2009. IDEM received comments from the following parties:

Mark Strimbu, NiSource
Charlotte Read, Save the Dunes Council

Strimbu
Read

Following is a summary of the comments received and IDEM's responses thereto:

Note: Additional edits were made to the final documents to ensure consistency, though no critical information pertaining to substantive content was altered.

General

Comment: Captions on several graphs and tables need to be clarified for tons and the time period. (Strimbu)

Response: IDEM has clarified all the captions for the graphs and tables in question

Comment: Several paragraphs need the CAIR status updated based on the remand. (Strimbu)

Response: IDEM has updated the CAIR status for all paragraphs in question including updating Table 7.3 with modeling results from U.S. EPA for CAIR.

Comment: Check for consistency with reference to the MOBILE model in the Technical Support Document (TSD) and make changes as needed. (Strimbu)

Response: IDEM has updated the text to reflect what is referenced in the TSD for the MOBILE model.

Comment: How will the updates to the Redesignation Request impact the U.S. EPA approval process? (Strimbu)

Response: IDEM has updated the Redesignation Request to match information from Illinois. Using the same base year, modeling and emissions information will make for a smoother approval process for U.S. EPA

Comment: What is the significance of the yellow highlights in the two columns in Appendix A of the Redesignation Request and Section 182(f) of the NO_x Exemption Request? (Strimbu)

Response: IDEM has clarified in the documents that the highlighted values represent the most recent monitoring data available.

Comment: Uncertainties remain that the Attainment Plan petition now out for public review will accomplish meeting the 0.085 standard by June, 2009. For example, emissions data for the Illinois portion of the nonattainment area is draft and subject to change as of November 2008. This may require revisions to Section 4.0 of the Emission Inventory submitted by Indiana. Trends in tons of VOCs per summer day in Lake and Porter counties show estimated increases in both area and point sources by 2020. As pointed out in our June statement, this is significantly less protective than offsetting increased emissions as is now the case. (Read)

Comment: In the Conclusions Section of the Request document, it indicates that regional air quality planning efforts sponsored by LADCO is to establish a regional control strategy that provides for attainment of the ozone and fine particle standards throughout Illinois, Indiana, Ohio and Michigan. It states further that Indiana is developing local and statewide emission control measures where photochemical modeling and culpability analyses demonstrate a clear need, and cost effectiveness analyses justify the implementation of such measures. This would indicate that attainment of the 8-hour standard in Lake and Porter Counties is not a sure thing. (Read)

Comment: In addition, the Conclusions Section of the Attainment Demonstration Document note: "Although the 2008 photochemical modeling results were slightly above 0.085 ppm, the 2008 results were very close to demonstrating attainment, and the 2009 photochemical modeling results do demonstrate attainment." This would also indicate that actual attainment may not be a sure thing at least in 2009. (Read)

Response: Three years of quality assured monitoring information shows that Lake and Porter counties met the ozone standard at the end of the 2008 ozone season. Emission reductions from the NO_x SIP Call Program, CAIR and other national and local emission control strategies to be phased-in or implemented in 2008 and 2009 will ensure that the area's air quality will continue to meet the ozone standard, and provide for an ample margin of safety. IDEM has updated the redesignation petition to match information from Illinois. Using the same base year, modeling and emissions information will make for a smoother approval process for U.S. EPA. Although the trends in tons of VOCs per summer day in Lake and Porter counties show estimated increases, Lake Michigan Air Directors Consortium (LADCO) ozone modeling results show that the future mix of sources and emissions rates will **not** cause a violation of the ozone standard.

Comment: Much weight is given in the mobile source budget section to the Tier II vehicle standard, nonroad standards, low sulfur diesel, etc., yet status of compliance with these federal standards in Lake and Porter counties is not discussed nor any quantification of reductions from them provided. Yet, we are told that despite increases in VOC emissions in the out year of 2020, reductions in mobile sources will compensate for those projected increases. The Mobile Source Emissions Budget (p.53, Attainment Demonstration), uses a 5% cushion (increases?) for the 2009 budget, but notes that IDEM and partners will be conducting additional air quality modeling to adjust on-road mobile emissions as well as any changes due to constant review and evaluation of model inputs. (Read)

Response: Implementation of federal standards such as the Tier II Vehicle Standards, Heavy-Duty Gasoline and Diesel Highway Vehicle Standards and Large Non-Road Diesel Engine Standards in Indiana has already begun. Lower sulfur gasoline is currently being sold throughout Indiana including Lake and Porter counties. As the fleet in Northwestern Indiana turns over (i.e. older vehicles on the road replaced by newer vehicles) emission reductions from these federal standards will help Lake and Porter counties to continue to comply with the ozone standard.

Comment: Temperature information comes generally from O'Hare Airport. It should be supplemented or perhaps replaced for Lake and Porter counties with temperature data coming from local monitors. (Read)

Response: The only meteorological data available in the Indiana portion of the nonattainment area is at the Hammond and Gary ITRI monitors. Both monitors are located in Lake County. However the O'Hare Airport meteorological data has been used in the past for this area since it provides more complete information and is more reflective of the entire nonattainment area, not just Indiana's portion.

Comment: U.S. EPA recommends that the modeled attainment demonstration test [5.1.10] should be used in a "relative" sense rather than an "absolute" sense. Future year design values are calculated using the RRF (relative response factor) and gives a relative estimate of modeled concentrations, based on growth and control factors. (Read)

Response: The relative response factor terminology replaces what U.S. EPA referred to as the relative reduction factor. The way in which the modeling is conducted has not changed (only the terminology) and IDEM follows the U.S. EPA guidance for an attainment test.

Comment: At the January 8 public hearing, I asked about the public comment provisions for the final 2005 emissions inventory used in the full attainment demonstration contained at Section 3.3 entitled Emission Inventories. I got an unsatisfactory response. I am still puzzled as to what "will be subject to public comment along with the full attainment demonstration" and when. (Read)

Response: The agency apologizes for potential confusion concerning the emissions data. This is a complex submittal that includes a great deal of emissions data for past, current, and future years. For the purposes of the Attainment Demonstration, 2002 is the base year per the implementation rule for the 1997 8-hour ozone standard. The comprehensive 2002 emission inventory for Indiana is included as Appendix C-1 of the Attainment Demonstration. Detailed 2005 point source emissions data for Lake and Porter counties is included as Appendix C-2 of the Attainment Demonstration. The LADCO Technical Support Document is included as Appendix C-3 of the Attainment Demonstration as well. This document summarizes how the 2005 and 2009 modeling inventories were prepared. Additional detailed information concerning the 2005 and 2009 modeling inventories by source sector are available at www.LADCO.org. Additionally, Appendix B of the Redesignation Request and Maintenance Plan includes detailed emissions data by source sector for the years 2002, 2005, 2010, and 2020. All of these documents have been made available for public review and comment.