INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

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Ms. Mary A. Gade
Regional Administrator
U.S. Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, IL 60604-3950

June 13, 2007

Re: Attainment Demonstration for
Lawrenceburg Township, Dearborn County,
Indiana

Dear Ms. Gade:

Pursuant to Section 172 of the Clean Air Act, the Indiana Department of Environmental Management (IDEM) herewith submits an amendment to the Indiana State Implementation Plan. This amendment consists of the Attainment Demonstration and Technical Support Document for the Indiana portion of the Cincinnati – Hamilton, OH-KY-IN "Basic" Ozone Nonattainment Area, Lawrenceburg Township, Dearborn County, Indiana. . IDEM hereby requests the United States Environmental Protection Agency (US EPA) review this document for approval.

This Attainment Demonstration shows that the Cincinnati area, including Lawrenceburg Township, will attain the eight-hour ozone standard by June 15, 2009. It identifies the control measures to be relied upon to meet the eight-hour ozone standard and includes the technical information to demonstrate that these control measures will indeed lower the ozone concentrations to below the standard. This plan also includes an analysis of air quality trends, emissions that contribute to ozone formation from mobile and stationary sources within the nonattainment area, the effect of clean air measures currently in place, predictions about future growth and reductions in emissions resulting from anticipated federal, state and local measures. Achievement of the eight-hour ozone standard will protect the public from the harmful effects of ozone with an adequate margin of safety.

On May 11, 2007, IDEM published notices of public hearing on the Attainment Demonstration and announced that written comments would be accepted through June 12, 2007. On June 11, 2007, IDEM held a public hearing in Lawrenceburg, Indiana, to receive oral and written comments on the Attainment Demonstration. IDEM received comments in both oral and written form. A summary of the comments and IDEM's responses are included with this submission.

Throughout the development of the Attainment Demonstration, IDEM staff worked with the staff from the States of Kentucky and Ohio, and staff from US EPA Regions IV and V, to ensure that planning issues regarding the submission were addressed. We would appreciate US EPA's continued efforts to communicate regularly with us as you review the Attainment Demonstration.

IDEM hereby requests US EPA approval of the Indiana State Implementation Plan amendment, entitled "Attainment Demonstration and Technical Support Document for the Indiana Portion of the Cincinnati-Hamilton OH-KY-IN Basic Ozone Nonattainment Area; Lawrenceburg Township, Dearborn County, Indiana", dated June 2007. If you have any questions regarding this submission, please contact Scott Deloney, Chief, Programs and Policy Section, at 317-233-5684.

Sincerely yours,

Daniel Murray, Assistant Commissioner
Office of Air Quality

DM/sad/pad
Attachments
cc: Jay Bortzer, US EPA (no enclosures)
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Scott Deloney, IDEM
Pat Daniel (IDEM)

8-Hour Ozone Attainment Demonstration
and
Technical Support Document

For the Indiana Portion
of the

Cincinnati – Hamilton, OH-KY-IN
"Basic" Ozone Nonattainment Area

Lawrenceburg Township, Dearborn County Indiana

Prepared By:
Indiana Department of Environmental Management
Office of Air Quality
June 2007

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1.0 OVERVIEW

1.1 INTRODUCTION

Ozone is one of six criteria air pollutants that scientists have identified as being particularly harmful to humans and the environment. National Ambient Air Quality Standards (NAAQS) have been developed for these six pollutants and are used as measurements of air quality. Ozone is a gas that is not emitted directly into the air, but is created by a chemical reaction between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) in the presence of sunlight and heat. As a result, ozone is known as a summertime air pollutant. Therefore, the U.S. Environmental Protection Agency (US EPA) mandates seasonal monitoring of ambient ozone concentrations across the country.

1.2 NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

In 1997, US EPA revised the air quality standard for ozone, replacing the 1979 1-hour standard with an 8-hour ozone standard set at 0.08 parts per million (ppm). An exceedance of the 8-hour ozone NAAQS occurs when a monitor measures ozone above 0.084 ppm (per the rounding convention). A violation of the NAAQS occurs when the average of the annual fourth highest daily maximum 8-hour ozone values over three consecutive years is equal to or greater than 0.085 ppm. This three-year average is termed the design value for the monitor. The design value for a nonattainment area is the highest monitor's design value in the area.

US EPA designated areas under the 8-hour ozone standard as attainment, nonattainment or unclassifiable, on April 15, 2004. The Cincinnati–Hamilton, OH-KY-IN Area was designated nonattainment under subpart 1 of Section 107 of the CAA. Designations were made based upon monitored air quality data measured during the 2001, 2002 and 2003 ozone seasons. Table 1.1 shows the 2001-2003 ozone monitoring data for the Cincinnati area. The area's controlling design value was monitored at the Clinton County, Ohio ambient air quality monitor at 0.096 ppm. No ozone monitors are located in Indiana's portion of the nonattainment area.

Table 1.1
Cincinnati 2001-2003 Air Quality Data used for Designation

			1ST	2ND	3RD	4TH	2001-2003
SITE ID	**COUNTY**	**YEAR**	**8-HR**	**8-HR**	**8-HR**	**8-HR**	**AVERAGE**
			(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
21-015-0003	Boone	2001	0.085	0.084	0.084	0.083	
21-015-0003	Boone	2002	0.1	0.095	0.094	0.094	
21-015-0003	Boone	2003	0.089	0.084	0.079	0.078	0.085
21-037-0003	Campbell	2001	0.1	0.095	0.091	0.088	
21-037-0003	Campbell	2002	0.114	0.112	0.107	0.102	
21-037-0003	Campbell	2003	0.093	0.091	0.087	0.085	0.092
21-117-0007	Kenton	2001	0.095	0.087	0.084	0.082	
21-117-0007	Kenton	2002	0.111	0.107	0.103	0.096	
21-117-0007	Kenton	2003	0.094	0.086	0.084	0.079	0.086
39-017-0004	Butler	2001	0.098	0.096	0.084	0.083	
39-017-0004	Butler	2002	0.113	0.105	0.102	0.100	
39-017-0004	Butler	2003	0.112	0.098	0.098	0.094	0.092
39-017-1004	Butler	2001	0.103	0.089	0.089	0.087	
39-017-1004	Butler	2002	0.108	0.105	0.099	0.098	
39-017-1004	Butler	2003	0.121	0.107	0.097	0.083	0.089
39-025-0022	Clermont	2001	0.091	0.087	0.084	0.083	
39-025-0022	Clermont	2002	0.113	0.101	0.099	0.098	
39-025-0022	Clermont	2003	0.105	0.100	0.091	0.090	0.090
39-027-1002	Clinton	2001	0.108	0.108	0.104	0.093	
39-027-1002	Clinton	2002	0.112	0.103	0.101	0.099	
39-027-1002	**Clinton**	**2003**	**0.103**	**0.098**	**0.097**	**0.096**	**0.096**
39-061-0006	Hamilton	2001	0.094	0.092	0.088	0.088	
39-061-0006	Hamilton	2002	0.117	0.107	0.101	0.100	
39-061-0006	Hamilton	2003	0.104	0.103	0.095	0.093	0.094
39-061-0010	Hamilton	2001	0.105	0.093	0.082	0.080	
39-061-0010	Hamilton	2002	0.101	0.100	0.100	0.096	
39-061-0010	Hamilton	2003	0.096	0.095	0.094	0.087	0.088
39-061-0040	Hamilton	2001	0.095	0.094	0.088	0.083	
39-061-0040	Hamilton	2002	0.110	0.106	0.097	0.095	
39-061-0040	Hamilton	2003	0.089	0.085	0.084	0.083	0.087
39-165-0007	Warren	2003	0.117	0.102	0.101	0.095	N/A[1]

These designations became effective on June 15, 2004. In Indiana, there were 11 areas designated as nonattainment (See Figure 1.1). Every ozone nonattainment area within Indiana that contains a monitor has measured attainment of the 8-hour ozone standard, was redesignated to attainment or redesignation has been requested and pending approval by US EPA. No ozone monitors are located in Dearborn County, Indiana (See Figure 1.2), and the Cincinnati–Hamilton, OH-KY-IN Nonattainment Area has not measured air quality that meets the standard.

Figure 1.1
US EPA 2004 Ozone Nonattainment Area Designations

1 Monitor began operation in 2003.

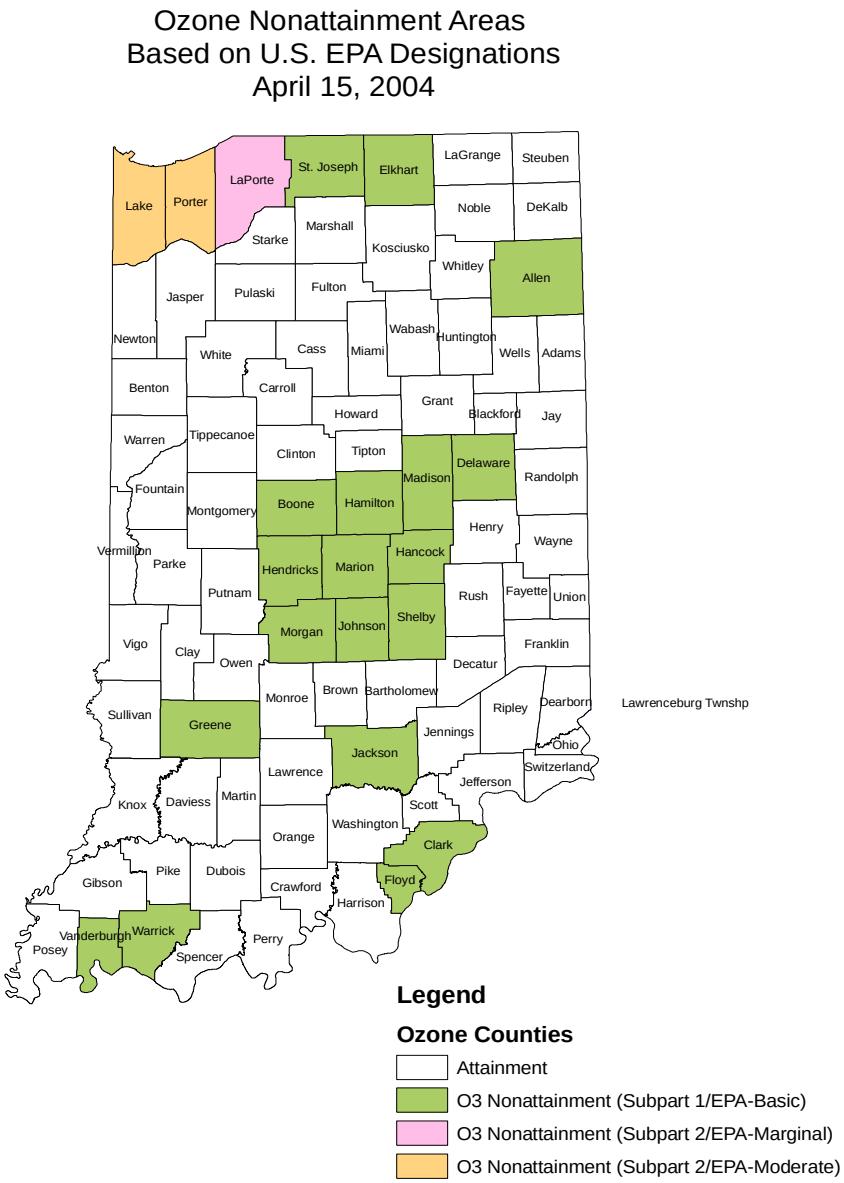
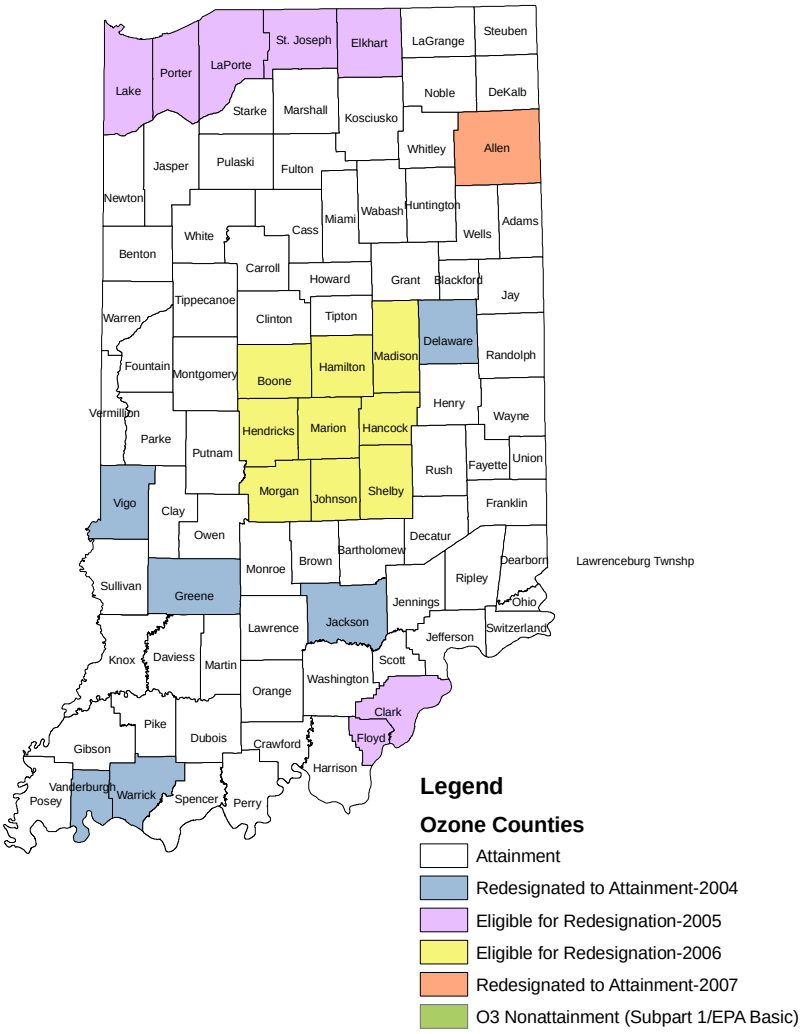


Figure 1.2
Current Ozone Attainment Status

Current Attainment Status
April 2007



This submittal covers Lawrenceburg Township, Dearborn County, IN, which was designated nonattainment as part of the Cincinnati-Hamilton OH-KY-IN Basic Ozone Nonattainment Area, under subpart 1 of Section 107 of the Clean Air Act (CAA).

The Clean Air Act Amendments of 1990 (CAA) required areas designated nonattainment for the ozone NAAAQS to develop State Implementation Plans (SIPs) to expeditiously attain and maintain the standard. Section 172 of the 1990 CAA stipulates the requirements nonattainment areas must meet, including the development of a plan to reduce VOC and NO_x emissions and a demonstration that the area will meet the ambient air quality standard by June 15, 2009.

In accordance with US EPA guidance, this document demonstrates that, with the combination of current clean air measures and the implementation of local and federally-required control measures, air quality in the Cincinnati nonattainment area will meet the ozone standard by the attainment date. This document contains the eight-hour ozone standard attainment demonstration for the Indiana portion of the nonattainment area.

1.3 CONTROL STRATEGY

Several control measures already in place or being implemented over the next few years will reduce stationary point, on-road mobile, and non-road mobile source emissions. The expected Federal and State control measures were modeled for the attainment year of 2008.

The Federal control measures that were modeled included the Tier 2 vehicle standards; the heavy-duty gasoline and diesel highway vehicle standards; low sulfur gasoline and diesel fuels; large non-road diesel engines standards and the non-road spark-ignition engines and recreational engines standard.

The State control measures that were modeled include the NO_x SIP Call and the Clean Air Interstate Rule (CAIR). The control measures included in the modeling are described in greater detail in Section 4.0.

1.4 ATTAINMENT TEST

Because this is a multi-state nonattainment area, the CAA requires the attainment demonstration for ozone to be based on photochemical grid modeling. A computer model is used to predict maximum ozone concentrations in every grid cell (or point of analysis) within the nonattainment area.

The attainment test is not based on absolute modeling results, but rather Relative Responses achieved by comparing the modeled base year to the modeled control strategy. A relative response factor (RRF) is generated for each monitoring location. The benchmark for attainment is that the predicted maximum ozone concentration in every grid cell is below the eight-hour ozone standard.

In this attainment demonstration, the air quality modeling is used in a relative sense by determining the Relative Response in ozone that will occur between the baseline year (2002) and the attainment modeling year (2008). Table 1.2 lists the attainment test results for the Cincinnati area. The first two columns are the monitor identification number and the county/state in which the monitor is located. The next three columns are the modeling base year design value, the RRF and the future design value. As shown in Table 1.2 below, all of the monitors in the area will be below the standard with the exception of one of the monitors in Hamilton County, OH, which is just above the standard of .085 ppm. According to EPA guidance, areas with future design values between 0.082 and 0.087 ppm need to provide additional weight of evidence that the area will attain the 8-hour ozone standard.

Table 1.2
Attainment Test Results

Monitor ID	County State	Base Year Design Value 5-year weighted 2000-2004	2008	
			RRF	Future Design Value
		(ppm)		(ppm)
2101500031	Boone/KY	.084	0.901	.075
2103700031	Campbell/KY	.090	0.934	.084
2111700071	Kenton/KY	.085	0.925	.079
3901700041	Butler	.090	0.930	.083
3901710043	Butler	.088	0.922	.081
3902500221	Clermont	.089	0.928	.083
3902710021	Clinton	.094	0.900	.084
3906100061	Hamilton	.090	0.946	**.085**
3906100101	Hamilton	.086	0.925	.079
3906100401	Hamilton	.086	0.944	.081
3916500061	Warren	.087	0.921	.080

A weight of evidence demonstration relies on the use of supplemental information to support the modeling analysis, demonstrating that the nonattainment area will comply with the ozone standard by the prescribed attainment date. This demonstration includes an analysis of air quality trends, emission trends, current air quality data, summary of emissions reductions still to occur in 2007, 2008 and 2009, along with additional measures that were not included in the air quality modeling.

IDEM believes that the modeled attainment demonstration in conjunction with the weight of evidence analyses and an identified set of control measures provides the necessary evidence that the Cincinnati nonattainment area will attain the ozone standard by June 15, 2009.

The structure and content of this document addresses each of the elements required by the CAA. Compliance with these elements provides the technical analysis necessary to support a demonstration of the following:

- the Cincinnati-Hamilton, OH-KY-IN Basic ozone nonattainment area will attain the 8-hour standard by the attainment date;
- the air quality in the area is improving;
- emissions reductions from national and regional control measures included in the attainment plan will bring the area into attainment as expeditiously as possible;
- regional modeling performed by the Midwest Regional Planning Organization and US EPA lead to the same conclusion, that with regional NO_x reductions the area will be able to comply with the ozone standard without additional control measures; and
- the implementation of control measures not included in the modeling analysis will provide further assurance that the standard is attained and maintained.

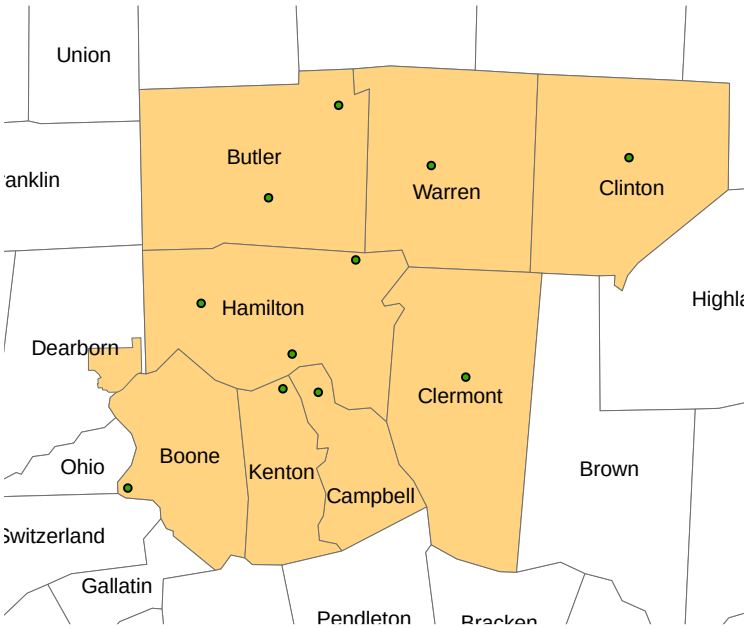
2.0 BACKGROUND

2.1 GEOGRAPHICAL DESCRIPTION

As part of the Cincinnati metropolitan statistical area, a portion of Dearborn County, Indiana, was included in the designated ozone nonattainment area. The entire Cincinnati-Hamilton, IN-OH-KY Ozone Nonattainment area consists of Lawrenceburg Township, Dearborn County, Indiana; Butler, Clermont, Clinton, Hamilton and Warren Counties, Ohio; and Boone, Campbell and Kenton Counties, Kentucky (See Figure 2.1).

Historically, exceedances of the ozone standard have been monitored in Clinton County, located in Ohio, and in Campbell County, located in Kentucky. There isn't an air quality monitor located in Dearborn County, Indiana. Figure 2.1 displays where the monitors are located in the counties within the Cincinnati 8-hour ozone nonattainment area. Designations were made based upon monitored air quality data measured during the 2001, 2002 and 2003 ozone seasons. Table 1.1 shows the monitored design values for the 2001-2003 ozone seasons.

Figure 2.1
Cincinnati Ozone Nonattainment Area



US EPA designated areas under the 8-hour ozone standard as attainment, nonattainment or unclassifiable, on April 15, 2004. The Cincinnati ozone nonattainment area was designated as "basic" nonattainment of the ozone standard pursuant to the CAA. As a result, Section 172(c) of the CAA set forth requirements for Ohio, Kentucky and Indiana's State Implementation Plan (SIP) submittal.

The agencies responsible for assuring the nonattainment area complies with the CAA requirements are:

- The Ohio Environmental Protection Agency (Ohio EPA), which is responsible for Butler, Clermont, Clinton, Hamilton and Warren Counties, Ohio;
- The Kentucky Department for Environmental Protection, (KDEP) which is responsible for Boone, Campbell and Kenton Counties, Kentucky; and
- The Indiana Department of Environmental Management (IDEM), which is responsible for Lawrenceburg Township, Dearborn County, Indiana.

These three state agencies have worked cooperatively with US EPA Regions IV and V to address attainment planning issues.

Although the three agencies, in the three States, have worked together on a comprehensive plan for the multi-state nonattainment areas, each State is required to make a separate submittal for its portion of the planning components to US EPA. Attainment demonstrations are SIP submittals and US EPA action on them is taken separately.

3.0 CLEAN AIR ACT REQUIREMENTS

Section 172(c) of the CAA specifies the various planning requirements that apply to basic ozone nonattainment areas. Also, because the Cincinnati –Hamilton ozone nonattainment area includes portions of three States, Section 182(j) of the CAA adds additional plan provisions. The CAA specifies the following requirements:

1. General requirements for Reasonably Available Control Measures (RACM)/Reasonably Available Control Technology (RACT),
2. Reasonable Further Progress (RFP),
3. Emission inventories,
4. Identification and quantification of emissions,
5. Permit program for new and modified sources,
6. Other measures,
7. Compliance with section 110(a)(2),
8. Equivalent techniques,
9. Contingency measures,
10. Demonstration of attainment based upon photochemical grid modeling or equivalent analytical method, and
11. Mobile source emission budget.

These components are due June 15, 2007. The following section provides an overview of Indiana's progress in meeting the CAA requirements mentioned above.

3.1 GENERAL REQUIREMENTS (SECTION 172(C) (1))

3.1.1 Reasonably Available Control Measures (RACM)

The CAA requires a demonstration that the State has adopted all reasonable and available control measures to demonstrate attainment as expeditiously as practicable and that no additional measures that are reasonably available will advance the attainment date.

Although preliminary photochemical modeling indicates that no additional control measures are necessary to achieve the ozone standard by the attainment date, IDEM participates in the regional planning effort through the Midwest Regional Planning Organization (MRPO) to evaluate potential control measures to attain the ozone and fine particulate matter standards and achieve regional haze goals. Candidate control measures were evaluated primarily for feasibility, cost effectiveness, and the ability to implement them in a relatively short time frame (i.e., by the May 1, 2008 ozone season). Due mainly to the lengthy rulemaking process in Indiana, many of the control strategies evaluated could not be implemented by the 2008 ozone season and were not pursued since they were not needed to demonstrate attainment. However, IDEM has begun rulemaking on several of the measures evaluated and they are included in this demonstration as contingency measures. Appendix A, "*Midwest Regional Planning Organization (RPO), Identification and Evaluation of Candidate Control Measures*", April 14, 2005.

3.1.2 Reasonably Available Control Technology (RACT)

US EPA's Phase II Ozone Implementation rule (Appendix B) makes a determination that areas classified under Subpart 1 will meet the CAA's RACT requirement by submitting a demonstration that shows attainment as expeditiously as practicable, but no later than 5 years after designation. This document will show that this requirement will be met with the implementation of mandatory federal control measures and regional measures implemented in Indiana and Ohio.

3.2 REASONABLE FURTHER PROGRESS (SECTION 172 (C)(2))

Based on US EPA's Phase II Ozone Implementation rule (Appendix B), for areas classified under subpart 1 of the CAA, Reasonable Further Progress (RFP) is met by ensuring emissions reductions needed for attainment are implemented by the beginning of the ozone season preceding the attainment date (i.e., by May 1, 2008). As confirmed by regional photochemical modeling and US EPA modeling, no additional local controls are necessary to attain the air quality standard by the attainment date.

3.3 EMISSION INVENTORIES (SECTION 172 (C)(3))

US EPA guidance requires the submittal of a comprehensive SIP quality emissions inventory of ozone precursor emissions (volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) representative of the base year (2002), and a projection of the emission inventory to the attainment year (2009). The 2002 emission inventory, for Dearborn County, is included as Appendix C. Lawrenceburg Township is a very small portion of the county and accounts for a small percentage of the area, on-road mobile and non-road mobile source categories in the inventory. However, the largest stationary point source within Dearborn County, an electricity generating facility, is located in Lawrenceburg Township. To be conservative in demonstrating attainment, the emissions inventory consists of the entire county. IDEM met this requirement through the submittal of the 2002 emission inventories under the Consolidated Emission Reporting Rule (CERR) for the State of Indiana.

IDEM has submitted a statewide emissions for stationary, area, non-road mobile, on-road mobile to US EPA. The final 2002 emissions inventory used in the attainment demonstration will be subject to public comment along with the full attainment demonstration.

3.4 IDENTIFICATION AND QUANTIFICATION OF EMISSIONS (SECTION 172 (C)(4))

Section 172(c)(4) requires the SIP to identify and quantify the emissions of NO_x and VOC that sources will be allowed from the construction and operation of major new and modified sources in accordance with section 173(a)(1)(B), and will not interfere with attainment of the ozone standard by the attainment date. This requirement is outlined in rule 326 IAC 2-3.

3.5 PERMIT PROGRAM FOR NEW AND MODIFIED MAJOR SOURCES (SECTION 172 (C)(5))

Section 172 (c) (5) requires the State to implement a permit program consistent with the requirements of Section 173. Indiana has a long standing and fully-implemented New Source

Review (NSR) permitting program that is outlined in rule 326 IAC 2-3. Indiana's NSR program was approved by US EPA, on 10/07/94 (94 FR 24838), 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, including an air quality analysis to evaluate whether the new source will threaten the NAAQS.

3.6 OTHER MEASURES (SECTION 172 (C) (6))

Modeling conducted by US EPA and the Lake Michigan Air Director's Consortium (LADCO) for future year ozone design values consistently shows that existing emission control measures will bring the Cincinnati area into attainment of the 8-hour ozone NAAQS. Federal and local control measures to be phased-in or implemented in the next several years will provide even greater assurance that air quality will continue to meet the standard into the future.

In addition, US EPA modeling conducted to support the Heavy Duty Engine and Highway Diesel Fuel, Tier II/Low Sulfur Fuel and Clean Air Interstate Rule shows that future year design values for the Cincinnati-Hamilton ozone nonattainment area will attain the ozone standard with values below 0.085 ppm. This same US EPA future year modeling for national emission control strategies demonstrate that the Cincinnati nonattainment area will attain the 8-hour ozone NAAQS without additional local control measures.

Existing and future national and regional control measures will ensure that attainment in each county will be maintained with an increasing margin of safety over time. These measures are discussed in greater detail in the Control Strategy Section (Section 4.0).

Therefore, no additional control measures are being implemented and modeled to demonstrate attainment. However, additional control measures are being implemented region-wide to provide assurance of the area maintaining air quality below the standard.

3.7 COMPLIANCE WITH SECTION 110(A) (2) (SECTION 172 (C) (7))

Section 172(c) (7) requires nonattainment SIPs to meet the applicable provisions of Section 110(a) (2). IDEM has reviewed the requirements of Section 110(a) (2) and has concluded that prior rule submittals, along with this attainment demonstration, address the relevant requirements associated with rule development, state implementation plan submissions, and implementation and enforcement of required control measures.

3.8 EQUIVALENT TECHNIQUES (SECTION 172(C) (8))

IDEM has followed US EPA guidance on procedures for modeling, preparing emission inventories and plan submittal, therefore IDEM is not requesting approval for equivalent techniques, as allowed under Section 172(c)(8).

3.9 CONTINGENCY MEASURES (SECTION 172 (C) (9))

Section 172 (c) (9) of the CAA requires States with ozone nonattainment areas to include contingency measures as part of their attainment demonstration. Contingency measures are specific measures to be undertaken in the event that the area fails to attain the standard by the applicable attainment date. The selected contingency measures are discussed in greater detail in Section 8.0

3.10 ATTAINMENT DEMONSTRATION (SECTION 182(J)

For multi-state ozone nonattainment areas, Section 182 (j) of the CAA requires the submittal of an attainment demonstration using photochemical grid modeling or modeling determined by the US EPA Administrator to be equivalent. Through the Midwest Regional Planning Organization (MRPO), photochemical modeling was conducted using the Comprehensive Air Quality Model with Extensions (CAMx) for this modeled attainment demonstration. This modeling is being supplemented with regional modeling performed by US EPA in developing the Clean Air Interstate Rule (CAIR) and rulemaking to support national control measures. Included as Appendix D is a copy of the *Technical Support Document, CAMx Modeling Analysis of the Cincinnati-Hamilton, OH-KY-IN Basic Ozone Nonattainment Area*, May 2007 (2007 CAMx modeling).

US EPA modeling guidance for the 8-hour ozone standard (*Guidance on the Use of Models and other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5 and Regional Haze*, Appendix E) stipulates that the following elements be included in an approvable attainment demonstration submittal:

- photochemical grid modeling analysis;
- air quality trends analysis;
- emissions trends analysis;
- identification of control measures factored into the modeling analysis as well as those not factored into the modeling analysis; and
- identification of mobile source emission budgets (NO_x and VOC) for transportation conformity purposes.

Each element of the Attainment Demonstration is described briefly below and in more detail in the Technical Elements of Demonstration (Section 5) and Mobile Source Emission Budgets (Section 7.0).

3.10.1 Photochemical grid modeling

A more detailed discussion of the photochemical grid modeling, model selection, methodologies, meteorology, model input and analysis method is included in the Photochemical Modeling Analysis Section of the Technical Element of Demonstration (Section 5.1).

3.10.2 Air Quality Trends Analysis

Implementation of control strategies has resulted in a significant improvement in air quality in the Cincinnati ozone nonattainment area. Data show emissions are decreasing, air quality peak values are on the decline, and the number of exceedances is also decreasing.

The technical data, included in Section 5 of this document, show a significant and continual decline in the ozone design value since 2001. In fact, the area′s 2006 design value is close to the lowest level possible without showing attainment of the ozone standard.

Table 3.1 shows the decline in the controlling ozone design value[2] for the Cincinnati ozone nonattainment area. During the 2001-2003 time period, the Clinton County ambient ozone monitor represented the area′s controlling ozone design value. As shown in this table, the area′s design value has declined by at least 0.010 ppm since being designated as nonattainment.

A more complete picture of the air quality improvement in the Cincinnati ozone nonattainment area is shown in Table 5.6 and Chart 5.1, included in Section 5.2 of this document. These data show that the design values for each county's ambient ozone monitor in the nonattainment area decreased by 0.004 - 0.017 ppm, between 1996 and 2006.

[2] The design value for a nonattainment area, which characterizes the severity of the area′s air quality problem, is represented by the highest design value at any individual ozone monitoring site. The design value of a monitoring site is the fourth highest eight-hour daily maximum ozone value recorded in a given three-year period with complete monitoring data.

Table 3.1
Controlling Ozone Design Values for the Cincinnati Nonattainment Area

Year	**Design Value [in ppm] (Monitor Location)**	**3-Year Period**
2006	.086 (Warren)	2004-2006
2005	.089 (Warren)	2003-2005
2004	.091 (Clinton)	2002-2004
2003	.096 (Clinton)	2001-2003

3.10.3 Emissions Trends Analysis

Control measures have been implemented requiring substantial emissions reductions from mobile, industrial, and area sources. As shown in Charts 3.1 and 3.2 below, a comparison of actual 1999 and 2002 VOC emissions for the nonattainment area show an overall regional reduction of approximately 55%. A similar comparison for NO_x emissions shows an overall regional reduction of 23 % over the same time period.

As shown in Charts 3.3 and 3.4 below, between 1999 and 2002, region-wide VOC emissions from the point source category have been reduced by approximately 46% and by 33% in NO_x emissions. The emissions from this source category and the entire inventory are projected to decrease further by the 2009 attainment date.

A more detailed discussion of emission trends is included in the Technical Elements of Demonstration (Section 5.3).

Chart 3.1
NO_x Emission Trends

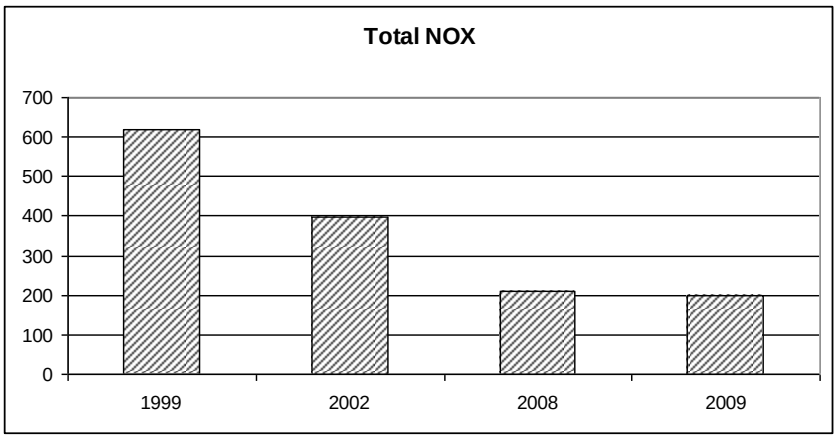


Chart 3.2
VOC Emission Trends

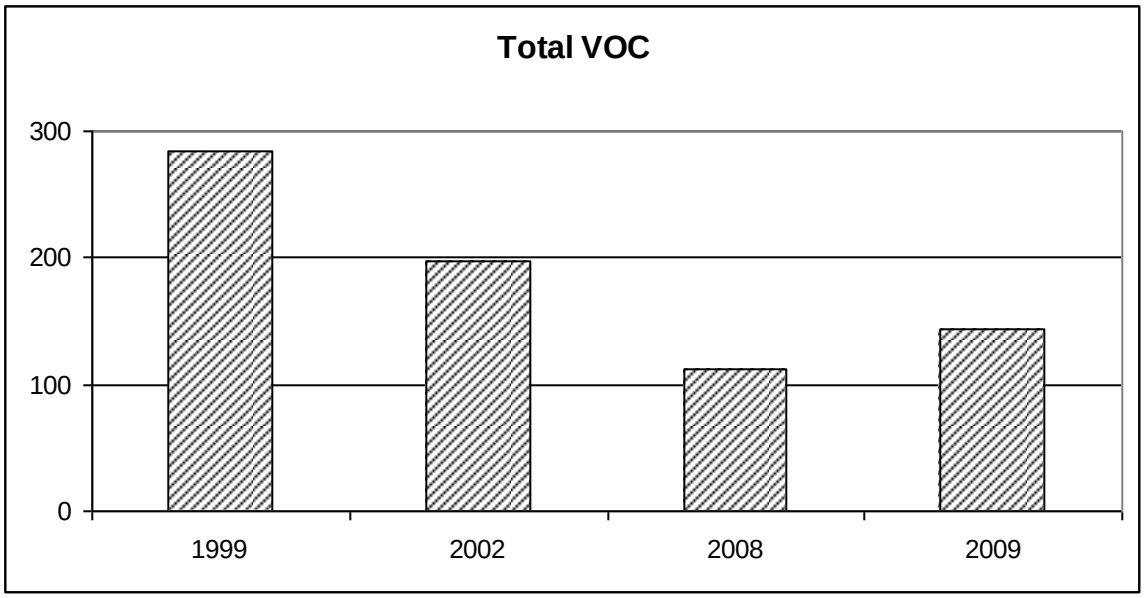


Chart 3.3
NO_x Emission Trends
Point Source Category

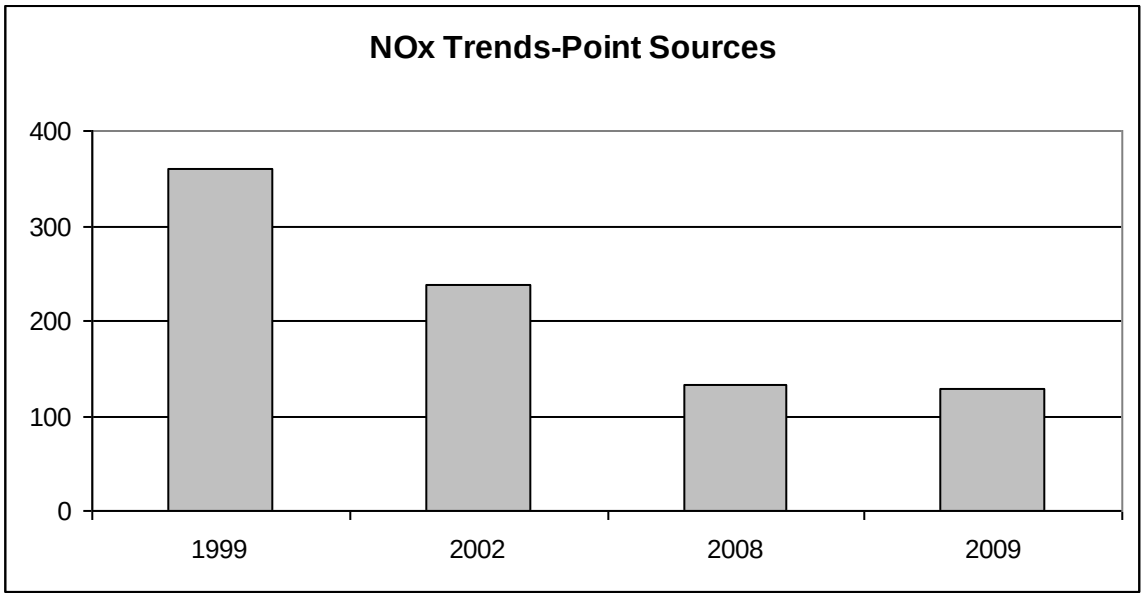
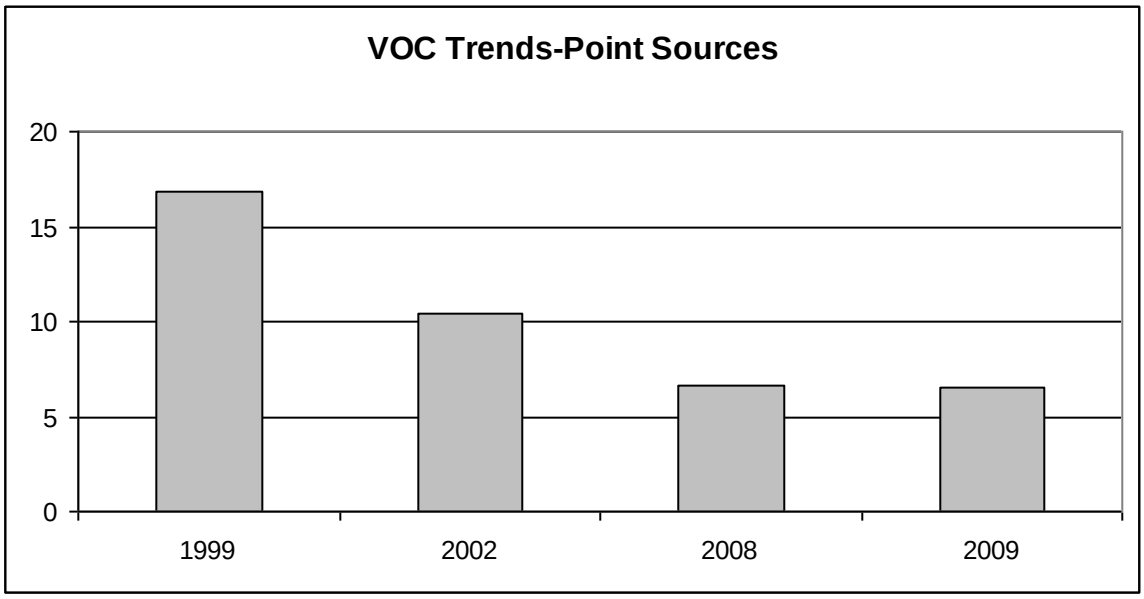


Chart 3.4
VOC Emission Trends
Point Source Category



3.11 MOBILE SOURCE EMISSIONS BUDGETS

US EPA requirements outlined in 40 CFR 93.118(e) (4) stipulate that a mobile source emissions budget (for both NO_x and VOC) be established as part of the attainment demonstration. The mobile source emissions budget is necessary to demonstrate conformity of transportation plans with the state implementation plan.

The purpose of transportation conformity is to ensure that Federal transportation actions occurring in the nonattainment area do not hinder the area from attaining and maintaining the 8-hour ozone standard. This means that the level of emissions estimated by the metropolitan planning organization for the Transportation Implementation Plan (TIP) and the Long Range Transportation Plan must not exceed the motor vehicle emission budgets as defined in this attainment demonstration.

In general, while the total vehicle miles traveled (VMT) has increased throughout the region, mobile source emission levels have decreased significantly since 1999. This decline in emissions is a result of federal motor vehicle control requirements and cleaner motor fuels.

The motor vehicle emission budgets are included in Section 7.0 of this document.

4.0 CONTROL STRATEGY

Several control measures already in place or being implemented over the next few years will reduce point, on-road mobile and non-road mobile source emissions. The Federal and State control measures included in the photochemical modeling for the future year design value are discussed below.

4.1 TIER 2 VEHICLE STANDARDS

Federal Tier 2 vehicle standards will require all passenger vehicles in a manufacturer's fleet, including light-duty trucks and sport utility vehicles (SUVs), to meet an average standard of 0.07 grams of NO_x per mile. Implementation began in 2004, and should be completely phased in by 2007. The Tier 2 standards also cover passenger vehicles over 8,500 pounds gross vehicle weight rating (the larger pickup trucks and SUVs), which are not covered by the current Tier 1 regulations. For these vehicles, the standards will be 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 Tier 2 standards also reduce the sulfur content of gasoline to 30 ppm starting in January 2006. Most gasoline sold in Indiana prior to January 2006 had a sulfur content of about 500 ppm. Sulfur occurs naturally in gasoline, but interferes with the operation of catalytic converters on vehicles resulting in higher NO_x emissions. Lower sulfur gasoline is necessary to achieve the Tier 2 vehicle emission standards.

4.2 HEAVY-DUTY GASOLINE AND DIESEL HIGHWAY VEHICLES STANDARDS

New US EPA standards designed to reduce NO_x and VOC emissions from heavy-duty gasoline and diesel highway vehicles began to take effect in 2004. A second phase of standards and testing procedures, beginning in 2007, will reduce particulate matter from heavy-duty highway engines, and will also reduce highway diesel fuel sulfur content to 15 ppm since the sulfur can damage emission control devices. The total program is expected to achieve a 90% reduction in direct particulate matter (PM) emissions and a 95% reduction in NO_x emissions for these new engines using low sulfur diesel, compared to existing engines using higher-content sulfur diesel.

4.3 LARGE NON-ROAD DIESEL ENGINES STANDARDS

In May 2004, US EPA promulgated new rules for large non-road diesel engines, such as those used in construction, agricultural and industrial equipment, to be phased in between 2008 and 2014. The non-road diesel rules also reduce the allowable sulfur in non-road diesel fuel by over 99%. Non-road diesel fuel currently averages approximately 3,400 ppm sulfur. This rule limited non-road diesel sulfur content to 500 ppm in 2006 and 15 ppm in 2010. The combined engine and fuel rules would reduce NO_x and PM emissions from large non-road diesel engines by over 90%, compared to current non-road engines using higher-content sulfur diesel.

4.4 NONROAD SPARK-IGNITION ENGINES AND RECREATIONAL ENGINES STANDARD

The new standard, effective in July 2003, regulates NO_x, VOCs and carbon dioxide (CO), for groups of previously unregulated non-road engines. The new standard applies to all new engines

sold in the United States and imported after the standards went into effect. The standard applies to large spark-ignition engines (forklifts and airport ground service equipment), recreational vehicles (off-highway motorcycles and all-terrain vehicles), and recreational marine diesel engines. The regulation varies based upon the type of engine and vehicle.

The large spark-ignition engines contribute to ozone formation and ambient CO and PM levels in urban areas. Tier 1 of this standard was implemented in 2004 and Tier 2 is scheduled to start in 2007. Like the large spark-ignition, recreational vehicles contribute to ozone formation and ambient CO and PM levels. For the off-highway motorcycles and all-terrain vehicles, model year 2006, the new exhaust emission standard was phased-in by 50% and for model year 2007 and later, at 100%. Recreational marine diesel engines over 37 kilowatts are used in yachts, cruisers, and other types of pleasure craft. Recreational marine engines contribute to ozone formation and PM levels, especially surrounding marinas. Depending on the size of the engine, the standard began phasing-in in 2006.

When all of the non-road spark-ignition engines and recreational engine standards are fully implemented, an overall 72% reduction in VOCs, 80% reduction in NO_x and 56% reduction in CO emissions are expected by 2020. These controls will help reduce ambient concentrations of ozone, CO and fine PM.

4.5 NO_X SIP CALL

The US EPA NO_x SIP Call required twenty-two (22) states to adopt rules that would result in significant emission reductions from large electric generating units (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 previous uncontrolled years.

Twenty-one other states have also adopted these rules, including Ohio and Kentucky. The result is that significant reductions have occurred upwind and within the Cincinnati ozone nonattainment area because of the number of affected units within the region.

4.6 CLEAN AIR INTERSTATE RULE (CAIR)

On May 12, 2005, the US EPA promulgated the "Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO_x SIP Call", referred to as CAIR. This rule established the requirement for States to adopt rules limiting the emission of NO_x and sulfur dioxide (SO2) and a model rule for the states to use in developing their rules. The purpose of CAIR is to reduce interstate transport of precursors to fine particulate and ozone.

CAIR applies to (1) any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbines, a generator with nameplate capacity of more than 25MWe producing electricity for sale and (2) for a unit that qualifies as a cogeneration unit during the 12 month period starting on the date that the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit serving at any time a generator with a nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater to any utility power

distribution system for sale.

This rule provides annual State caps for NO_x and SO2 in two phases, with the Phase I caps for NO_x and SO2 starting in 2009 and 2010, respectively. Phase II caps become effective in 2015. The US EPA is allowing the caps to be met through a cap and trade program if a State chooses to participate it the program.

In response to US EPA's rulemaking, IDEM adopted its state rule in 2006 based on the federal rule. IDEM's rule includes an annual and seasonal NO_x trading program, and an annual SO2 trading program. This rule requires compliance beginning in 2009.

5.0 TECHNICAL ELEMENTS OF DEMONSTRATION

This section presents details of the technical work done to analyze air quality data to demonstrate attainment of the ozone standard. The results of the computer modeling and an analysis of air quality and emissions inventory trends presents strong evidence that pending control measures will improve air quality, thereby assuring air quality levels below the ozone standard by June 15, 2009.

5.1 PHOTOCHEMICAL MODELING ANALYSIS

Section 182(j) of the Clean Air Act (CAA) requires that photochemical grid modeling be used to demonstrate attainment in multi-state ozone nonattainment areas. The attainment modeling analysis for the Cincinnati ozone nonattainment region was performed in conjunction with the fine particulate matter (PM2.5) and regional haze modeling conducted by the Midwest Regional Planning Organization (MRPO). The MRPO is made up of the five Midwest states (Illinois, Indiana, Michigan, Ohio and Wisconsin) and the Lake Michigan Air Directors Consortium (LADCO). The following paragraphs briefly describe the methods, inputs used and major components of this analysis.

5.1.1 Modeling Methodology

The modeling analysis is a complex technical evaluation that begins with selection of the modeling system. The MRPO decided to use the following modeling system:

* Meteorological Model: Mesoscale Model (MM5) version 3.6.1
* Emissions Model: Emissions Modeling System (EMS-2003)
* Air Quality Model: Comprehensive Air Quality Model with Extensions (CAMx version 4.30).

Additionally, a base year is selected to model that represents typical meteorological conditions in the region when high ozone, PM2.5 and poor visibility are observed. Once the year is selected, meteorological inputs are developed using the meteorological model. Emission inventories are also constructed for the base year and processed through the emissions model. These inputs are used in the air quality model to predict ozone, PM2.5 and visibility, with the results compared to the historical data. The model performance is evaluated by comparing the modeled predicted data to historic air quality data.

Once model performance is deemed adequate, typical baseline and future year emissions are processed through the emissions model. For this demonstration, the baseline year is 2002 (based on EPA guidance) which corresponds with the same year as the historic meteorology used in the modeling. The attainment future year selected for this demonstration is 2008, since the mandatory attainment date for the Cincinnati area is June 15, 2009. The attainment date is set prior to the completion of the 2009 ozone season; therefore attainment of the standard would have to be met by the end of the 2008 ozone season. Theses emissions are processed through the air quality model with the meteorological inputs. The air quality modeling results are used to determine a Relative Response in future ozone, which is used in the attainment demonstration.

Following US EPA guidelines, a modeling protocol was prepared by LADCO and approved by

US EPA in 2006. The complete modeling protocol used for this analysis can be found in Appendix G.

5.1.2 Modeling Preparation and Objectives

The modeling analysis included (1) preparation of a protocol; (2) preparation of emission inventories; (3) preparation of meteorological inputs; (4) application of the model and diagnostic analysis of inputs; (5) evaluation of performance; (6) evaluation of reduction scenarios and (7) analysis of modeling results. The specific objectives of the analysis were to:

* apply the model to 2002 meteorological and emissions data and evaluate CAMx model performance,
* prepare future-year (2008/2009) emissions to evaluate future federal, regional and local emission control strategies for the attainment of federal ozone standards, and
* run the model for the future year to evaluate the combined effects of growth and emission reductions resulting from national, regional and local measures.

5.1.3 Model Selection

Title 40 Code of Federal Regulations, Part 51, Appendix W does not offer specific recommendations for photochemical models to be used for attainment demonstrations. However, the models selected must be scientifically appropriate for the intended application and be freely available for review and available to stakeholders and their consultants for execution and verification at no or low cost. Each of the models selected for use in this analysis meets these criteria and has been peer reviewed. Past performance has shown that the models are not biased toward under or overestimates.

The air quality model selected for this technical analysis was CAMx (version 4.30), an Eulerian photochemical grid model developed by ENVIRON and approved by US EPA for this use. CAMx allows for integrated "one-atmosphere" assessment of ozone and Pm2.5. More notable features of CAMx include flexi-nesting, which allows for reconfiguration of nested grids within the model, multiple gas phase chemistry mechanism options, Plume-in-Grid (PiG) and Ozone Source Apportionment Technology. CAMx modeling is performed on a Linux computing platform with a Portland Group (PGI) Fortran compiler to create executable files.

5.1.4 Meteorology Selection

The final version of the U.S. EPA's "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5 and Regional Haze" (EPA-454/B-07-002, April 2007) recommends using episode days with peak 8-hour ozone model predictions of 0.085 parts per million or higher in the attainment test.

Four criteria are recommended by U.S. EPA to be met in order to establish meteorology and time periods to base an adequate attainment demonstration. The four factors are:

1) simulate a variety of meteorological conditions during a summer in which observed 8-hour daily maxima for ozone is greater than .084 ppm at multiple monitoring sites;
2) model time periods in which observed concentrations are close to the baseline design

value;
3) model periods for which extensive air quality/meteorological data exists; and
4) model a sufficient number of days so the modeled attainment test applied at each monitoring site violating the NAAQS is based on multiple episode days.

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 high ozone months of May, June, July, August and September compare to normal temperatures for the Cincinnati nonattainment area. Temperature information was taken from the National Weather Service (NWS) Station at Cincinnati Municipal Airport in Lunke, Ohio (Station Number 331576). Table 5.1 shows the average maximum temperatures and the percent difference from normal for each year.

Table 5.1

Analysis of Maximum Temperatures for the Cincinnati Nonattainment Areas

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

	Normal	1997		1998		1999		2000		2001	
	Max	Max	%	Max	%	Max	%	Max	%	Max	%
May	74.8	67.2	-10	76.8	3	75.7	1	75.6	1	75.1	0
June	82.7	77.6	-6	80.4	-3	83.6	1	81.2	-2	80.1	-3
July	86.7	86.3	0	83.4	-4	89.9	4	81.9	-6	83.9	-3
August	85.1	81.4	-4	85.4	0	83.9	-1	81.4	-4	83.8	-2
September	78.7	77.3	-2	84.1	7	81.9	4	74.9	-5	74.5	-5
AVE. May-Sept.	81.6	77.9	-4	82	1	83	2	79	-3	79.5	-3
	Normal	2002		2003		2004		2005		2006	
	Max	Max	%	Max	%	Max	%	Max	%	Max	%
May	73.5	70.5	-6	70.5	-6	76.5	2	71.6	-4	71.9	-4
June	82.1	83.1	0	76.9	-7	80.4	-3	85.3	3	80.1	-3
July	85.6	89	3	83.5	-4	82.3	-5	86.5	0	86.7	0
August	83.7	88	3	83.5	-8	80.2	-6	87.5	3	87	2
September	77.4	82.8	5	74.6	-5	79	0	81.6	4	73.1	-7
AVE. May-Sept.	80.5	82.7	1	77.8	-5	79.7	-2	82.5	1	79.8	-2

Cincinnati's monthly maximum temperatures for the previous ten years (1997 – 2006) during the summer months of May, June, July, August, and September are compared to normal summer month temperatures in Table 5.1. Overall, the temperatures during the 1998, 1999, 2002 and 2005 summer months were 1% to 2% above normal while temperatures during the 2000, 2001, 2003, 2004 and 2006 summer months were normal to 3% - 5% lower than the normal temperatures

The modeling used for this attainment demonstration focused on the summer months of June, July and August of 2002. The meteorological period meets the four criteria listed above. The number of days that were modeled with concentrations at 0.085 ppm or greater for each of the Ohio and Kentucky monitors can be found in Table 5.2.

Table 5.2
Number of Modeled Days Exceeding 0.085 ppm for Ozone Attainment Test

County	Monitor ID	Number of Days at .085 ppm or greater
Boone	210150003	29
Campbell	210370003	26
Kenton	211170007	29
Butler	390170004	21
Clermont	390250022	25
Clinton	390271002	14
Hamilton	390610006	25
Warren	391650007	22

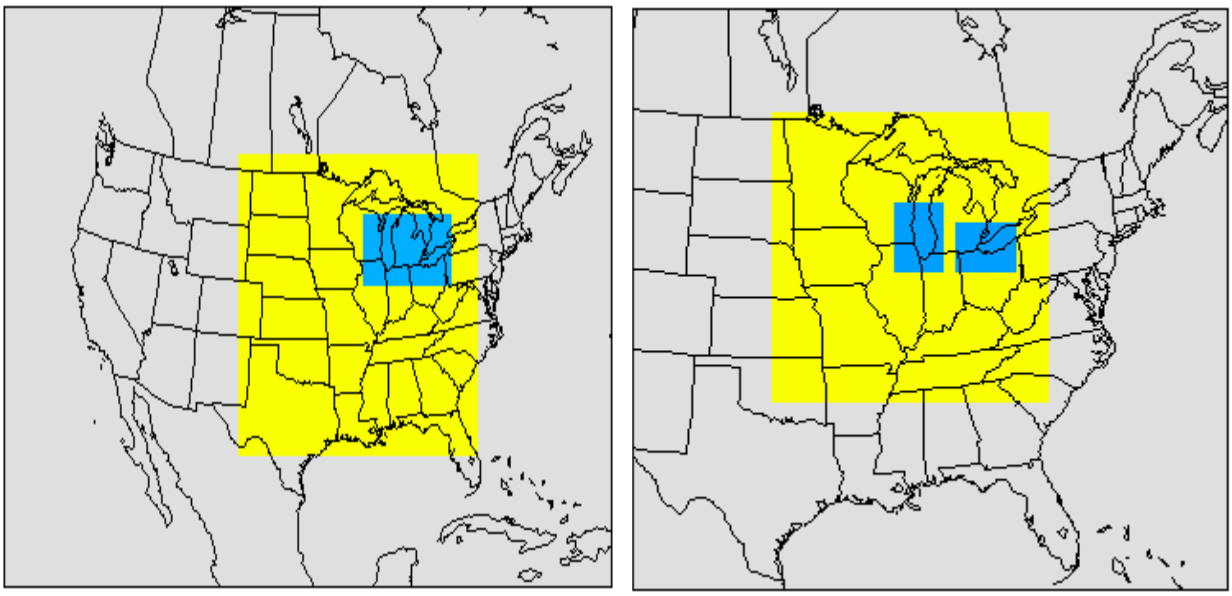
Episodes are based upon weather features such as location of high or low pressure systems influencing the area, wind speed and wind direction. Modeling episodes were selected on the basis of similarity of peak ozone to the design value with the minimum baseline threshold value of 0.085 ppm (recommended by US EPA), frequency of the episode type's occurrence, data availability, and geographic extent of high concentrations. Ozone episodes usually feature surface high-pressure systems and upper-level ridges which generally bring sunny skies, hot temperatures, light winds and trap ozone closer to the ground. US EPA recommends a minimum of 10 modeled days in order to produce a robust relative response factor (RRF) for the attainment test.

5.1.5 Modeling Domain

The domain for this modeling analysis was approximately centered on the Midwest portion of the country, including the Cincinnati nonattainment area. The meteorological modeling domain consisted of a 36 kilometer grid that extended over the entire continental United States with a 12 kilometer modeling domain over the Midwest and Central parts of the United States. The photochemical modeling grid consisted of a 36 kilometer grid with a 2-way nested 12 kilometer grid over the MRPO 5-state region and adjacent states. Selection of the domain was based upon distribution of emission sources, locations of meteorological and air quality monitoring sites, and typical meteorological conditions associated with ozone episodes in the area. Figure 5.1 shows the meteorological and emissions modeling domain.

Figure 5.1
MRPO Modeling Domains

Meteorological Photochemical



Meteorological inputs were processed using the National Center for Atmospheric Research (NCAR) 5th generation Mesoscale Model (MM5) version 3.6.1. A more detailed explanation of the inputs for the MM5 model are listed on page 3 of 30 of the "Addendum Modeling Protocol: Technical Details" (Baker 2006), included in Appendix H.

5.1.6 Emissions and Chemistry Inputs

Emissions data for input to the photochemical model were processed using the Emissions Modeling System (EMS-2003). Anthropogenic emissions were determined for weekday, Saturday and Sunday for each month. Point and area source emission inventories were developed from 2002 National Emission Inventory (NEI), State Consolidated Emissions Reporting Rule (CERR) submittal and inventories received from surrounding Regional Planning Organizations.

On-road emissions were estimated using the MOBILE6.2 model and vehicle miles traveled (VMT) taken from the 2002 NEI. On-road temporal data were based on traffic count data and default temporal tables were modified for better weekend day VMT data. Off-road emissions were estimated with NONROAD2004 and NMIH models.

Biogenic emissions were estimated with EMS-2003 using the Biogenic Emissions Inventory System (BEIS3) model. Land use dataset, taken from the Biogenic Emissions Land use Database (BELD3) was input to the biogenic model. Temperature data output and hourly satellite photosynthetically activated radiation (PAR) were also input into the biogenic emissions model.

Photolysis rates used in the model were calculated from the Tropospheric Ultraviolet-Visible (TUV) radiation model. Gas phase chemistry was based on Carbon Bond IV (CB4) results for high NO_x conditions, found in more urban areas and regional acid deposition model (RADM) and Statewide Air Pollution Research Center (SAPRC99) mechanism were developed for low NO_x conditions, found in more rural areas. The Secondary Organic Aerosol

Formation/Partitioning (SOAP) organic chemistry and Inorganic Aerosol Thermodynamics/Partitioning (ISORROPIA) for inorganic chemistry were used in CAMx v4.30.

5.1.7 Comparison of Predicted and Actual Ozone Values

The purpose of the CAMx photochemical model is to predict ozone levels in the future; therefore its performance can be verified by comparing projected episodes to actual episodes of the projected year. The modeled concentrations were similar to actual 2002 monitored concentrations both in character and ozone level. The combination of high temperatures, lighter winds and clear days that maximize ozone production and transport are evident in 2002. 2002 is considered an extreme ozone summer because 8-hour ozone readings throughout the Midwest were at high levels in many areas of the modeling domain.

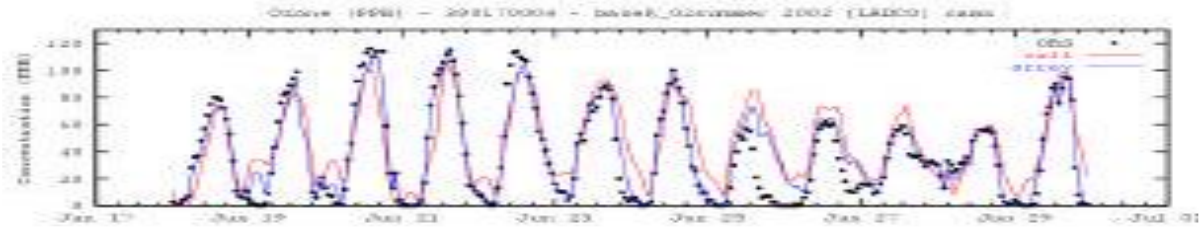
5.1.8 Model Performance

Various inputs such as emissions, air quality, and meteorology were assembled and the model was run for the summer of 2002. This simulation used actual emissions and meteorology from 2002 which were modeled to predict ozone concentrations throughout the domain. CAMx performance was compared to US EPA acceptance criteria and found to be acceptable. It was concluded that base case inputs and simulation results provided an adequate basis for the evaluation of the effects of future-year emissions changes on ozone within the modeling domain.

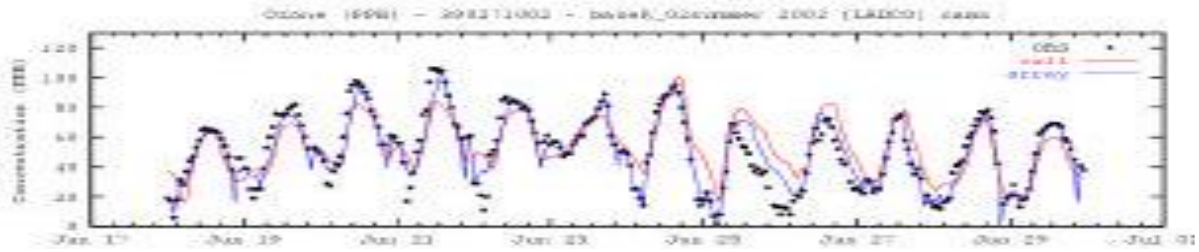
One way to assess model performance is to compare the time series plots; which compare the observed monitored data with the modeled concentrations. Figure 5.2 below shows the time series plots for Butler and Clinton Counties in the Cincinnati nonattainment area. The diurnal (daily) pattern of ozone can be seen for each day and the concentrations track fairly well. The observed monitored concentrations are compared to both the modeled concentration at the grid cell that the monitor resides and the modeled concentration at the array of grid cells surround the monitor. The better the ozone concentrations compare, the better the model performance.

Figure 5.2
Time Series Plots for Cincinnati 8-Hour Ozone Nonattainment Area

Cincinnati (Butler County), OH



Clinton County, OH

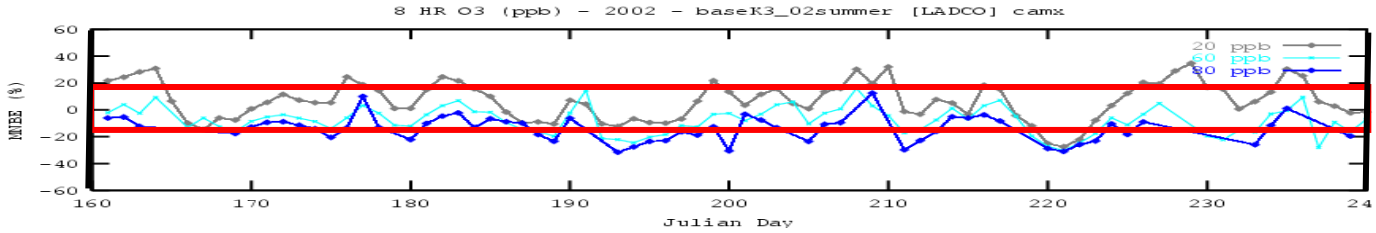


Model performance metrics that US EPA recommend be used to evaluate the accuracy of the modeled concentrations compared to the observed concentrations are:

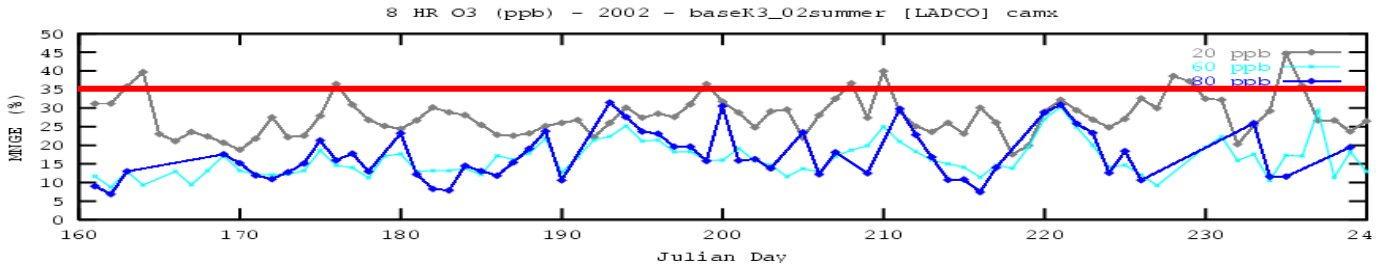
1) **Mean Normalized Bias (MNB)** – Averages the model/observation residual, paired in time, normalized by observations over all monitors
2) **Mean Normalized Gross Error (MNGE)** – Averages the absolute value of the model/observation residual, paired in time, normalized by observations over all monitors
3) **Average Peak Prediction Bias and Error -** Assesses the ability of the model to predict daily peak 1-hour and 8-hour ozone, considering only the daily maxima data at each monitoring location.

Examples of the LADCO Round 4 model performance, based on the MNB and MNGE, are found in Figure 5.3 As shown in this figure, the performance improves as the minimum 8-hour ozone threshold increases, from 0.020 ppm to 0.060 – 0.080 ppm.

Figure 5.3
Model Performance Metrics for LADCO's Round 4 Attainment Demonstration
Mean Normalized Bias



Mean Normalized Gross Error



Results of the model performance show that the LADCO Round 4 ozone modeling is within model performance guidance and is acceptable as SIP quality photochemical modeling.

5.1.9 Future-year Applications

After the base episodes were modeled and determined to be within accuracy parameters, several future-year exercises were performed such as projecting emissions to 2008 and 2009 and modeling the projected emission reductions from national, regional and local control measures that are in effect or considered "on the books". This includes the NO_x SIP Call and Clean Air Interstate Rule (CAIR) as well as the latest gasoline and engine control measures.

5.1.10 Results of 2002/2008 CAMx Modeling Analysis

The modeled attainment demonstration consists of analyses that estimate whether existing and future emissions reductions along with appropriate growth factors for future emissions will result in future ambient concentrations that will meet the NAAQS and identify a set of emission control measures that will ensure that an area will continue to attain the NAAQS in the future. In order to make this determination, a modeled attainment test is required. The modeled attainment test is an analysis that uses an air quality model (i.e., photochemical model – CAMx) to simulate current and future air quality for a region. US EPA recommends this test be used in a "relative" sense rather than an "absolute" sense. Future year design values are calculated using the RRF and gives a relative estimate of modeled concentrations, based on growth and control factors.

Attainment Test

In modeling the current and future air quality, ratios of the future modeled air quality to the current modeled air quality at all monitors are calculated. These ratios are called relative response factors and are used to determine the relative response factors (RRFs) at each monitoring site. The RRFs are then multiplied by the observation-based, monitor-specific, "baseline" design value. The resulting modeled future design value is then compared to the NAAQS.

The formula used to calculate the relative response factor and the future year design value from the attainment test is listed below:

Relative Response Factor
RRF = (mean 8-hour daily future maximum modeled concentration) / (mean 8-hour daily baseline maximum modeled concentration)

Modeled Attainment Test

DVf = RRF * DVb

DVb = baseline concentration monitored design value
RFF = relative response factor
DVf = estimated future design value for the attainment period

Table 5.3 shows the results of the 2008 modeling and illustrates that all monitored areas in the Cincinnati nonattainment area will attain the NAAQS with the exception of the Hamilton County, OH ozone monitor (monitor ID 390610006).

Table 5.3
LADCO Round 4 Modeling for Cincinnati Nonattainment Area
Modeled Attainment Year 2008

Monitor	County	AVGDV	RRF	FYDV
		(ppm)		(ppm)
3901700041	Butler	.089	0.93	0.083
3901710043	Butler	.087	0.922	0.080
3902500221	Clermont	.089	0.928	0.082
3902710021	Clinton	.094	0.900	0.084
3906100061	Hamilton	.090	0.946	0.085
3906100101	Hamilton	.085	0.925	0.079
3906100401	Hamilton	.086	0.944	0.081
3916500061	Warren	.087	0.921	0.080
2101500031	Boone	.083	0.901	0.075
2103700031	Campbell	.090	0.934	0.084
2111700071	Kenton	.085	0.925	0.078

US EPA's ozone modeling guidance allows states to conduct a "weight-of-evidence" (WOE) demonstration if future year modeled design values are "close" to the standard (i.e., 0.082 - 0.087

ppm), to determine if aggregate supplemental information support the modeling result.

5.1.11 Results of 2002/2009 CAMx Modeling Analysis

Further modeling show that the area will attain the standard (future year value below 0.085 ppm) in 2009 and continue to maintain the standard thereafter. Table 5.3 shows the results of the 2009 modeling and illustrates that all monitored areas in the Cincinnati nonattainment area will attain the NAAQS.

Table 5.4
LADCO Round 4 Modeling for Cincinnati Nonattainment Area
Modeled Attainment Year 2009

Monitor	County	AVGDV	RRF	FYDV
		(ppm)		(ppm)
3901700041	Butler	0.089	0.919	0.082
3901710043	Butler	0.087	0.910	0.079
3902500221	Clermont	0.089	0.919	0.081
3902710021	Clinton	0.094	0.885	0.083
3906100061	Hamilton	0.090	0.938	0.084
3906100101	Hamilton	0.085	0.915	0.078
3906100401	Hamilton	0.086	0.938	0.080
3916500061	Warren	0.087	0.908	0.079
2101500031	Boone	0.083	0.890	0.074
2103700031	Campbell	0.090	0.928	0.084
2111700071	Kenton	0.085	0.915	0.077

5.2 UNMONITORED AREA ANALYSIS

Dearborn County has been included in the Cincinnati nonattainment area, however there is no current air quality ozone data available for the county. Therefore, it is difficult to assess the exact air quality in the county. US EPA has addressed this issue in the attainment test guidance. The purpose of the unmonitored analysis is to use photochemical modeling and ambient air quality data from surrounding monitors to identify areas, without ozone monitors, that might exceed the 8-hour ozone NAAQS.

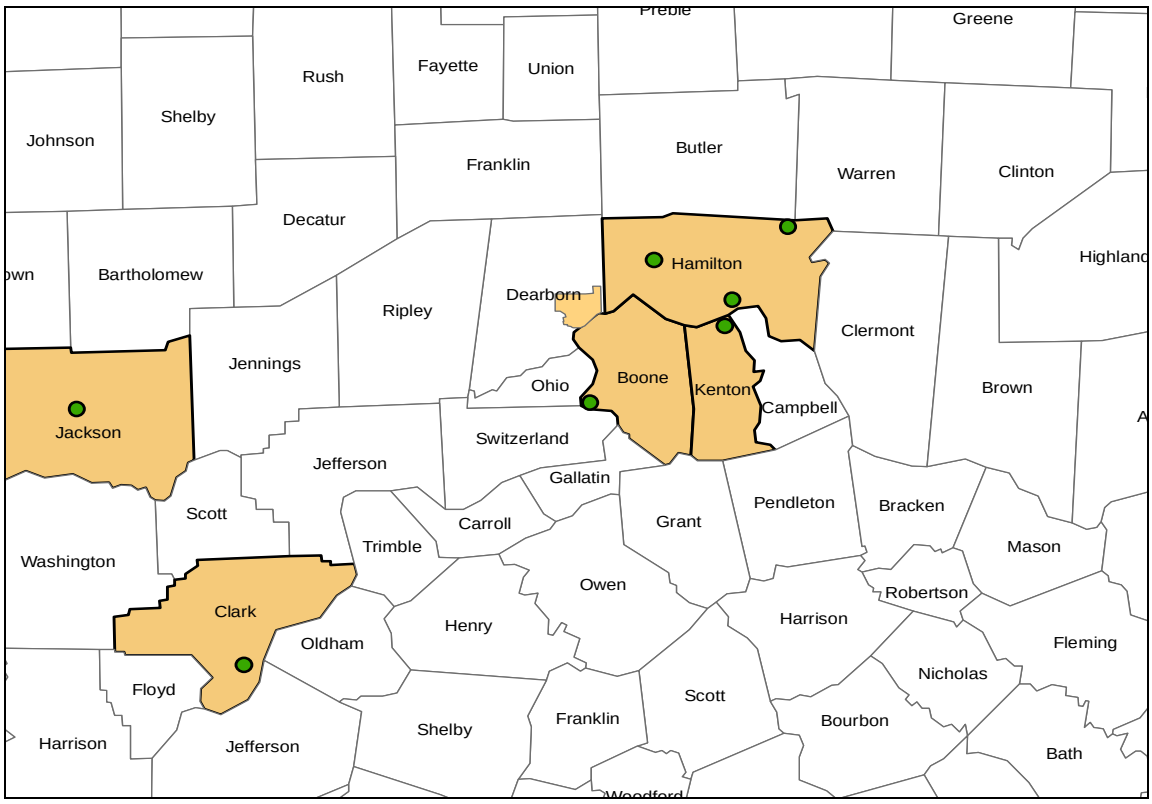
Interpolating concentrations between surrounding monitors is the best way to determine concentrations in unmonitored areas; generally concentrations at unmonitored areas will be the same or lower than nearby monitored locations. The monitors in the area surrounding Dearborn County show a downward trend in air quality values, as shown in Table 5.5. The 3-year average design values over the past seven years has shown decreasing ozone concentrations in the southeast Indiana area. Monitors reviewed represent upwind monitors in Boone and Kenton Counties in Kentucky and Clark County (Louisville area) and Jackson County, in Indiana and nearby downwind monitors in Hamilton County in Ohio (refer to Figure 5.2).

Table 5.5

Design Values for Surrounding Upwind and Downwind Ozone Monitors

Monitor	County	2001-2003	2002-2004	2003-2005	2004-2006
		(ppm)	(ppm)	(ppm)	(ppm)
210150003	Boone	0.085	0.081	0.077	0.074
211170007	Kenton	0.086	0.083	0.079	0.077
390610010	Hamilton	0.088	0.086	0.082	0.080
390610004	Hamilton	0.087	0.085	0.082	0.080
180190003	Clark	0.092	0.088	0.081	0.077
180710001	Jackson	0.085	0.080	0.075	0.073

Figure 5.4
Map of Monitors Upwind and Downwind of Dearborn County



In addition, modeled concentrations at the surrounding ozone monitors in the area show the entire area will attain the NAAQS. The monitors closest to Dearborn County will attain the NAAQS by 2008. Table 5.6 shows the future year modeled results, taken from the US EPA and LADCO modeling, showing the ozone monitors surrounding Dearborn County will have design values below 0.085 ppm and will attain the 8-hour ozone NAAQS. It can be concluded that Dearborn County will have concentrations that are the same or less than the surrounding monitors and will also attain the 8-hour ozone NAAQS.

Table 5.6

Modeled Future Year Design Values
for Surrounding Upwind and Downwind Ozone Monitors

Monitor	County	US EPA CAIR 2010 (ppm)	LADCO CAIR 2008 (ppm)	LADCO CAIR 2009 (ppm)
210150003	Boone	0.0731	0.0753	0.0745
211170007	Kenton	0.0756	0.0847	0.0778
390610010	Hamilton	0.0786	0.0793	0.0784
390610040	Hamilton	0.0786	0.0812	0.0807
180190003	Clark	0.0780	0.0834	0.0825
180710001	Jackson	N/A	0.0737	0.0724

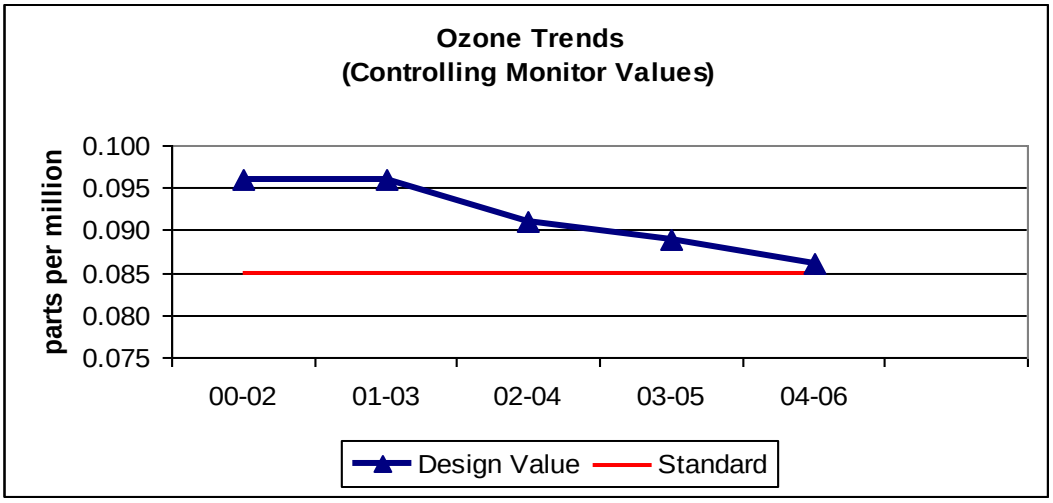
5.3 AIR QUALITY TRENDS

One benchmark for attainment with the ozone standard is the area's design value. Table 5.7 shows the yearly trend in the design value for the area since 2003. This value is obtained from the fourth-highest value from all the monitor locations in the nonattainment area for the three year period of interest. The highest of these fourth-high readings is the design value.

Table 5.7
Ozone Design Values

Year	Design Value [in ppm] (Monitor Location)	3-Year Period
2003	.096 (Clinton)	2001-2003
2004	.091 (Clinton)	2002-2004
2005	.089 (Warren)	2003-2005
2006	.086 (Warren)	2004-2006

Chart 5.1
Ozone Design Values



As shown in Chart 5.1, the data show a significant and continual decline in this important value since the implementation of the control strategy for the nonattainment area. In fact, the nonattainment area's 2004-2006 design value is close to the lowest level possible without showing attainment of the ozone standard.

To give a more complete picture of the air quality improvement in the nonattainment area, Table 5.8 lists the design values for each of the ambient ozone monitors in the eight counties of the nonattainment area:

Table 5.8
Historical Design Values for Cincinnati Nonattainment Area from 1996-2006

	Monitor ID	96-98	97-99	98-00	99-01	00-02	01-03	02-04	03-05	04-06
		(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm	(ppm)	(ppm)
Butler Co	390170004	0.090	0.091	0.089	0.087	0.088	0.092	0.090	0.085	0.080
Butler Co	390171004	0.093	0.093	0.091	0.089	0.090	0.089	0.085	0.082	0.080
Clermont Co	390250020	0.091	0.093	0.094						
Clermont Co	390250022				0.089	0.090	0.086	0.084	0.079	0.079
Clinton Co	390271002	0.098	0.098	0.099	0.096	0.096	0.092	0.087	0.082	0.081
Hamilton Co	390610006	0.092	0.092	0.088	0.086	0.090	0.092	0.088	0.085	0.082
Hamilton Co	390610010	0.084	0.085	0.085	0.082	0.085	0.086	0.085	0.081	0.080
Hamilton Co	390610040				0.085	0.088	0.086	0.084	0.081	0.080
Warren Co	391650006	0.096	0.095	0.093	0.089	0.090	0.086	0.088		
Warren Co	391650007								0.086	0.086
Boone Co	210150003	0.083	0.085	0.086	0.086	0.087	0.085	0.081	0.077	0.074
Campbell Co	210371001	0.088	0.089							
Campbell Co	210370003					0.094	0.092	0.088	0.084	0.083
Kenton Co	211170007	0.088	0.089	0.090	0.087	0.088	0.086	0.083	0.079	0.077

Chart 5.2 shows the design values for the Cincinnati ozone nonattainment area from 1996

through the 2006 period.

Chart 5.2
Ozone Design Values

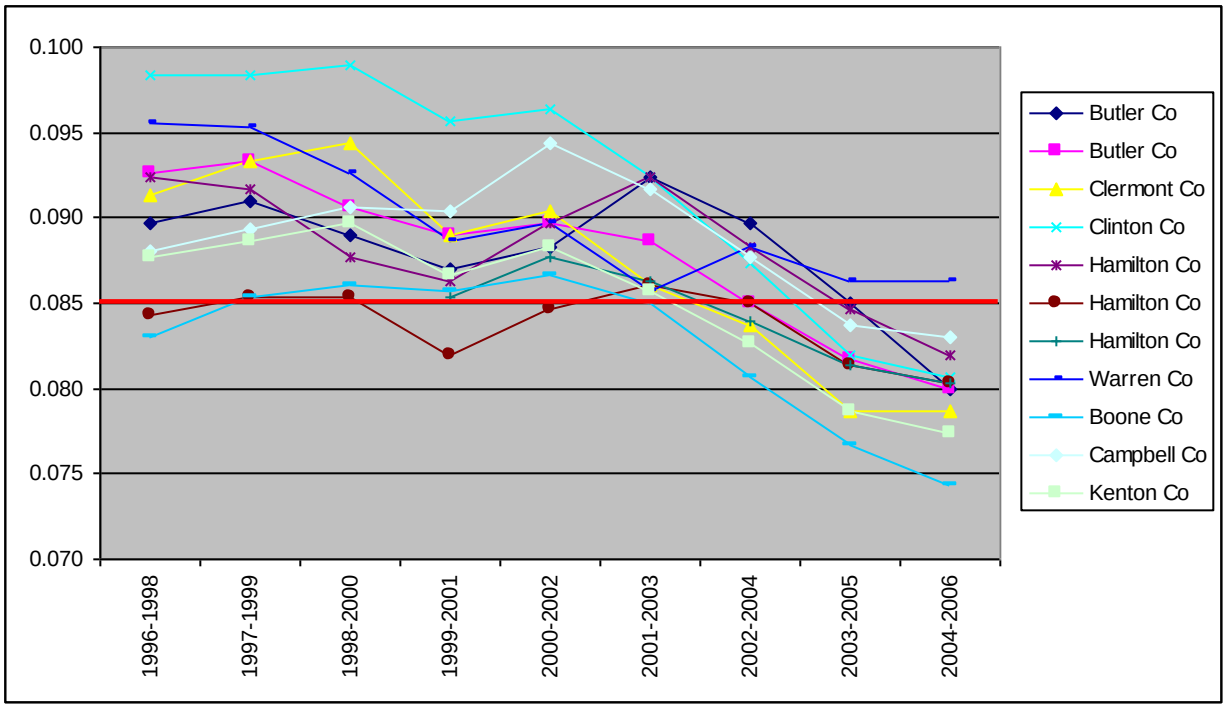
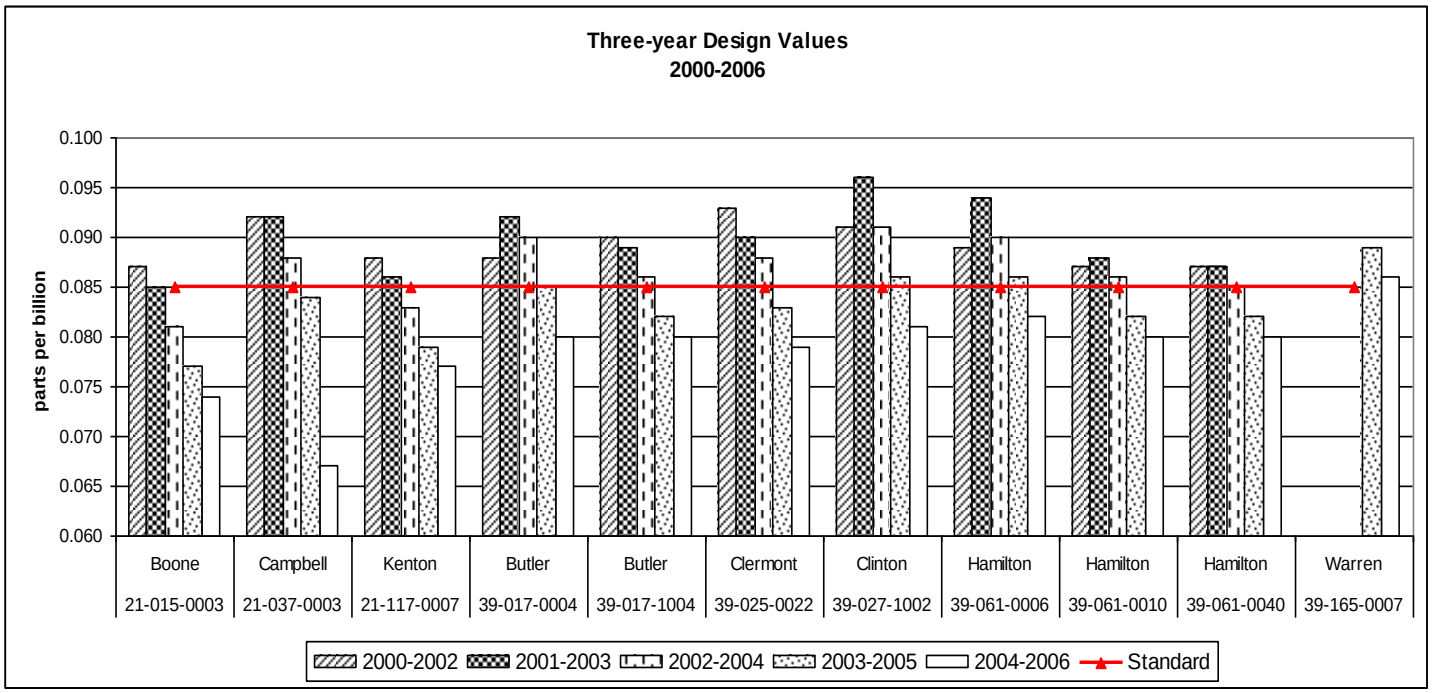


Chart 5.3
Ozone Design Values



5.4 EMISSIONS TRENDS ANALYSIS

Tables 5.9 and 5.10 compare 2002 actual VOC and NO_x emissions, which were used in the modeling demonstration, to the projected 2008 and 2009 emissions. Most of the projected 2009 emissions were lower than the actual 2002 emissions due to the various national, regional and local emission reductions that have been mandated. The only increases in emissions from 2002 to 2009, based on the current emission control strategies modeled were the VOC point and area source emissions. The increases were nominal amounts ranging from 1-6%. These increases can be attributed to growth in the point and area source emission sectors. Despite these categorical increases, lower ozone concentrations shall occur, due to the larger offsetting emissions decrease from the other emission sectors.

The county VOC and NO_x emissions that were modeled for 2002, 2008 and 2009 were calculated and are listed below. Table 5.9 shows the VOC emissions that were modeled, broken down by state and by emission source sectors (point, area, mobile, and non-road). The projected 2008 and 2009 emissions from each of the nonattainment counties in Indiana and Ohio were pulled from the LADCO emission inventory files (Appendix J). However, the emissions were not able to be extracted for the Kentucky counties because they are located in another regional planning organization.

Table 5.10 shows the NO_x emissions that were modeled, broken down by state and by emission source sectors (point, area, mobile, and non-road). The projected 2008 and 2009 emissions from each of the nonattainment counties in Indiana and Ohio were pulled from the LADCO modeling emission inventory files. However, emissions for the Kentucky counties were not able to be extracted because they are located in another regional planning organization.

The information in this section and the tables will be updated with information from Ohio and Kentucky prior to the final submittal of this document.

Table 5.9
VOC Emission Trends from Photochemical Modeling Inventory

Area	Source Category	2002 Emissions (tpd)	2008 Emissions (tpd)	2009 Emissions (tpd)	% Reduction 2009-2002
Indiana Dearborn County	Point	1.28	1.35	1.36	-5.7%
	Area	2.11	2.20	2.21	-4.9%
	Mobile	3.47	2.12	1.89	45.4%
	Nonroad	0.96	0.67	0.63	34.7%
	Total	7.82	6.33	6.09	22.1%
Ohio	Point	5.26	5.31	5.33	-1.3%
	Area	44.73	46.34	46.66	-4.3%
	Mobile	61.11	37.54	33.70	44.9%
	Nonroad	24.59	17.23	16.04	34.8%
	Total	135.69	106.43	101.72	25.0%
Kentucky	Point	3.63	3.85	3.87	-6.2%
	Area	22.03	21.53	21.59	2.0%
	Mobile	37.17	34.13	16.21	56.4%
	Nonroad	8.13	6.81	6.61	18.7%
	Total	70.96	66.32	48.28	32.0%
Total for Cincinnati-Hamilton Ozone Non-attainment Area	Point	10.17	10.51	10.56	-3.7%
	Area	68.87	70.07	70.46	-2.3%
	Mobile	101.75	73.79	51.8	49.1%
	Nonroad	33.68	24.71	23.28	30.9%
	Total OH/KY/IN	**214.47**	**179.08**	**156.10**	**27.22%**

Table 5.10
NO_x Emission Trends from Photchemical Modeling Inventory

Area	Source Category	2002 Emissions (tpd)	2008 Emissions (tpd)	2009 Emissions (tpd)	% Reduction 2009-2002
Indiana Dearborn County	Point	22.66	10.71	10.70	52.8 %
	Area	1.463	1.42	1.42	3.1%
	Mobile	4.43	2.65	2.36	46.8%
	Nonroad	0.70	0.57	0.55	21.9%
	Total	29.25	15.35	15.021	48.7%
Ohio Counties	Point	187.25	122.77	117.46	37.3%
	Area	16.79	15.76	15.61	7.0%
	Mobile	70.35	41.98	37.33	46.9%
	Nonroad	16.06	12.78	12.25	23.7%
	Total	290.44	193.29	182.66	37.1%
Kentucky Counties	Point	15.31	13.23	4.08	73.4%
	Area	10.48	11.32	11.16	-6.1%
	Mobile	28.39	24.99	23.13	18.5%
	Nonroad	21.35	22.51	22.28	-4.2%
	Total	75.53	72.05	60.65	19.7%
Total for Cincinnati-Hamilton Ozone Non-attainment Area	Point	225.22	146.71	132.24	41.3%
	Area	28.73	28.50	28.19	1.9%
	Mobile	103.17	69.62	62.82	39.1%
	Nonroad	38.11	35.86	35.08	8.0%
	Total OH/KY/IN	**395.23**	**280.69**	**258.33**	**34.6%**

5.5 NO_X EMISSIONS

The US EPA NO_x SIP Call required twenty-two (22) 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 previous uncontrolled years.

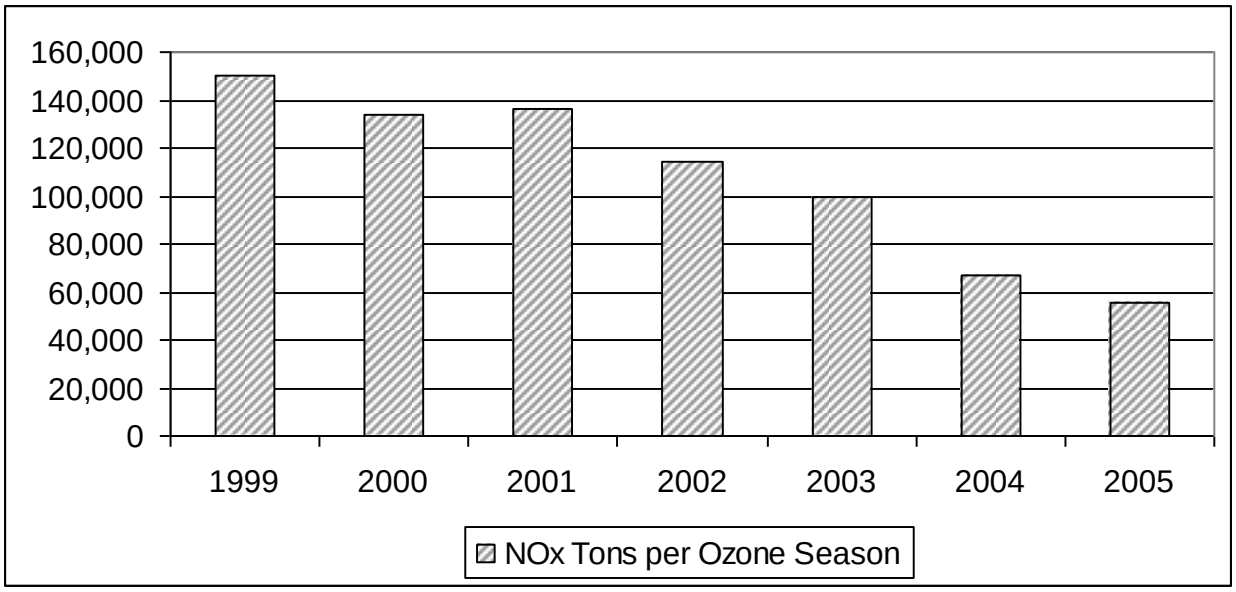
Twenty-one other states have also adopted these rules. The result is that significant reductions have occurred upwind and within the Cincinnati ozone nonattainment area because of the number of affected units within the region. From Chart 5.4 it can be seen that emissions covered by this program have been trending downward since 1999. Table 5.11, 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 Clean Air Act Amendments and the first phase of the NO_x SIP Call Rule. This cap will stay in place through 2008, at which time the caps in the CAIR program will supersede it.

Further, US EPA has recently published Phase II of the NO_x SIP Call that establishes a budget for large (greater than 1 ton per day emissions) stationary internal combustion engines. This rule will decrease emissions statewide from natural gas compressor stations by 4,263 tons during the ozone season. This rule became effective February 26, 2006. Implementation of this rule will be in 2007.

TABLE 5.11
Trends in EGU Ozone Season NO_x Emissions Statewide in Indiana

Year	NO_x Emissions tons / ozone season
1997	152,834
1998	159,931
1999	149,827
2000	133,881
2001	136,121
2002	114,082
2003	99,967
Cap 2004-2009	43,654

Chart 5.4
Indiana Statewide EGU Ozone Season NO_x Emissions



5.6 ADDITIONAL CONTROL MEASURES

This section provides a summary of the additional control measures that have been or will be implemented in the nonattainment area that were not included in the modeling demonstration.

5.6.1 Federal Controls

* Portable Fuel Container (Gas Can) Controls

US EPA issued a proposed rule on March 29, 2006 (71 FR 15830) to regulate VOC emissions from portable gasoline containers, or gas cans. Portable fuel containers are consumer products used to refuel a wide variety of gasoline-powered equipment, including lawn and garden equipment, recreational equipment, and passenger vehicles that have run out of gas. The proposed standards would reduce hydrocarbon emissions from evaporation, permeation, and spillage. These standards would significantly reduce benzene and other toxics, as well as VOC more generally.

The rule proposed a performance-based standard of 0.3 grams per gallon per day of hydrocarbons, based on the emissions from the can over a diurnal test cycle. The standard would apply to gas cans manufactured on or after January 1, 2009. We also propose test procedures and a certification and compliance program, in order to ensure that gas cans would meet the emission standard over a range of in-use conditions. The proposed standards would result in the use of best available control technologies, such as durable permeation barriers, automatically closing spouts, and cans that are well-sealed.

Emission reductions expected to be 18% by 2009, 54% reduction at full implementation in 2015.

* Small Non-Road Engine Rule

On April 17, 2007, US EPA proposed a rule to control emissions from new gasoline-powered small non-road engines, including lawn and garden equipment (<25 hp) and recreational watercraft. Under the proposed rule, the exhaust emission standards for Class I non-road engines would take effect in 2012 and for Class II engines in 2011; the watercraft standards would take effect in 2009. EPA anticipates that when fully implemented, the proposed standards would result in a 70 percent reduction in hydrocarbon + NO_x emissions and a 20 percent reduction in CO from new engines' exhaust, as well as a 70 percent reduction in evaporative emissions.

5.6.2 Indiana Statewide Controls

IDEM is proposing to implement several statewide VOC control rules. Through MRPO consultation, the other MRPO states (Illinois, Indiana, Michigan, Ohio, and Wisconsin) have also agreed to implement a series of similar controls to address regional ozone and particulate matter nonattainment areas in the upper Midwest. The rules will apply region-wide to consumer and commercial products, automobile refinishing operations, cold cleaning degreasing, architectural and industrial maintenance (AIM) and Stage I vapor recovery.

* Consumer and Commercial Products (326 IAC 8)

Proposed new rule to adopt OTC model rule with additional product coverage and more stringent VOC limits (14.2 % reduction beyond Federal Part 59 rule, for a total reduction of 21% from uncontrolled emissions.

* Architectural and Industrial Maintenance (AIM) Coatings (326 IAC 8-14)

This rule will adopt more stringent VOC limits for AIM coatings based on OTC model rule, 21% reduction beyond Federal Part 59 limits.

* Automobile Refinishing Operations (326 IAC 8-10)

This rule will extend existing regulations statewide. Expect 55% reduction from uncontrolled emissions, 24% reduction beyond Federal Part 59 limits.

* Cold Cleaning Degreasing (326 IAC 8-9)

The existing regulation establishes a vapor pressure limit for solvents used in cold cleaning degreasers in Clark and Floyd Counties. Reducing the vapor pressure of the solvent used in turn results in decreased emission of VOC and HAP. IDEM proposed new regulations to extend this requirement statewide.

* Stage I Vapor Recovery (326 IAC 8-4)

The existing regulation requires gasoline dispensing facilities with a monthly gasoline throughput of 10,000 gallons per month or greater to vapor balance systems to collect gasoline vapors displaced during the transfer of gasoline between storage tanks and delivery trucks. The proposed rulemaking will amend 326 IAC 4-1 to apply to all gasoline dispensing facilities regardless of when the storage tank was installed. IDEM

estimates that the rules requiring submerged loading and vapor balancing achieve a 90% reduction in VOC emissions versus uncontrolled underground storage tank loading.

6.0 WEIGHT OF EVIDENCE (WOE) DEMONSTRATION

US EPA's ozone modeling guidance allows states to conduct a "weight-of-evidence" (WOE) demonstration if future year modeled design values are "close" to the standard (i.e., .082-.087 ppm), to determine if aggregate supplemental information support the modeling result (see "Guideline on the Use of Models and Other Analysis in Attainment Demonstrations for the 8-hour Ozone NAAQS", October 2005).

Because the 2008 and 2009 future year design values for the Cincinnati area are so close to the air quality standard (0.0854 and 0.0847 ppm, respectively) Ohio, Indiana and Kentucky are using a weight of evidence demonstration to show that the nonattainment area will in fact attain the ozone standard by June 15, 2009.

The WOE demonstration relies on existing modeling conducted by LADCO and US EPA for CAIR; US EPA modeling results addressing the Heavy Duty Engine and Vehicle Standards and Highway Diesel Fuel Rule, current modeling analysis using an alternate base year (2005), an analysis using an alternate base year design value calculation and additional control measures to be implemented that were not included in the modeling analyses. The supporting WOE analysis supports the fact that the design value will continue downward and leads to the conclusion that the nonattainment area will comply with the ozone standard by the attainment date.

6.1 RESULTS FROM EXISTING MODELING

6.1.1 US EPA Modeling for Clean Air Interstate Rule (CAIR), 2005

On March 10, 2005, the U.S. EPA finalized the Clean Air Interstate Rule (CAIR). US EPA estimates that NO_x emissions from power plants will be cut by 1.7 million tons by 2009 in 28 eastern states and the District of Columbia. As a result of implementation of CAIR, affected Indiana sources will reduce NO_x emissions by 113 thousand tons from 2009 emissions projections without CAIR and 149 thousand tons from 2015 emissions projections without CAIR.

U.S. EPA performed modeling to support the associated emission reductions. The modeling was based on 2000 through 2002 design values. Future year modeling was conducted, including the counties within the Cincinnati-Hamilton, OH-KY-IN ozone nonattainment area, and the future year design values for 2010 and 2015 were evaluated for attainment of the 8-hour ozone NAAQS, as shown below in Table 6.1.

Results of the CAIR modeling show that the Cincinnati basic ozone nonattainment area will attain the 8-hour ozone NAAQS in 2010 with modeled concentrations reduced by 12 % to 15%, and remain below 0.085 ppm. With further reductions projected in CAIR for 2015, all design values continue to decrease by 15% to 20% and continue to attain the 8-hour ozone NAAQS.

Table 6.1
Modeling Results from U.S. EPA for the Clean Air Interstate Rule

State	County	Design Value 2000-2002	Future Design Value 2010 with CAIR	Future Design Value 2015 with CAIR
		(ppm)	(ppm)	(ppm)
Kentucky	Boone	0.086	0.071	0.068
Kentucky	Campbell	0.094	**0.083**	**0.080**
Kentucky	Kenton	0.088	0.077	0.075
Ohio	Butler	0.089	0.077	0.074
Ohio	Clermont	0.090	0.078	0.075
Ohio	Clinton	**0.096**	0.082	0.077
Ohio	Hamilton	0.089	0.079	0.076
Ohio	Warren	0.089	0.077	0.074

It should be noted that the baseline design values (2000-2004) that the modeling is based on are greater than the current design values (2004-2006). The differences between the modeled design value and the current design values at all monitors are 0.003 to 0.015 ppm lower. Applying these modeled RRFs to the current design values is not a true test of the emission reductions realized locally, regionally or nationally. The lower design values indicate improving air quality and future modeling using more current information would appear to yield lower future year concentrations.

6.1.2 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. The "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 attainment demonstration for the Cincinnati nonattainment area 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 formation from these fuel emission control measures and the NO_x SIP call would be decreased in the Cincinnati nonattainment area counties. Relative Response Factors (RRF) were calculated for each monitor in Butler, Clermont, Clinton, Hamilton and Warren Counties in Ohio and the Boone, Campbell and Kenton Counties in Kentucky for future years 2007 and 2020. These RRFs were applied to the three-year (2001-2003) design values at the ozone monitors in the Cincinnati nonattainment area counties. The resulting future year design values for 2007 and 2020 were calculated and are shown below in Table 6.2.

The modeled 2007 future year design values for all monitors in the Cincinnati nonattainment area were reduced by 9% to 15% from the 2001-2003 design values and the modeled 2020 future year design values were reduced by 10% to 18% from the 2001-2003 design values. All ozone monitors are projected to attain the 8-hour ozone NAAQS of 0.085 ppm in 2007 as a result of the Tier II vehicles and low-sulfur fuels rule. It should be noted that the modeling was conducted using 1996 emissions and additional federal emission control measures have been implemented which will lower modeled concentrations.

Table 6.2
Modeling Results from US EPA HDE Rulemaking for Cincinnati Nonattainment Area

Monitor ID	County	State	Design Value 2001-2003	Modeled Relative Response Factor (RRFs)	Future Design Value 2007	Modeled Relative Reduction Factor (RRFs)	Future Design Value 2020
			(ppm)	2007 Control	(ppm)	2020 Control	(ppm)
390170004	Butler Co	Ohio	0.092	0.8957	0.083	0.871	0.080
390171004	Butler Co	Ohio	0.089	0.8816	0.078	0.8507	0.075
390250020	Clermont Co	Ohio	0.086	0.8834	0.076	0.86	0.074
390271002	Clinton Co	Ohio	0.092	0.856	0.079	0.8191	0.076
390610006	Hamilton Co	Ohio	0.092	0.8949	0.083	0.8771	0.081
390610010	Hamilton Co	Ohio	0.086	0.8826	0.076	0.8749	0.075
390610037	Hamilton Co	Ohio	0.086	0.9095	0.079	0.8969	0.077
391650006	Warren Co	Ohio	0.086	0.8851	0.076	0.8576	0.073
210150003	Boone Co.	Kentucky	0.085	0.8478	0.072	0.8205	0.070
210371001	Campbell Co.	Kentucky	0.092	0.8988	0.082	0.8804	0.081
211170007	Kenton Co.	Kentucky	0.086	0.884	0.076	0.8787	0.075

It should be noted that the baseline design values (2001-2003) that the modeling is based on are greater than the current design values (2004-2006). The difference between the modeled design value and the current design values at all monitors are 0.0 to 0.012 ppm lower. While applying these modeled RRFs to the current design values is not true test of the emission reductions realized locally, regionally or nationally, the lower design values indicate improving air quality and future modeling using more current information would appear to yield lower future year concentrations.

6.1.3 LADCO modeling for Clean Air Interstate Rule (CAIR)

LADCO conducted modeling to determine the impact of CAIR in the upper Midwest. The modeling was based on 2000 through 2004 design values. Future year modeling for 2009, 2012, and 2018 was conducted and the future year design values were determined, as shown below in Table 6.3.

Table 6.3
LADCO's Round 4 Modeling Results for the Clean Air Interstate Rule

County	Monitor ID	Design Value 2000-2004	2009 RRF	Basecase with CAIR - 2009	2012 RRF	Basecase with CAIR - 2012	2018 RRF	Basecase with CAIR – 2018
		(ppm)		(ppm)		(ppm)		(ppm)
Boone	210150003	0.0837	0.890	0.0745	0.862	0.0721	0.814	0.0681
Campbell	210370003	0.0907	0.928	0.0842	0.909	0.0824	0.873	0.0791
Kenton	211170007	0.0850	0.915	0.0778	0.892	0.0758	0.850	0.0722

Butler	390170004	0.0897	0.890	0.0824	0.895	0.0803	0.839	0.0752
Clermont	390250022	0.0890	0.915	0.0818	0.896	0.0798	0.842	0.0749
Clinton	390271002	0.0943	0.885	0.0835	0.859	0.0811	0.790	0.0745
Hamilton	390610006	0.0903	0.938	0.0847	0.918	0.0829	0.869	0.0785
Warren	391650007	0.0870	0.908	0.0790	0.885	0.0770	0.823	0.0716

Results of LADCO's CAIR modeling show that all counties in the Cincinnati nonattainment area will attain the 8-hour ozone NAAQS of 0.085 ppm by 2009. Future year modeled ozone concentrations for 2009 will be 6% to 11% lower than baseline ozone design values, 8% to 14% lower in 2012 and 12% to 19% lower in 2018. Ozone concentrations are predicted to continue to decrease and remain in attainment of the 8-hour ozone NAAQS of 0.085 ppm. It should be noted that the baseline design values (2000-2004) that the modeling is based on are greater than the current design values (2004-2006). The difference between the modeled design value and the current design values at all monitors are 0.01 to 0.014 ppm lower. While applying these modeled RRFs to the current design values is not a true test of the emission reductions realized locally, regionally or nationally, the lower design values indicate improving air quality and future modeling using more current information would appear to yield lower future year concentrations.

Results of the CAIR modeling show that all counties in the Cincinnati nonattainment area will attain the 8-hour ozone NAAQS of 0.085 ppm by 2009. Future year modeled ozone concentrations for 2008 will be 5% to 11% lower than baseline ozone design values and 6% to 13% lower in 2009. Ozone concentrations are predicted to continue to decrease and remain in attainment of the 8-hour ozone NAAQS of 0.085 ppm.

Table 6.4
Monitored Design Values for 2004-2006 Compared to Future Year Projected Design Values

Monitor ID	County State	2006 Design Value 2004-2006	Basecase with CAIR - 2008	Basecase with CAIR - 2009
		(ppm)	(ppm)	(ppm)
2101500031	Boone/KY	0.074	.075	.075
2103700031	Campbell/KY	0.067	.084	.084
2111700071	Kenton/KY	0.077	.079	.078
3901700041	Butler	0.080	.083	.082
3901710043	Butler	0.080	.081	.080
3902500221	Clermont	0.079	.083	.082
3902710021	Clinton	0.081	.085	.084
3906100061	Hamilton	0.082	.086	.085
3906100101	Hamilton	0.080	.080	.078
3906100401	Hamilton	0.080	.081	.081
3916500061	Warren	0.086	.080	.079

6.1.4 Summary of Existing Modeling Results

US EPA and LADCO ozone modeling for future year design values consistently demonstrates that existing national emission control measures will bring the Cincinnati ozone nonattainment area into attainment of the 8-hour ozone NAAQS. Emission control measures 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 (CAIR) show that future year design values for the Cincinnati ozone nonattainment area will attain the ozone standard with modeled future year design values below 0.085 ppm. In addition, US EPA future year modeling of national emission control strategies show that the Cincinnati ozone nonattainment area will attain the 8-hour ozone NAAQS without additional national emission controls. Future national and local emission control strategies will ensure that each county in the Cincinnati ozone nonattainment area will maintain attainment of the standard with an increasing margin of safety over time.

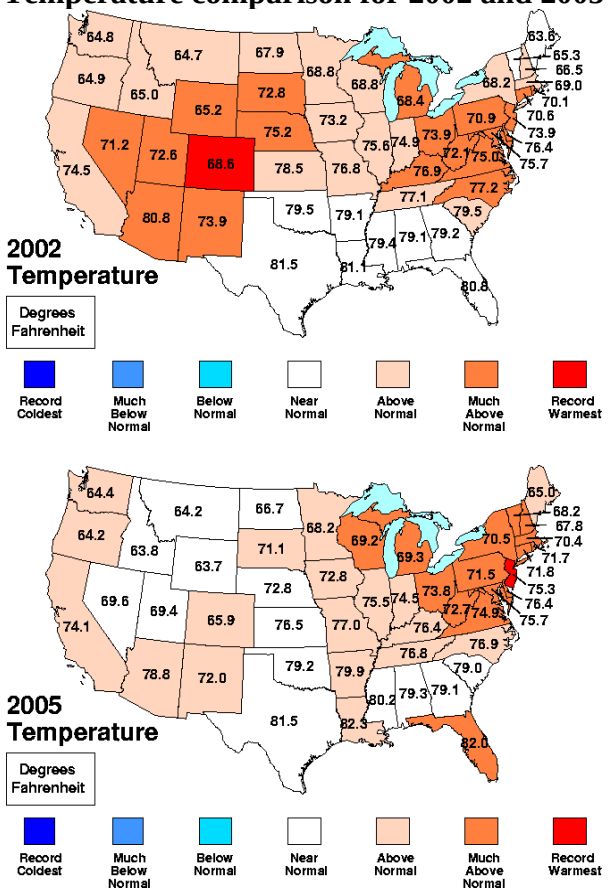
6.2 ALTERNATIVE BASEYEAR (2005) MODELING

Current photochemical modeling focuses on the base year 2002 for determining future year design values. Concern was raised that this was an above average hot summer that had abnormally high ozone concentrations throughout the Midwest. Another important factor for the high ozone concentrations was US EPA's NO_x SIP Call was not implemented at that time. The MRPO States wanted to account for the NO_x SIP Call in the base year emissions inventories to more accurately reflect current conditions.

LADCO conducted a statistical analysis to assess whether the 2005 summer is comparable to the

2002 summer meteorology and would be a reasonable summer to represent an ozone base period. The results of the analysis show that 2005 was ozone conducive although not as extreme as 2002 and US EPA agreed that 2005 would be an acceptable period to model for an attainment demonstration. Figure 6.1 shows a comparison of the temperatures for the entire county for 2002 and 2005.

Figure 6.1
Temperature comparison for 2002 and 2005



LADCO has developed 2005 meteorological data as well as more accurate 2005 emissions inventories and is in the process of conducting photochemical modeling to determine model performance. LADCO is also developing future year emissions for 2008, 2009 and 2018 to determine future year design values. The 2005 photochemical modeling will be the basis of Ohio's submittal to US EPA to demonstrate attainment of the 8-hour ozone standard for their portion of the nonattainment area.

Results are expected to be available by late summer. This section will be revised to include the results of this modeling in order to more accurately reflect current conditions and to be consistent with what will be included in the Ohio submittal.

6.3 ALTERNATIVE BASEYEAR DESIGN VALUE CALCULATION

The US EPA recommends calculating the DVB by averaging the three design value periods that

straddle the baseline inventory year. This methodology results in a center weighting of annual 4th highest ozone concentrations around the baseline inventory year because the three design value periods averaged contain overlapping data. A weighted DVb can be significantly affected by an abnormally hot/dry or cool/wet year, if the year happens to be the center weighted year (which in this case, temperatures during the 2002 ozone season averaged 2% higher than normal).

To minimize potential impacts of any abnormal meteorological conditions while still considering ozone conditions across a 5-year span, IDEM conducted an alternative DVB calculation that does not weight any of the years more than any other, but is the straight average of annual 4th highest ozone concentrations for the 5-year span centered on the baseline inventory year.

The straight average DVB calculation is applied to the remainder of the modeled test equations and the resulting DVfs are shown in Table 6.5 for each monitoring site in the Cincinnati ozone nonattainment region.

Table 6.5
Alternative 5-Year DVB Calculation Attainment Test Results

Monitor ID	County State	Base Year Design Value 5-year weighted 2000-2004	2008	
			RRF	Future Design Value
		(ppm)		(ppm)
2101500031	Boone/KY	.082	0.901	.076
2103700031	Campbell/KY	.089	0.934	.083
2111700071	Kenton/KY	.083	0.925	.077
3901700041	Butler	.087	0.930	.081
3901710043	Butler	.086	0.922	.079
3902500221	Clermont	.089	0.928	.082
3902710021	Clinton	.093	0.900	**.083**
3906100061	Hamilton	.088	0.946	.083
3906100101	Hamilton	.084	0.925	.077
3906100401	Hamilton	.084	0.944	.080
3916500061	Warren	.089	0.921	.082

Table 6.6
Alternative 5-Year DVB Calculation Attainment Test Results

Monitor ID	County State	Base Year Design Value 5-year weighted 2000-2004	Alternate Base Year Design Value Averaged 2002-2004
		(ppm)	(ppm)
2101500031	Boone/KY	0.083	0.081
2103700031	Campbell/KY	0.090	0.088
2111700071	Kenton/KY	0.085	0.083
3901700041	Butler	0.089	0.086
3901710043	Butler	0.087	0.085
3902500221	Clermont	0.089	0.089
3902710021	Clinton	0.094	0.092
3906100061	Hamilton	0.090	0.087
3906100101	Hamilton	0.085	0.083
3906100401	Hamilton	0.086	0.084
3916500061	Warren	0.087	0.089

The alternative DVbs are slightly lower at each monitoring site compared to the attainment test DVbs (see Table 6.6). These differences were expected as 2002 was an abnormally hot and dry year in the Cincinnati area resulting in ozone concentrations that were higher than normal and much higher than the surrounding years of 2000, 2001 and 2003, 2004. Therefore, the recommended DVb calculation weighted these abnormally high air quality conditions several times more than in the IDEM alternative DVb calculation. IDEM firmly believes that the straight five-year average approach to the DVb calculation is more representative of average monitored values and minimizes dramatic fluctuations in meteorological and air quality conditions from year to year.

While none of the monitoring sites in the Cincinnati area had DVf at or above 0.085 ppm using the alternative DVb calculation, the highest future year value is 0.083 ppm. Since that value is between 0.082 and 0.087 ppm, it continues to indicate that some additional weight of evidence should be included to demonstrate attainment.

7.0 MOBILE SOURCE EMISSION BUDGETS

US EPA requirements outlined in 40 CFR 93.118(e) (4) stipulate that mobile source emissions budgets for VOC and NO_x be established as part of a State Implementation Plan (SIP). The mobile source emissions budgets are necessary to demonstrate conformance of transportation plans and improvement programs with the SIP.

The following is a summary of the detailed mobile input and output calculation files located in Appendix I.

7.1 ON-ROAD EMISSIONS ESTIMATES

The Ohio-Kentucky-Indiana Regional Council of Governments (OKI) is the Metropolitan Planning Organization (MPO) for the Greater Cincinnati/Northern Kentucky area which includes Dearborn County in Indiana; Butler, Clermont, Clinton, Hamilton, and Warren Counties in Ohio; as well as, Boone, Campbell and Kenton Counties in Kentucky. This organization maintains a travel demand forecasting model that is used to simulate the traffic in the area and to predict what traffic would be 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 forecasting model is used to predict the total daily vehicle miles traveled (VMT) and the US EPA software program referred to as MOBILE6 is used to produce emission factors 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.

7.2 OVERVIEW

Broadly described, MOBILE6 is used to generate "emission factors", which are the average emissions per mile (grams/mile) for 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 affect 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 affect the emission factors, as does fuel type, such as low RVP gasoline. These data are estimated using the *best available data* (see section 7.3) to generate emission factors for the appropriate ozone precursors, NO_x and VOC. After emission factors are generated, the emission factor(s) must be multiplied by the VMT to determine the quantity of vehicle-related emissions. This information derives from the travel demand model.

It should be noted that each year analyzed will have different emission factors, volumes, speeds and likely some additional links. MOBILE6 input and output files can all be found in Appendix I.

7.3 EMISSION ESTIMATIONS

Table 7.1 outlines the on-road emission estimates for the entire nonattainment area for the years 2002, 2005, 2008 and 2018. The 2002 and 2005 emission estimates are based on the actual travel demand model network for the years 2002 and 2005. The 2008 emission estimates are based on the travel demand model network projected to exist for the year 2008 under the 2030 Transportation Plan. The 2018 emission estimates are interpolated values based on the travel demand model network projected to exist for 2015 and 2020 under the 2030 Transportation Plan.

Table 7.1
Emission Estimations for On-Road Mobile Sources for the 9-County Cincinnati Ozone Nonattainment Area

Cincinnati NA Area	**2002**	**2005**	**2008***	**2018***
VOC (tons/day)	72.32	66.30	54.57	31.39
NO_x (tons/day)	146.03	134.46	110.06	41.44
Lawrenceburg Township (Dearborn County Indiana) subtotal				
VOC (tons/day)	0.64	0.95	0.72	0.41
NOx (tons/day)	1.71	1.46	1.09	0.43
Lawrenceburg Township subtotal %				
VOC (tons/day)	0.88%	1.43%	1.32%	1.31%
NO_x (tons/day)	1.17%	1.08%	0.99%	1.04%

Table 7.2 contains the 2008 regional motor vehicle emissions budget for the Ohio and Indiana portions of the nonattainment area.

Table 7.2
Motor Vehicle Emission Budgets for the Ohio and Indiana Portions of the Cincinnati Ozone Nonattainment Area

	2008
VOC (tons/day)	46.00
NO_x (tons/day)	91.36

This document creates a 2008 motor vehicle emissions budget (MVEB) for the Ohio and Indiana portions of the nonattainment area. This budget is based on the 2008 on-road emission inventory used to support photochemical modeling for the same year, and has incorporated a three (3) percent cushion as described below.

Initial Base M (2005) CAMx modeling results indicated a worst case future design value in the Cincinnati nonattainment area of 84 ppb. In an effort to accommodate future variations in travel demand models (TDM) and vehicle miles traveled forecast when no change to the network is planned, Ohio EPA consulted with U.S. EPA – Region 5 to determine a reasonable approach to address this variation. Based on this discussion, a three (3) percent cushion was approved and has been added to the MVEB for the Ohio and Indiana portions of this nonattainment area.

A three (3) percent cushion is appropriate because; 1) there is an acknowledged one to two percent potential variation in VMT forecast and potential estimated mobile source emissions due to expected modifications to TDM and mobile emissions models; and 2) air quality modeling indicates that a three-percent increase in projected mobile source emissions will still provide for modeled attainment of the Cincinnati nonattainment area.

While IDEM believes that this is sufficient to support the requested increase, IDEM and its partners will be conducting additional air quality modeling which will include the adjusted on-road mobile emissions as well as any additional corrections and modifications that may be necessary due to the constant review and evaluation of the model inputs.

Appendix I of this document provides a detailed description of how the above budgets were established and also documents the consultation and coordination process among the effected environmental and transportation planning agencies in establishing the budgets.

8.0 CONTINGENCY MEASURES

Section 172(c) (9) requires that the attainment demonstration contain specific measures that would take effect upon a State's failure to attain the ozone standard in a given area, without further action by the State or US EPA. The CAA or guidance from US EPA does not specify the amount or magnitude of the reductions that are needed from contingency measures for areas designated under subpart 1.

As part of the regional planning effort through the MRPO, Indiana and Ohio, along with Illinois, Michigan and Wisconsin, agreed to implement various VOC control measures to help maintain air quality in the Cincinnati nonattainment area and the entire Midwest region. IDEM proposes to implement rules to reduce emissions from all or some of the following area source categories; automobile refinishing, architectural and industrial maintenance (AIM) coatings, consumer products, stage I vapor recovery and cold-cleaning degreasing. These potential rules have been evaluated and agreed to by the MRPO states to address regional ozone and particulate matter nonattainment.

US EPA guidance indicates that States must pre-adopt rules with implementation dates pending demonstration of attainment and States will have 60 days after US EPA notification of failure to attain to perform all actions needed to affect full implementation of the measures.

IDEM intends to move forward now with implementation of measures from the list of potential measures shown in the table below.

Table 8.1
Potential Contingency Measures

Contingency Measures	Potential VOC Reduction
	(tons per day)[3]
Portable Fuel Containers	5.75
Automobile Refinishing	.32
Architectural and Industrial Coatings (AIM)	7.79
Consumer Products	9.95
Degreasing	20.15

IDEM rules will follow model rules developed by the Ozone Transport Commission, rules developed by other states, or federal rules. Since US EPA has indicated that they will be moving forward with rulemakings in many of these categories as well, IDEM will monitor progress of the federal rules and consider the implications on state rulemakings. IDEM intends to implement the state rule if federal rules or not finalized and effective prior to the beginning of the 2009 ozone season. Draft rules that IDEM has begun the rulemaking process for are included in Appendix K.

9.0 INDIANA'S POTENTIAL IMPACT ON DOWNWIND NONATTAINMENT AREAS

The CAMx photochemical model includes a source apportionment probing tool that allows for assessment of regional and emission sector contribution to ozone formation. IDEM looked at what impact Indiana may be having on areas downwind from the State to determine if additional analyses were necessary to address such impact.

9.1 Ozone Source Apportionment Results

LADCO has conducted Ozone Source Apportionment Technology (OSAT) modeling to determine the contributions to ozone concentrations from different emissions sources and geographical regions. OSAT can track the emissions to determine ozone impacts and attribute those to the different emissions sources or regions.

Modeling was conducted to determine each emissions source impact and which regions are the biggest contributors to the Hamilton County, OH (ID # 390610006) ozone monitor for the future year 2012. In Figure 9.1, the regional contributors are shown and the percentage of NO_x and VOC impacts that are attributable to individual nonattainment areas, states and regional planning organization areas as well as boundary conditions (BC). Boundary conditions and emissions from the state of Ohio are shown to be the largest contributors of NO_x and VOC to ozone concentrations at the Hamilton County ozone monitor. Impacts were modeled to be approximately 30 % of the total ozone concentrations for both the boundary conditions and the state of Ohio. The next biggest contributor was emissions from the state of Kentucky at approximately 9 % and emissions from the state of Indiana were the next biggest contributor at approximately 8 %.

3 Reduction estimates are based on 9-56% emission reductions from 2002 base year levels and a 2009 effective date.

Figure 9.1

OSAT Modeling Results – Pollutant and Geographical Area Analysis

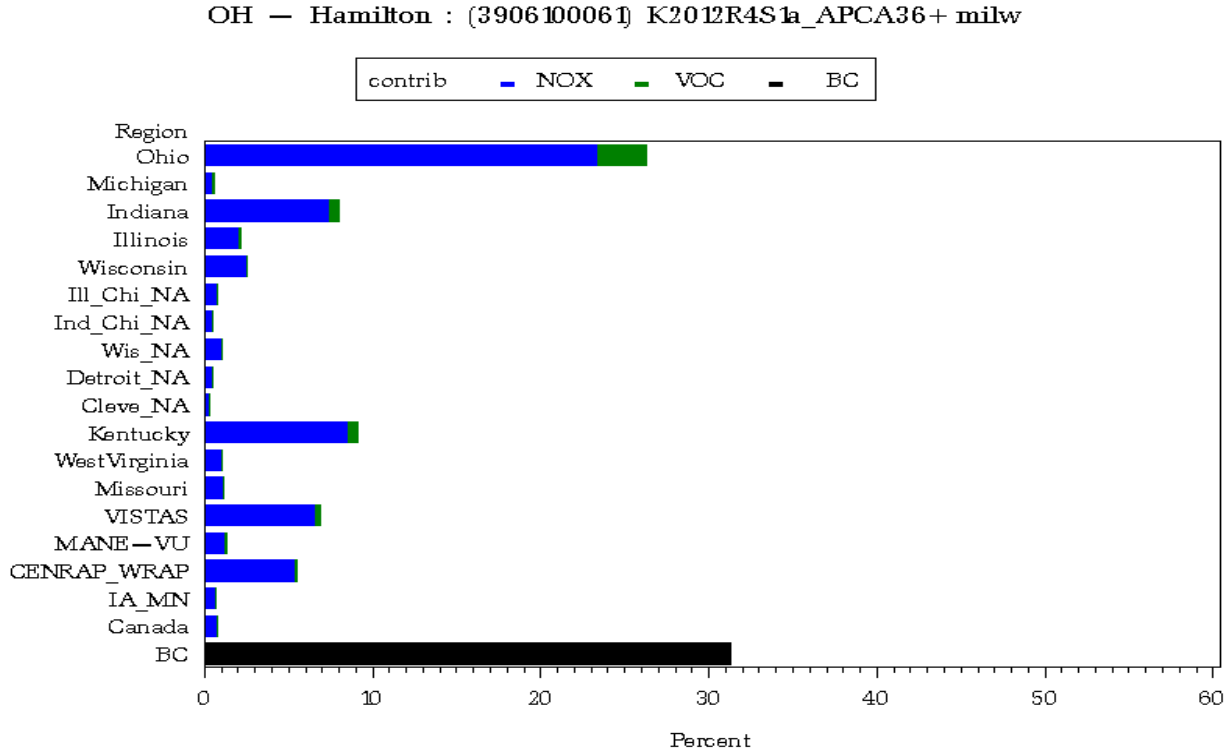


Figure 9.2 shows the emission source sector impacts that are attributable to individual nonattainment areas, states and regional planning organization areas as well as boundary conditions (BC) on the Hamilton County, OH (ID # 390610006) ozone monitor for the future year 2012. The overall contribution from Indiana is approximately 8% with emission source sectors onroad, non-road (marine, air and rail) and non-Electric Generating Units (EGUs) as the largest contributors. Of interest is the EGU portion of Indiana's emissions that contribute to the Hamilton County ozone monitor. The EGU portion contributes only 1 % of the total ozone concentration at this monitor.

Figure 9.2

OSAT Modeling Results – Emission Source Sector and Geographical Area Analysis

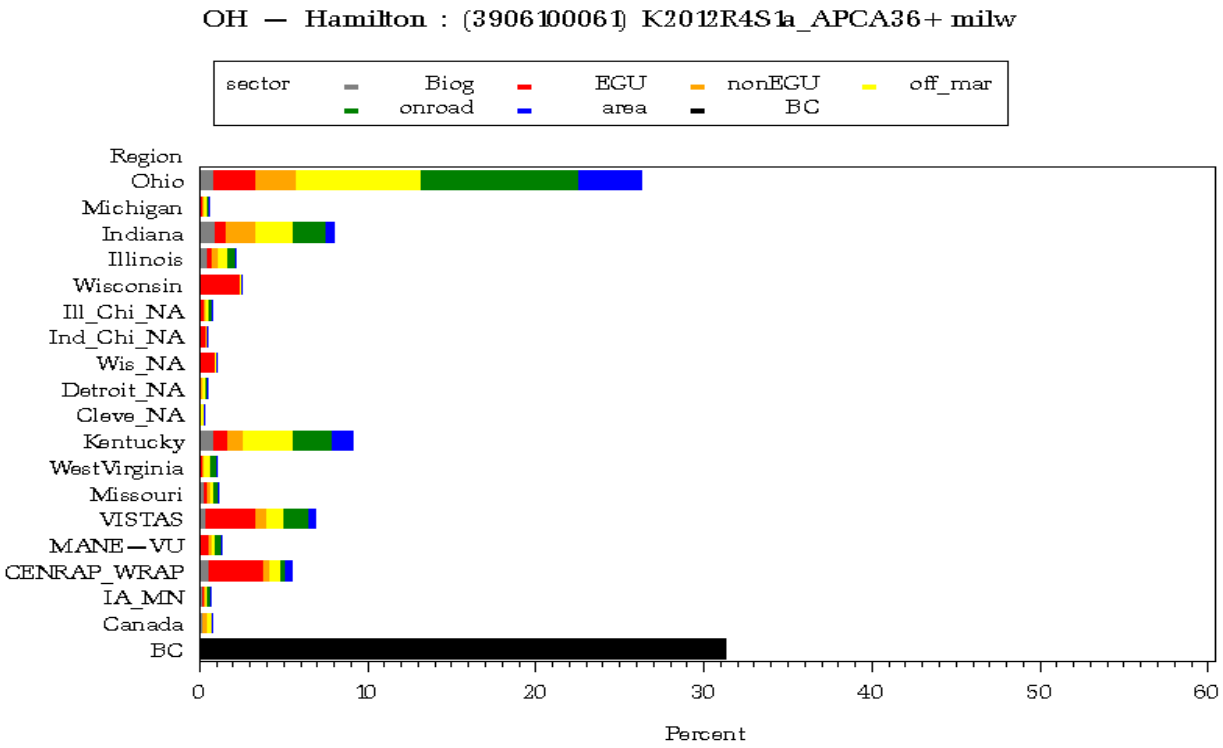
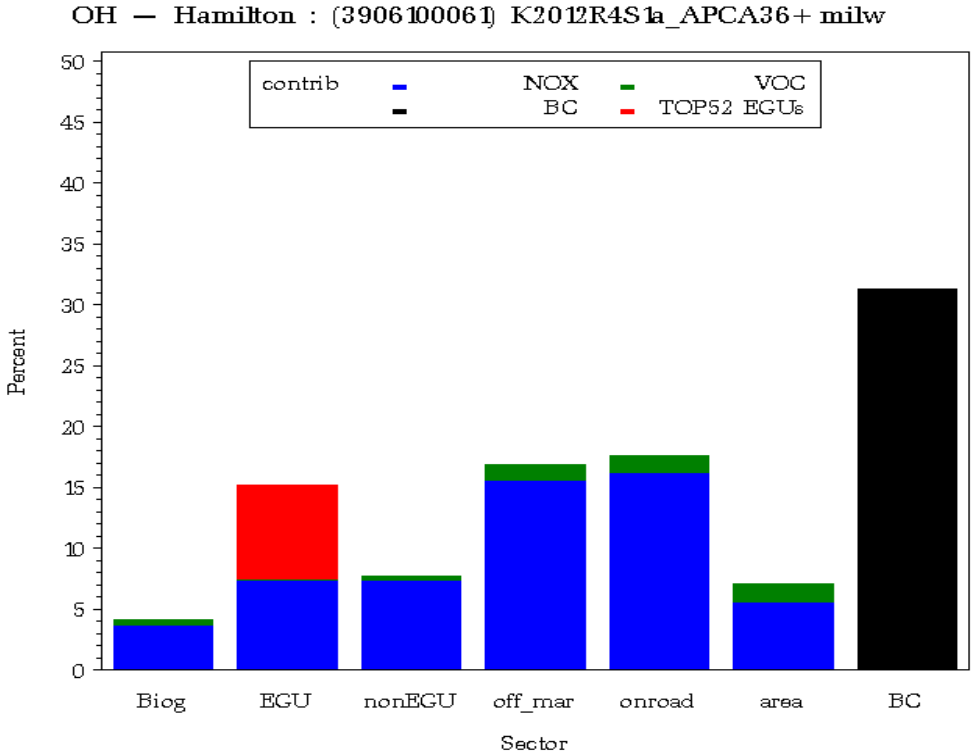


Figure 9.3 shows the pollutant impacts that are attributable to emission source sectors analyzed. The top 52 EGU emitters (in terms of amount of NO_x and VOC emissions) across the domain, as well as boundary conditions were evaluated. The electric generating unit located in Dearborn County was among the 52 EGU emitters modeled and was taken into account in this OSAT run. There was an 8% contribution from the total emissions from the top 52 EGU emitters.

Figure 9.3

OSAT Modeling Results – Emission Source Sector and Pollutant Analysis



The monitors directly downwind from Indiana that would most likely be influenced by emissions from Dearborn County are located in Hamilton and Butler Counties, Ohio (please refer to Figure 1.3). As shown in Table 9.1 below, data from the ambient ozone monitors located in these counties show that the design values have decreased by .012 ppm in each of these counties between 2001 and 2006. For counties with multiple monitoring sites, the data in the table below represent the highest concentration from the monitors in the county.

Table 9.1
Ozone Design Values for Ohio Monitors Downwind from Dearborn County, IN

Year	3-Year Period	Butler	Hamilton
2003	2001-2003	0.092	0.094
2004	2002-2004	0.090	0.090
2005	2003-2005	0.085	0.086
2006	2004-2006	0.080	0.082

10.0 PUBLIC PARTICIPATION

Indiana published notification for a public hearing and solicitation for public comment concerning the draft Attainment Demonstration Plan in the Indianapolis Star, Indianapolis, Indiana; the Journal Press, Lawrenceburg, Indiana; and the Dearborn County Register, Lawrenceburg, Indiana, on or before May 11, 2007.

A public hearing to receive comments concerning the draft attainment demonstration plan was conducted on June 11, 2007 at the Lawrenceburg Public Library, Lawrenceburg, Indiana and one comment was received. The public comment period closed on June 12, 2007.

Appendix L includes a copy of the public notice, certifications of publication, public hearing attendance record, copies of all written comments received and a summary of all comments received that includes IDEM's responses, as applicable.

11.0 CONCLUSION

Monitored air quality in the nonattainment area has shown steady decreases in ozone as a result of national and local control strategies implemented since designation. In fact, the current design value for the nonattainment area is very close to the eight-hour standard of 0.085 ppm. The design value in the area has dropped by at least 0.010 ppm since 2001 and is predicted to continue to decline.

It is clear that NO_x and VOC emission reductions since designation have had a positive effect on regional ozone levels. 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 attainment demonstration shows that once the photochemical modeling results are considered along with additional national, regional, and local control measures to be phased-in or implemented in 2007, 2008 and 2009, air quality in the area will exceed previous photochemical model predictions and the area will achieve attainment of the ozone standard by June 15, 2009.

This plan satisfies Indiana's obligation under Section 172(c) of the CAA to demonstrate how the area will attain the air quality standard for ozone by the attainment date, and, as a result, realize cleaner air. The development of this plan, along with plans from Ohio and Kentucky, will bring this region into compliance with state and federal ozone quality standards, and provide real progress in the state's journey toward cleaner air.

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Identification and Evaluation of Candidate Control Measures

Phase II Final Report

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SECTION 1

BACKGROUND

Introduction

The States of the Midwest Regional Planning Organization (MRPO) are considering additional control measures as part of their planning to achieve regional haze goals and to attain the ozone and PM2.5 National Ambient Air Quality Standards (NAAQS). Although currently mandated controls will achieve significant emission reductions over the next 5-10 years, additional emission reductions beyond current requirements may be necessary to meet State Implementation Plan (SIP) requirements and to demonstrate attainment. The Lake Michigan Air Directors Consortium (LADCO) issued a contract to MACTEC to identify and evaluate candidate control measures to support the States' air quality planning activities.

Under Phase I of the Candidate Control Measures project, MACTEC evaluated the following categories:

1. Electric Generating Units (EGUs)
2. Industrial, Commercial, and Institutional (ICI) Boilers
3. Portland Cement Plants
4. Industrial Surface Coating
5. Industrial Solvent Cleaning (Degreasing)
6. Architectural and Industrial Maintenance (AIM) Coatings
7. Portable Fuel Containers
8. Auto Refinishing
9. Consumer Solvents
10. Gasoline Dispensing Facilities (Stage I, Stage II, and Underground Storage Tanks)
11. Asphalt Paving Applications

MACTEC prepared interim White Papers for each of these categories. The White Papers went through several rounds of review by LADCO member States. At the end of Phase I, LADCO posted these papers on their web site for review by stakeholders. LADCO also staged regional air quality planning workshops to present the information contained in the White Papers to stakeholders.

Under Phase II, MACTEC and the LADCO member States reviewed stakeholder comments (see Table 1), considered how to address comments, and made revisions to the White Papers to incorporate new or updated information. Also, MACTEC developed interim White Papers for five new categories:

12. Petroleum Refineries
13. Asphalt Production Plants
14. Glass and Fiberglass Furnaces
15. Chemical Plants
16. Airport Operations

This report is organized into this Background section and three additional sections. Section 2 summarizes information for each of the candidate control measures. Section 3 describes the control factor files that were prepared to support air quality modeling. Section 4 identifies issues that LADCO may want to address in future efforts.

The candidate control measures identified in this document represent an initial set of possible measures. The MRPO States have not yet determined which measures will be necessary to meet the requirements of the Clean Air Act. As such, the inclusion of a particular measure here should not be interpreted as a commitment or decision by any State to adopt that measure. Other measures may be examined in the near future.

SECTION 2

EVALUATION OF CANDIDATE CONTROL MEASURES

General Format for the Interim White Papers

MACTEC developed a series of "Interim White Papers" to present the evaluation of candidate control measures. Each paper includes summary table, description of the source category, brief regulatory history, discussion of candidate control measures, expected emission reductions, cost effectiveness and basis, timing for implementation, rule development issues, other issues, and supporting references. The type of information in each subsection is described below:

- **Summary Table** – Identifies the source category, control measures already accounted for in the Base K 2002 inventory, 2002 base year emissions, control measures "on-the-books" or "on-the-way" that will result in post-2002 emission reductions, 2009 projected emissions after implementation of "on-the-books" or "on-the-way" controls, candidate control methods used to achieve additional emission reductions, estimate of the region-wide emission reductions from the candidate control measure, estimate of emission reduction cost, timing for achieving emission reductions, and geographic area affected by the control measure.
- **Source Category Description** – Briefly describes the emission generating processes, factors such as fuel type or process design that affect the type and quantity of emissions generated, and relative importance of emissions from the category as compared to regional totals.
- **Regulatory History** – Discusses relevant federal and LADCO state emission control regulations already implemented, newly mandated or proposed federal or LADCO state regulations that will result in additional post-2002 emission reductions, and existing or proposed regulations in other states that are more stringent than federal or LADCO state requirements.
- **Candidate Control Measures** – Discusses possible alternatives for further emission reductions and expected performance, and recommends specific measures for consideration.
- **Emission Reductions** – Describes 2002 base year emissions for the category, emission reductions expected from post-2002 on-the-books and on-the-way control measures, and emission reductions expected from the candidate control measure. The emission reductions are presented for each LADCO state, as well as the regional total reductions. The emission values for 2002 are based on LADCO's Base K inventory and the 2009 values are based on future year emission projections (2009 emissions account for reductions from candidate control measures as well as future "on-the-books" or "on-the-way" reductions, but do not account for economic growth).
- **Cost Effectiveness and Basis** – Documents the findings in supporting documentation and other sources to provide preliminary ranges or estimates of the costs associated with implementing the control measure. This section is not intended to provide definitive control costs, which will need to be analyzed in more detail as specific regulations are developed.
- **Timing of Implementation** – Discusses the timeframe for when emission reductions can be achieved and any phase-in issues that will result in the variable emission reductions over time.
- **Rule Development Issues** – Discusses implementation issues such as authority of state agency to implement the regulation and whether regional/national collaboration is needed.
- **Geographic Applicability** – Discusses whether the control measure will be applied on a regional, state, or nonattainment area basis.
- **Affected SCCs** – Identifies Source Classification Codes affected by the regulation.
- **Other Impacts** – Identifies any adverse economic, energy, or social impacts associated with the control measure.

Each Interim White Paper also includes a list of references referred to or used in preparing the evaluation. The Interim White Papers are posted on the LADCO Regional Air Quality Planning web site (see: http://www.ladco.org/Regional_Air_Quality.html). They are also contained in Appendix D of this report.

Development of Phase II White Papers

Five new interim White Papers were prepared during Phase II:

- Petroleum Refineries. Recent enforcement settlements are likely to result in significant reductions over the next few years. MACTEC compiled information from the enforcement settlements and included that information in the White Paper. We identified opportunities for additional reductions beyond those called for in the enforcement settlements for flare gas recovery, leak detection and repair, and benzene/wastewater requirements. However, the emissions reductions expected from these measures are uncertain and were not quantified for this report.
- Chemical Plants. We identified and evaluated existing and potential controls for chemical processes. Most of the NOx and SO2 emissions from the chemical process industry are generated from fuel combustion sources. Candidate control measures for these pollutants are discussed in the Industrial, Commercial, and Institutional Boiler White Paper. The majority of the NOx non-fuel combustion process emissions are from nitrogen-based fertilizer manufacturers operating nitric acid plants. The largest sources of non-fuel combustion process SO2 emissions include facilities operating sulfuric plants in the production of inorganic chemicals. A wide array of chemical processing facilities are generating VOC and PM2.5 process emissions including plants producing inorganic and organic chemicals, inorganic fertilizers, plastics and ethanol. The PM2.5 process emissions from individual facilities are relatively small in comparison to the other criteria pollutants, with the largest process source a nitrogen-based fertilizer manufacturer. We recommend that detailed case-by-case assessments of these facilities are needed to accurately identify candidate control measures, possible emission reductions, and costs for obtaining any additional emission reductions.
- Asphalt Production Plants. Emission estimates for this category are highly uncertain because most of these facilities are minor sources and are not included in the MRPOs point source inventory. We did identify options for reducing emissions of NOx and SO2. For NOx, we are assuming that sources could achieve a 25 percent reduction from uncontrolled levels through combustion modifications such as low-NOx burners, similar to that required in SJVUAPCD proposed new rule 4309. Sources could reduce SO2 emissions by switching to natural gas or low-sulfur fuel oil; however, we cannot determine an SO2 percent reduction at this time because we cannot determine whether natural gas or low-sulfur fuel is available for these plants.
- Glass and Fiberglass Manufacturing Furnaces. Several alternative control technologies are available to glass manufacturing facilities to limit NOx emissions. These options include combustion modifications (low NOx burners, oxy-fuel firing, oxygen-enriched air staging), process modifications (fuel switching, batch preheat, electric boost), and post combustion modifications (fuel reburn, SNCR, SCR). Using EPA's "highly cost effective" threshold of $2000/ton; we assumed an average across the MRPO region of a *30 percent reduction* in NOx emissions (for example, low NOx burners or SNCR). Using a "cost effective" threshold of $4000/ton; we assumed an average across the MRPO region of a 75 *percent reduction* in NOx emissions (for example, oxy-firing or SCR).
- Airport Operations. We identified a number of options for reducing emissions at airports and examined the constraints, potential emission reductions, and the costs associated with these options. For each category of emissions at the airport, we identified technological measures (such

as engine improvements, electrification of support equipment, alternative fuels) and operational control options (such as congestion management, and changes in taxiing, takeoff, and landing procedures). Due to the variety of emissions sources at airports and strategies available for reducing emissions (and some of the legal barriers which preempt states from regulation aircraft engine emissions), it is difficult to prescribe a particular control measures that is appropriate for any individual airport or for the various types of equipment, operations, and functions. While cost-effective technical and operational options are available to reduce emissions from all airport sources, the feasibility of the different measures can vary from airport to airport. For example, installing electrified gates can be done more easily at newer airports than at older airports. Some of the most cost effective options outlined in the NESCAUM report are reducing NOx emissions through GSE and GAV electrification or use of alternative fuels. For this White Paper, we are suggesting that NOx emissions from GSE can be reduced by up to 90 percent over a ten-year period after adoption of the measure.

Each of these new White Papers underwent a round of review by LADCO member States. MACTEC made discussed these White Papers during a presentation at the November 16, 2005, Regional Air Quality Workshop.

Revisions to Phase I White Papers

MACTEC revised many of the Phase I White Papers to provide updated information. For example, the Phase I EGU White Paper was based on the proposed Clean Air Interstate Rule (CAIR) rule and data developed to support the proposed rule. The EGU White Paper was updated to reflect the requirements of the final CAIR which was promulgated in the spring of 2005. This included the use of new results from the Integrated Planning Model (IPM) that forecasted future year emissions in the EGU sector using the final CAIR requirements.

The White Papers for several area source VOC categories (coatings, consumer products, portable fuel containers) were also updated to reflect new information. The candidate control measures for these categories were based on measures either on-the-books or under development in California. We updated the White Papers for these categories to provide the current status of the regulatory development efforts in California and changes in any emission reduction or cost effectivness data.

Stakeholders provided comments on several of the Phase I White Papers. The commenters are identified in Tables 1 and 2. A brief summary and response to these comments is contained in Appendix A. The comments in Appendix A are organized by source category.

Emission Reductions from Candidate Control Measures

Table 3 identifies the Interim White Papers that were developed and summarizes information about the candidate control measures that were evaluated. The table shows the source category, an identification code for each candidate control measure, a description of the control measure, the percent reduction from 2002 emissions for the entire source category, and a preliminary cost effectiveness estimate in units of dollars per ton of pollutant removed. More detailed summaries of each of the candidate control measures are presented in Appendix B.

TABLE 1 – COMMENTS RECEIVED FROM STAKEHOLDERS REGARDING ELECTRIC GENERATING UNITS

White Paper	Date	Organization and Reference
Electric Generating Units (EGUs)	March 8 ,2005	Environmental Committee of the Ohio Electric Utilities, *Comments on Interim White Paper – Source Category: Electric Generating Units*
	March 9, 2005	Midwest Ozone Group and Utility Air Regulatory Group, *Comments on Emissions Standards, Schedule Proposed in Interim White Paper*
	March 9, 2005	Center for Energy & Economic Development, *Age and Size of Coal Power Plants*
	May 2005	United Mine Workers of America, *Comments of United Mine Workers of America on Proposed LADCO EGU White Paper*
	June 28, 2005	Midwest Ozone Group and Utility Air Regulatory Group, *Comparison of EGU1 and EGU2 to Consent Decrees and BACT Limits*
	June 28, 2005	Midwest Ozone Group, *Evaluation of the Midwest RPO Interim Measures and EGU1 and EGU2*
	July 5, 2005	United Mine Workers of America, *Comments of United Mine Workers of America on Proposed Amended Rules for Fossil-Fired Powerplants 28 IR 2817*
	July 11, 2005	BBC on behalf of CEED, MOG, and NiSource, *Impacts of LADCO CAIR-Plus Proposals on the Midwest Economy*
	July 27, 2005	American Electric Power, *Electric Generating Unit White Paper*
	July 29, 2005	Cinergy Corp., *Comments on Interim White Paper- Source Category: Electric Generating Units*
	August 1, 2005	Midwest Generation EME, *Midwest Generation's Comments on the EGU Interim White Paper dated 1/14/05*
	August 1, 2005	Midwest Ozone Group, *Evaluation of the Midwest RPO Interim Measures and EGU1 and EGU2*
	August 1, 2005	Midwest Ozone Group and Utility Air Regulatory Group, *Comparison of EGU1 and EGU2 to Consent Decrees and BACT Limits*
	August 2, 2005	Office of Public Utilities, City of Springfield IL, *Comments on Interim White Paper, Midwest RPO Candidate Control Measures, Source Category: Electric Generating Units*
	February 3, 2006	Stratus Consulting. *Review of the Midwest Ozone Group's Cost Impact Analyses of the Midwest Regional Planning Organization's Candidate Control Measures for SO2 and NOx Emissions from Electric Generating Units*

TABLE 2 – COMMENTS RECEIVED FROM STAKEHOLDERS REGARDING OTHER SOURCE CATEGORIES

White Paper	Date	Organization and Reference
Consumer and Commercial Products	July 29, 2005	Consumer Specialty Products Association, *Comments on Interim White Paper – Source Category: Consumer and Commercial Products*
	August 1, 2005	Automotive Specialty Products Alliance, *Comments on Interim White Paper on Consumer and Commercial Products*
	August 1, 2005	Cosmetic, Toiletry, and Fragrance Association, *Interim White Paper – Possible Regulation of Consumer Products*
AIM and Industrial Surface Coatings	August 1, 2005	National Paint and Coatings Association, *Comments on Architectural and Industrial Maintenance (AIM) and Industrial Surface Coatings*
	November, 2005	National Paint and Coatings Association, *Additional Comments on Architectural and Industrial Maintenance (AIM) and Industrial Surface Coatings*
	December 29, 2005	Glitsa American. *Comments on AIM White Paper*
	September 27, 2005	Michigan Manufacturers Association, *Comments on Midwest Planning Organization (RPO) Identification and Evaluation of Candidate Control Measures and Associated "White Papers"*
Gasoline Distribution Facilities	September 27, 2005	Michigan Manufacturers Association, *Comments on Midwest Planning Organization (RPO) Identification and Evaluation of Candidate Control Measures and Associated "White Papers"*
Industrial, Commercial, and Institutional (ICI) Boilers	July 29, 2005	Citizens Thermal Energy, *Comments Regarding "Interim White Paper – Midwest RPO Candidate Control Measures: Source Category ICI Boilers (03/29/05)"*
Cement Plants	October 7, 2005	Portland Cement Association. *Comments on the MRPOs Engineering Analysis on Cement Best Available Retrofit Technology (BART) and Interim White Paper – Source Category: Cement Kilns*
	May 19, 2006	Portland Cement Association. *Comments on Interim White Paper – Midwest Regional Planning Organization Candidate Control Measures (Source Category: Cement Kilns)*

TABLE 3 – SUMMARY OF CANDIDATE CONTROL MEASURES

Source Category	ID	Description	Percent Reduction from 2009 On-the-Books Emission Levels			Preliminary Cost Per Ton ($/ton)		
			NOx	VOC	SO2	NOx	VOC	SO2
Electric Generating Units	EGU1	Adopt emission caps based on "Retrofit BACT Level" of 0.15 lbs/mmBtu for SO2 and 0.10 lbs/mmBtu for NOx	3		41	700 - 1,600		800 - 1,500
	EGU2	Adopt emission caps based on "BACT Level for New Plants" of 0.10 lbs/mmBtu for SO2 and 0.07 lbs/mmBtu for NOx	22		61	700 - 2,100		800 - 3,000
ICI Boilers	ICI1	Apply 40% SO2 and 60% NOx reduction to all medium and large ICI boilers	19		29	280 – 1,399		633 - 1,075
	ICI2*	Apply Likely Controls (90% SO2 and 80% NOx Reduction) to ICI Boilers subject to the proposed BART requirements	*		*	536 – 4,493		1,622 - 5,219
	ICI3	Apply 90% SO2 and 80% NOx reduction (similar to BART) to all medium and large ICI boilers	31	*	66	536 – 4,493		1,622 - 5,219
Petroleum Refineries*	REF1	Apply likely controls (90% SO2 and 80% NOx Reduction) to sources subject to the proposed BART requirements	*	*	*			
Iron and Steel Plants*	I&S1	Apply likely controls (90% SO2 and 80% NOx Reduction) to sources subject to the proposed BART requirements	*	*	*			
Portland Cement Plants	KILN1	Apply reasonably available controls (90% SO2 and 50% NOx reduction) to all cement kilns in the region	50		90	Cost savings to 2,500		2,211 - 6,917
	KILN2	Apply likely controls (95% SO2 and 80% NOx reduction) to kilns subject to the proposed BART requirements	*	*	*	1,500 - 2,000		2,211 - 6,917
Chemical Plants*	CHEM1	Apply likely controls (90% SO2 and 80% NOx Reduction) to chemical plant boilers subject to the proposed BART requirements	*	*	*			

Source Category	ID	Description	Percent Reduction from 2009 On-the-Books Emission Levels			Preliminary Cost Per Ton ($/ton)		
			NOx	VOC	SO2	NOx	VOC	SO2
Industrial Surface Coating	SOLV5A	Point sources - adopt more stringent RACT regulations (90% from uncontrolled), lower applicability thresholds, and extend geographic coverage to all counties		78			100 - 21,000	
	SOLV5B	Area sources - adopt RACT regulations (90% from uncontrolled), lower applicability thresholds, and extend geographic coverage to all counties		72			100 – 21,000	
Industrial Solvent Cleaning	SOLV6A	Adopt Chicago/Metro East cold cleaning regulations (66% reduction from uncontrolled) in all counties		60			1,400	
AIM Coatings	SOLV1A	Adopt more stringent VOC limits (21% reduction beyond Federal Part 59 limits) for AIM coatings based on OTC Model Rule and Wisconsin NR433.17		20			6,400	
	SOLV1B	Adopt SCAQMD Phase III VOC limits in addition to OTC Model Rule		31			20,000	
Portable Fuel Containers	SOLV3A	Adopt OTC Model Rule for portable fuel containers (18% reduction by 2009, 54% reduction at full implementation in 2015)		18			250 - 480	
	SOLV3B	Adopt incentive programs in nonattainment areas to accelerate phase-in of compliant PFCs (27% reduction in 2009, 54% at full implementation in 2012)		24			4,600	
Auto Refinishing	SOLV4A	Extend the existing IL/IN/WI RACT regulations (55% reduction from uncontrolled, 24% reduction beyond Part 59 limits) to all counties		24			1,354	
	SOLV4B	Adopt more stringent RACT regulations (89% reduction from uncontrolled) based on SCAQMD 1145		82			2,860	

Source Category	ID	Description	Percent Reduction from 2009 On-the-Books Emission Levels			Preliminary Cost Per Ton ($/ton)		
			NOx	VOC	SO2	NOx	VOC	SO2
Consumer and Commercial Solvents	SOLV2A	Adopt OTC Model Rule with additional product coverage and more stringent VOC limits(14.2% reduction beyond Federal Part 59 rule, for a total reduction of 21.0% from uncontrolled emissions)		14			800	
	SOLV2B	Adopt CARB 2003 SIP requirements with additional products and more stringent VOC limits in addition to OTC Model Rule		25			4,800	
Gasoline Dispensing Facilities	SOLV7A	Adopt CARB EVR Stage I requirements (98% control) in 8-hour nonattainment areas and adjacent counties		0 in 2009 55 in 2011			100 - 4,742 (depending on size)	
	SOLV7B	Adopt CARB EVR Stage II requirements (95% control) in 8-hour nonattainment areas and adjacent counties in addition to on-board vapor recovery		67			13,300 to 36,260	
	SOLV7C	Require air pollution control device (90% control) for UST vent in 8-hour nonattainment areas and adjacent counties		53			Near 0 due to gas recovery	
Asphalt Paving	SOLV8A	Adopt SCAQMD 1108.1 VOC content limit (50% reduction) for emulsified asphalt		33			?	
Asphalt Production Plants		Apply available combustion modification controls to all asphalt manufacturing plants		25		17,630 – 21,084		
Glass and Fiberglass Manufacturing Plants	GLASS1	Apply “Highly Cost Effective” Controls	30			<2,000		
	GLASS2	Apply “Cost Effective” Reasonably Available Controls	75			2,000 – 4,000		
Airport Operations	GSE01	Convert or retrofit gasoline/diesel ground support equipment	90			0 -5,800 Depending on type		

* The additional reductions for ICI Boilers, Petroleum Refineries, Iron & Steel Plants, and Chemical Plants were due to emission controls discussed in the *MRPO Best Available Retrofit Engineering Analysis* reports for these categories prepared by MACTEC. Emission reductions from BART are not expected to occur until after 2009.

Figures 2a through 2c and Table 4 summarize the emissions from the 2002 LADCO Base K inventory and various control scenarios in 2009 for the five LADCO States (Illinois, Indiana, Michigan, Ohio, and Wisconsin). Table 4 shows the actual emissions in 2002 (yellow column); the emissions expected in 2009 after implementation of "on-the-books" control measures, (green column, does not include emission changes due to economic growth); the emissions expected in 2009 after implementation of the candidate control measures identified in Table 3 (beige column, and the incremental reduction in 2009 from the White Paper candidate control measures as compared to the 2009 "on-the-books" scenarios (second beige column).

Figures 2a through 2c summarize the emissions from the 2002 LADCO inventory and various control scenarios in 2009 for the five LADCO States (Illinois, Indiana, Michigan, Ohio, and Wisconsin). The first bar in each figure shows the 2002 emissions. The second bar shows the projected 2009 emissions that include "on-the-books" controls, including the final CAIR, which will result in additional reductions after 2002. The third bar shows the 2009 emissions with the application of the less stringent measures identified in the White Papers. The fourth bar shows the projected 2009 emissions with the application of the more stringent measures identified in the White Papers. The percentage emission reductions for SO2, NOx, and VOC are as follows:

- With the implementation of the final CAIR and other Federal onroad/nonroad rules, total SO2 emissions in the 5-state region are expected to be reduced by one-third between 2002 and 2009. Implementing the least stringent of the candidate control measures (EGU1 for EGUs and ICI1 for industrial boilers) will reduce SO2 emissions by 25 percent from projected 2009 levels. Implementing the most stringent of the candidate control measures (EGU2 for EGUs and ICI3 for industrial boilers) will reduce SO2 emissions by 38 percent from projected 2009 levels.
- With the implementation of the final CAIR and other Federal onroad/nonroad rules, total NOx emissions in the 5-state region are expected to be reduced by 34 percent between 2002 and 2009. Implementing the least stringent of the candidate control measures (EGU1 for EGUs and ICI1 for industrial boilers) will reduce NOx emissions 2.5 percent from 2009 levels. Implementing the most stringent of the candidate control measures (EGU2 for EGUs and ICI3 for industrial boilers) will reduce NOx emissions by 6 percent from 2009 levels.

For VOC, emissions are expected to be reduced by 16 percent by 2009 as a result of the MACT standards, vehicle on-board vapor recovery, and Federal onroad/offroad control programs. Implementing the least stringent of the candidate control measures will reduce VOC emissions by 13 percent compared to projected 2009 levels. Implementing the most stringent of the candidate control measures will reduce VOC emissions by 15 percent compared to 2002 levels.

FIGURE 2a – COMPARISON OF 2002 AND 2009 SO2 EMISSIONS FOR 5-STATE MRPO AREA

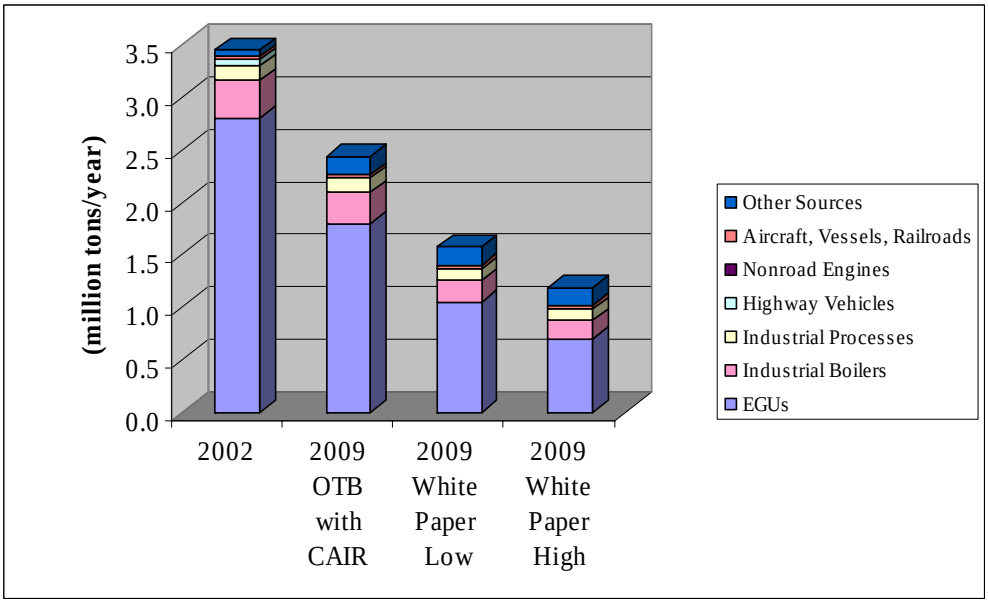
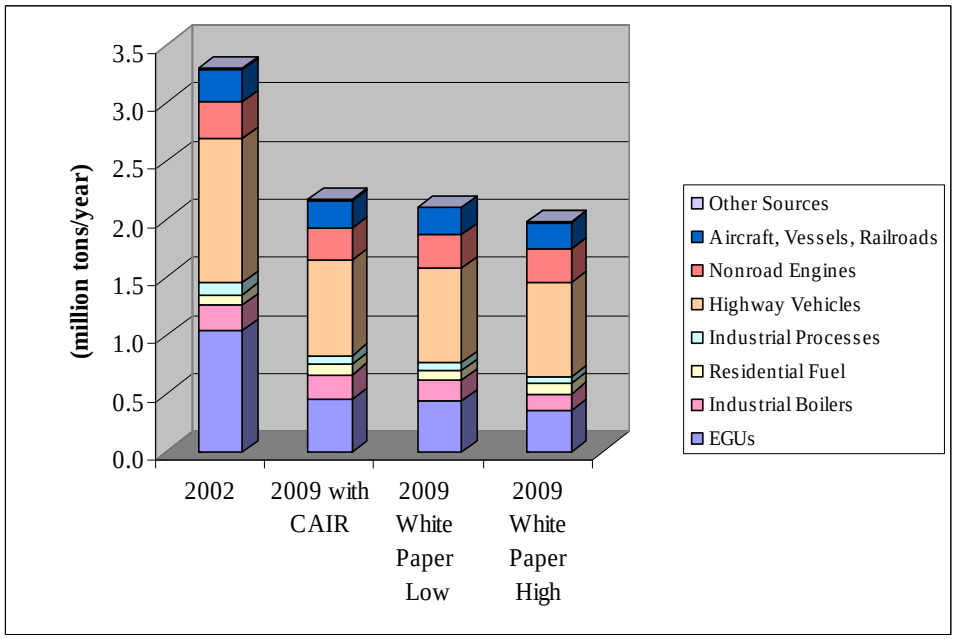
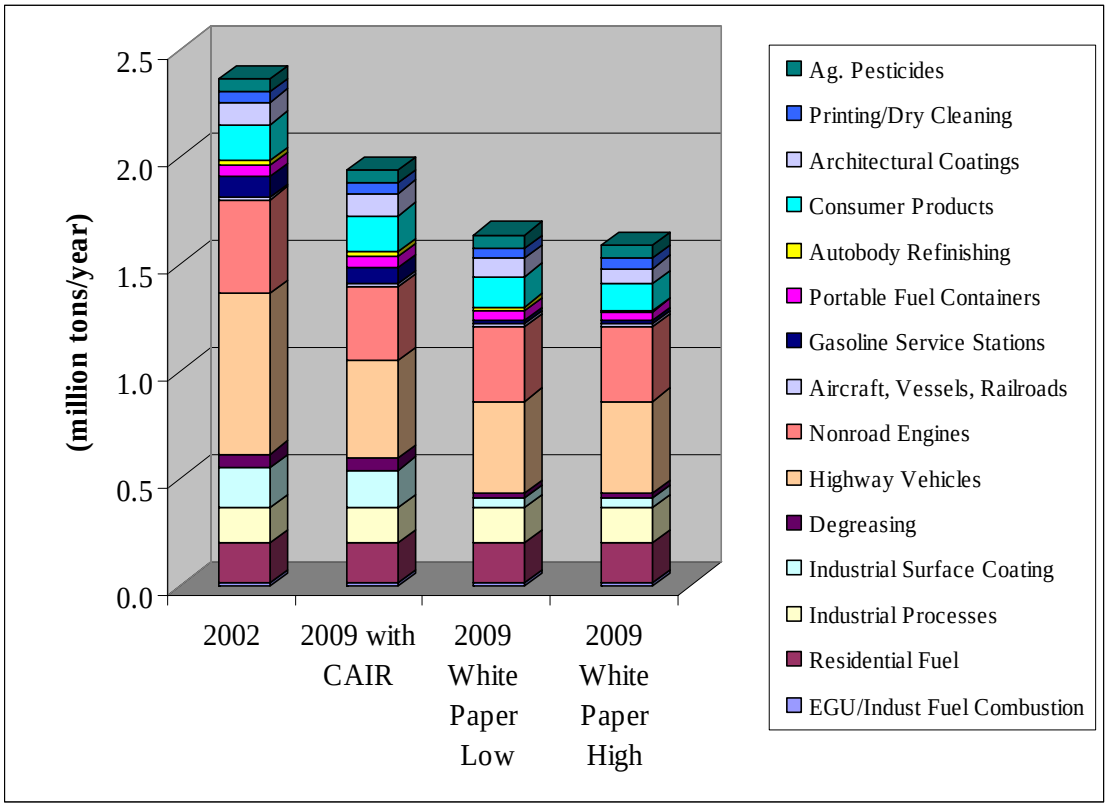


FIGURE 2b – COMPARISON OF 2002 AND 2009 NOx EMISSIONS FOR 5-STATE MRPO AREA



The 2002 emissions presented in these figures are from the LADCO's Base K inventory and the 2009 values based on future year emission projections (2009 emissions account for reductions from candidate control measures as well as future "on-the-books" or "on-the-way" reductions, but do not account for economic growth). "White Paper Low" uses the least stringent of the control measures identified in the White Papers; "White Paper High" uses the most stringent control measures.

FIGURE 2c – COMPARISON OF 2002 AND 2009 VOC EMISSIONS FOR 5-STATE MRPO AREA



The 2002 emissions presented in these figures are from the LADCO's Base K inventory and the 2009 values based on future year emission projections (2009 emissions account for reductions from candidate control measures as well as future "on-the-books" or "on-the-way" reductions, but do not account for economic growth). "White Paper Low" uses the least stringent of the control measures identified in the White Papers; "White Paper High" uses the most stringent control measures.

TABLE 4 – COMPARISON ON 2002 BASE YEAR, 2009 ON-THE-BOOKS, AND 2009 CANDIDATE CONTROL MEASURE EMISSION SCENARIOS

CONTROLS INCLUDED IN 2002 INVENTORY	OTB (ON-THE-BOOKS) and OTW (ON-THE-WAY) REDUCTIONS OCCUR AFTER 2002	CANDIDATE CONTROL MEASURES	2002 LADCO EI vs 2009 OTB vs Candidate Reductions											
			VOC				NOx				SO2			
				OTB	Candidate Controls			OTB	Candidate Controls			OTB	Candidate Controls	
			2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)	2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)	2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)
SOURCE CATEGORY: EGUs														
PSD/NSR/NSPS; RACT in NAA; Title IV SO2 Allowances; Title IV Phase I/II NOx Limits	NOx SIP Call (except WI); Utility Enforcement Settlements; Combustion Turbine MACT; CAIR (SO2@0.56, NOx @0.31 lbs/mmBtu average for all EGUs)	WP EGU1 - Emission Cap Based on "Retrofit BACT Level" Interim 2009 based on SO2@ 0.36, NOx@0.24 lbs/mmBtu	7,569	7,764	7,819	-55	1,047,484	449,630	437,797	11,833	2,798,884	1,794,962	1,050,713	744,249
		WP EGU2 - Emission Cap Based on "BACT for New Plants" Interim 2009 based on SO2@ 0.15, NOx@0.12 lbs/mmBtu							350,238	99,392			700,745	1,094,217
SOURCE CATEGORY: INDUSTRIAL/COMMERCIAL/INSTITUTIONAL BOILERS														
PSD/NSR/NSPS; RACT in NAA	NOx SIP Call (except WI); Boiler/Heater/RICE MACT	WP ICI1 - Apply 40% SO2 and 60% NOx reduction to all medium and large ICI boilers	4,498	4,498	4,498	0	218,547	213,283	173,569	39,714	362,347	295,521	209,096	86,425
		WP ICI2 Apply Likely Controls (90% SO2 and 80% NOx Reduction) to ICI Boilers subject to BART							196,276	17,007			177,800	117,721
		WP ICI3 - Apply 90% SO2 and 80% NOx reduction to all medium and large ICI boilers							146,953	66,330			101,065	194,456
SOURCE CATEGORY: INDUSTRIAL PROCESSES - CHEMICAL PLANTS														
PSD/NSR/NSPS; RACT in NAA; 2-, 4-, 7-yr MACT	10-yr_MACT	WP CHEM1 Apply Likely Controls (90% SO2 and 80% NOx Reduction) to Boilers subject to BART	15,580	15,580	15,580	0	3,504	3,504	2,000	1,504	10,946	10,946	10,946	9,000
SOURCE CATEGORY: INDUSTRIAL PROCESSES - IRON&STEEL PLANTS														
PSD/NSR/NSPS; RACT in NAA; 2-, 4-, 7-yr MACT	10-yr_MACT	WP I&S1 Apply Likely Controls (90% SO2 and 80% NOx Reduction) to Boilers subject to BART	15,617	15,617	15,617	0	43,479	43,479	36,515	6,964	47,786	47,786	35,739	12,047
SOURCE CATEGORY: INDUSTRIAL PROCESSES - PETROLEUM REFINING														
PSD/NSR/NSPS; RACT in NAA; 2-, 4-, 7-yr MACT	10-yr_MACT	WP REF1 Apply Likely Controls (90% SO2 and 80% NOx Reduction) to Boilers subject to BART	9,229	8,100	8,100	0	31,831	22,532	22,532	0	75,223	25,281	25,281	0
SOURCE CATEGORY: INDUSTRIAL PROCESSES - GLASS AND FIBERGLASS FURNACES														
PSD/NSR	None	WP - GLASS1 Apply "Highly Cost-Effective Controls"					15,354	15,016	10,748	4,268				
SOURCE CATEGORY: INDUSTRIAL PROCESSES - PORTLAND CEMENT KILNS														
PSD/NSR/NSPS; RACT in NAA; 2-, 4-, 7-yr MACT	NOx SIP Call	WP KILN1 - Apply Reasonable Available Controls to All Kilns in Region	1,960	1,960	1,960	0	34,032	23,822	17,106	6,716	38,703	38,703	3,870	34,833
		WP KILN2 - Likely BART Controls for Cement Kilns							14,415	9,407			17,066	21,637
SOURCE CATEGORY: INDUSTRIAL PROCESSES - ASPHALT MANUFACTURING PLANTS														
State Fuel Combustion Rules	None	WP ASPH1 - Apply Combustion Modification Controls and Low-Sulfur Fuels	2,996	2,996	2,996	0	4,014	4,014	3,011	1,003	3,614	3,614	3,164	0

CONTROLS INCLUDED IN 2002 INVENTORY	OTB (ON-THE-BOOKS) and OTW (ON-THE-WAY) REDUCTIONS OCCUR AFTER 2002	CANDIDATE CONTROL MEASURES	2002 LADCO EI vs 2009 OTB vs Candidate Reductions											
			VOC				NOx				SO2			
				OTB	Candidate Controls			OTB	Candidate Controls			OTB	Candidate Controls	
			2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)	2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)	2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)
SOURCE CATEGORY: AIRPORT OPERATIONS														
None	None	WP GSE01 - Replace gas/diesel ground support equipment with electric or alternative fuels	149	149	149	0	1,266	1,266	950	316	165	165	165	0
SOURCE CATEGORY: GASOLINE DISPENSING FACILITIES - STAGE I														
Stage I RACT		WP SOLV7A - CARB Enhanced Vapor Recovery (Stage I)	42,263	42,263	9,796	32,467								
SOURCE CATEGORY: GASOLINE DISPENSING FACILITIES - STAGE II														
Stage II nozzle VRS in selected counties 11 IL, 4 IN, 14 OH, 9 WI	On-board refueling vapor recovery canisters (OBVR) everywhere	WP SOLV7C - CARB Enhanced Vapor Recovery (Stage II)	44,815	21,503	4,265	17,238								
SOURCE CATEGORY: GASOLINE DISPENSING FACILITIES - UNDERGROUND STORAGE TANKS														
P/V valve in Chicago and Metro East	None	WP SOLV7C - Require Air Pollution Control Device for UST Vent	10,194	10,194	2,854	7,340								
SOURCE CATEGORY: PORTABLE FUEL CONTAINERS														
None	None	WP SOLV3A - OTC Model Rule	50,970	50,970	41,795	9,175								
		WP SOLV3B - OTC Model Rule with Incentives			38,690	12,280								
SOURCE CATEGORY: SOLVENTS - INDUSTRIAL SURFACE COATING POINT SOURCES														
PSD/NSR; RACT in NAA; 2-, 4-, 7-year MACT	10-yr_MACT	WP SOLV5A - More Stingent RACT, lower applicability threshold, statewide coverage	70,380	56,590	12,164	44,426								
SOURCE CATEGORY: SOLVENTS - INDUSTRIAL SURFACE COATING AREA SOURCES														
None	None	WP SOLV5B - More Stingent RACT, lower applicability threshold, statewide coverage	118,036	118,036	33,050	84,986								
SOURCE CATEGORY: SOLVENTS - ASPHALT PAVING APPLICATIONS														
Prohibition on cutback asphalt usage during ozone season		WP SOLV8A Adopt SCAQMD 1108.1 VOC content limit for emulsified asphalt	48,348	48,348	32,242	16,106								
SOURCE CATEGORY: SOLVENTS - DEGREASING														
State Rules; MACT Standard		SOLV6A Adopt Chicago/Metro East rule for cold cleaning (66% control)	61,226	56,295	22,790	33,505								
SOURCE CATEGORY: SOLVENTS - AUTO REFINISHING														
Part 59 Rules; State Rules		WP SOLV4B - Adopt More Stringent RACT regulations based on SCAQMD 1151 statewide	25,319	25,319	4,676	20,643								
SOURCE CATEGORY: SOLVENTS - ARCHITECTURAL, TRAFFIC MARKINGS, INDUSTRIAL MAINTENANCE COATINGS														
Part 59 AIM Federal Rule	Part 59 AIM Federal Rule	WP SOLV1A - OTC Model Rule/NR433.17	104,240	104,240	83,457	20,783								
		WP SOLV1B - OTC Model Rule/NR433.17 + SCAQMD Phase III			72,296	31,944								
SOURCE CATEGORY: SOLVENTS - CONSUMER PRODUCTS														
Part 59 Consumer Products Federal Rule	Part 59 Consumer Products Federal Rule	WP SOLV2A - OTC Model Rule	165,829	165,829	142,281	23,548								
		WP SOLV2B - OTC Model Rule + CARB SIP			124,496	41,333								

CONTROLS INCLUDED IN 2002 INVENTORY	OTB (ON-THE-BOOKS) and OTW (ON-THE-WAY) REDUCTIONS OCCUR AFTER 2002	CANDIDATE CONTROL MEASURES	2002 LADCO EI vs 2009 OTB vs Candidate Reductions											
			VOC				NOx				SO2			
				OTB	Candidate Controls			OTB	Candidate Controls			OTB	Candidate Controls	
			2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)	2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)	2002 (tpy)	2009 (tpy)	2009 (tpy)	Reduction (tpy)
	Reductions from White Paper Control Measures (reductions shown for 2009 are from the 2009 OTB levels)	**Lower End of Reductions - All Categories Listed Above**	**799,218**	**756,251**	**446,089**	**310,162**	**1,399,511**	**776,546**	**693,480**	**83,066**	**3,337,668**	**2,216,978**	**1,338,974**	**878,004**
		Upper End of Reductions - All Categories Listed Above			**414,038**	**342,213**			**576,614**	**199,932**			**894,171**	**1,322,807**
	Categories for which White Papers Have not yet been developed	Residential Fuel Combustion	185,441	185,441	185,441	0	84,565	84,656	84,656	0	6,450	6,450	6,450	0
		Pulp and Paper Industry	7,777	7,777	7,777	0	3,884	3,884	3,884	0	1,963	1,963	1,963	0
		Other Industrial Processes	34,856	34,856	34,856	0	3,765	3,765	3,765	0	13,201	13,201	13,201	0
		Highway Vehicles in 8-hr moderate areas	246,415	142,572	142,572	0	222,494	158,106	158,106	0	10,518	1,316	1,316	0
		Highway Vehicles in 8-hr basic/marginal areas	199,790	115,596	115,596	0	169,359	120,347	120,347	0	11,210	1,402	1,402	0
		Highway Vehicles in 8-hr attainment areas	236,185	136,653	136,653	0	212,043	150,679	150,679	0	13,478	1,686	1,686	0
		Heavy Duty Highway Vehicles	33,534	23,819	23,819	0	568,945	318,215	318,215	0	17,508	479	479	0
		Nonroad Gasoline	344,151	344,151	344,151	0	57,367	45,297	45,297	0	255	267	267	0
		Nonroad Diesel	25,445	25,445	25,445	0	272,881	224,959	224,959	0	6,552	2,630	2,630	0
		Industrial Petroleum Storage/Transport	64,687	27,345	27,345	0			0	0			0	0
		Graphic Arts	36,790	36,790	36,790	0			0	0			0	0
		Dry Cleaning	10,071	10,071	10,071	0			0	0			0	0
		Non_consumer Pesticide Application	62,702	62,702	62,702	0			0	0			0	0
		Waste Disposal & Open Burning	20,706	20,706	20,706	0	9,544	9,544	9,544	0	4,124	4,124	4,124	0
		Highway - Heavy Duty Gas	33,381	33,381	33,381	0	68,558	68,558	68,558	0	2,628	2,628	2,628	0
		Nonroad - Aircraft	2,508	2,853	2,853	0	9,353	7,991	7,991	0	874	880	880	0
		Nonroad - Marine Vessels	4,319	4,912	4,912	0	140,921	120,395	120,395	0	23,953	24,105	24,105	0
		Nonroad - Railroads	4,805	5,465	5,465	0	123,351	105,384	105,384	0	6,740	6,783	6,783	0
		Low-Priority Categories	**1,553,563**	**1,220,535**	**1,220,535**	**0**	**1,947,030**	**1,421,780**	**1,421,780**	**0**	**119,454**	**67,914**	**67,914**	**0**
		Total Emissions with Lower End of Reductions	**2,352,781**	**1,976,786**	**1,666,624**	**310,162**	**3,346,541**	**2,198,326**	**2,115,260**	**83,066**	**3,457,122**	**2,284,892**	**1,406,888**	**878,004**
		Total Emissions with Upper End of Reductions	**2,352,781**	**1,976,786**	**1,634,573**	**342,213**	**3,346,541**	**2,198,326**	**1,998,394**	**199,932**	**3,457,122**	**2,284,892**	**962,085**	**1,322,807**

SECTION 3

DEVELOPMENT OF CONTROL FACTORS

This chapter describes how MACTEC prepared the control factor files in RPO Data Exchange Protocol Format. First, we describe changes made to the "on-the-books" point source control factor files that were made to include revised MACT control factors, recent enforcement settlements, and other changes identified by the States. Next, we describe the development of the VOC control factors for area point source files. This is followed by a discussion of the preparation of the EGU point source files, the non-EGU point source files, and the nonEGU BART point source files.

NonEGU Point Source Control Factors for On-the-Books Controls

The starting place was the point source control factor file prepared by E.H. Pechan that contained control factors for MACT standards, refinery enforcement settlements, and the NOx SIP Call nonEGUs (file name: MidwestRPOPointControls.asc transmitted to MACTEC on January 3, 2006 by Mike Koerber). MACTEC made the following changes to this file:

1. For refineries, compared data compiled independently by Pechan, Brenda Shine from OAQPS, and MACTEC. In most cases, we all arrived at approximately the same control rates. The following is a summary of issues and how they were resolved:
    a. Some boilers/heaters were affected by both the NOx SIP CALL and Refinery Enforcement Settlement. In those cases, we included only the NOx SIP CALL control level to avoid double counting of reductions and to reflect that the reductions from the NOx SIP CALL will occur sooner that the reductions from the enforcement settlements..
    b. Our understanding is that the PREMCOR refinery in Illinois (17-119-119050AAA) was shut down in 2002. We included control factor records for this source to effectively reduce all emissions to zero in future years.
    c. Pechan's file did not have enforcement settlement CFs for ExxonMobil in Joliet, IL or Sunoco in Toledo, OH. These settlements were finalized in October 2005 and June 2005. We included enforcement settlement CFs for these two refineries.
    d. For a few refineries, the settlement calls for the "elimination of fuel oil burning" in process heaters – we created SO2 control factors for these units.
2. For the ADM plants in Decatur (17-115-115015AAE), Peoria (17-143-143065AJE), Quincy (17-001-001815AAF), Frankfort (18-023-00011), and Fostoria (39-063-0332020187) affected by the Archer Daniel Midland enforcement settlement, we created control factors for SO2, NOx, and VOC to reflect reduction identified in the settlement.
3. For the Cargill plants in Bloomington (17-113-113804AAR), Lafayette (18-157-00038), Hammond (8-089-00203), and Dayton (39-113-0857041124) affected by the Cargill enforcement settlement, we created control factors for SO2, NOx, and VOC to reflect reduction identified in the settlement.
4. We added SO2 control factor records for Units 1, 2, and 3 at the Alcoa Warrick IN facility (18-173-00002). We used a 98% control efficiency for scrubbers on these units. Unit 4 is considered an EGU and in the IPM inventory – so we did not create a control record for Unit 4. We assumed reductions would occur by January 1, 2009, but the exact date is not known since this is not a federally enforceable condition.
5. Based on information from stakeholders, we created control factor records for the following boilers in Indiana:

   a. Styline (18-037-00102) retired the remaining coal-fired boiler in 2002 (EU B2-A)
   b. Eli Lilly's Tippecanoe plant coal-fired boilers will be converted replaced with natural gas for compliance with the Industrial Boiler MACT standards

6. Teresa Walker of Michigan DEQ reported that two coal-fired boilers at General Chemical (26-101-B1821) and one coal-fired boiler at Cargill Salt (26-147-A6240) have been retired.
7. Wisconsin identified several OTB control factors:
   a. The casting line at Grede Foundries (55-079-241012310, EU P07) has been shut down
   b. ESP installed at Weyerhauser (55-073-73701045, EU P11)
   c. New post-2002 NOx controls at UW-Milwaukee (55079-241019900, EU B20, B21, B22) and Miller Brewing (55079-241007030, EU B20)
   d. New post-2002 NOx emission reductions at Saint-Gobain Glass (55101-252005930, EU P30 and P31)
   e. Changes to control factors for emission units potentially affected by post-2002 VOC MACT standards where WI estimates of VOC emission reductions differ from the default factors. We changed the MACT control factors provided by Pechan to the values recommended by WI for sources in Wisconsin.
8. Illinois identified two changes to OTB control factors:
   a. 34 emission units potentially affected by post-2002 VOC MACT standards where no VOC emission reductions are expected. We changed the MACT control factors to 0.
   b. Changes to cement kiln control factors for NOx SIP Call sources .

Table 5 identifies the RPO Data Exchange Protocol fields populated in the nonEGU OTB files.

NonEGU Point Source Control Factors for Candidate Control Measures

MACTEC prepared a single control factor file for nonEGU point sources for three source categories – ICI boilers. cement kilns, and glass furnaces. Control factors for NOx and SO2 were developed by process. Note that the Base Date Control Efficiency field is populated with a zero for every record because the base year control information reported in the base year CE inventory supplied by LADCO was zero for these categories. The nonEGU source identifiers (State FIPS, County FIPS, Site ID, Emission Unit ID, Emission Release Point ID, and Process Rate) were taken from the NIF files supplied by LADCO. Table 6 identifies the RPO Data Exchange Protocol fields populated in the nonEGU file.

NonEGU Point Source Control Factors for BART Control Measures

MACTEC prepared an updated control factor file for nonEGU BART sources for five source categories – ICI boilers, cement kilns, chemical plant boilers, iron and steel mills, and petroleum refineries. Control factors for NOx and SO2 were developed on a process-by-process basis. We also added control factors for 10 EGUs in North Dakota not covered by CAIR and six taconite facilities and two ICI boilers in Minnesota. The list of facilities assumed to be subject to BART was based on initial modeling analyes conducted by the LADCO States and information supplied by North Dakota and Minnesota. (Note: the LADCO States are working with EPA to finalize the list of "subject to BART" sources). Note that the Base Date Control Efficiency field is populated with a zero for every record because the base year control information reported in the base year CE inventory supplied by LADCO was zero for these categories. The nonEGU source identifiers (State FIPS, County FIPS, Site ID, Emission Unit ID, Emission Release Point ID, and Process Rate) were taken from the NIF files supplied by LADCO. Table 7 identifies the fields populated in the nonEGU BART file.

TABLE 5 – NONEGU "OTB" CONTROL FACTOR FILE INFORMATION

The ASCII file listed below provides "On-the-Books" control factors for nonEGU point sources. There is a single control factor file. These control factors are intended to be applied to the NIF files supplied by LADCO in January 2005. The table below identifies the RPO Data Exchange Protocol fields populated in this file.	
File Name	**Geographic Coverage**
MidwestRPOPointControls10jan06.TXT	Specific point sources affected by MACT standards, recent enforcement settlements, and information provided by states and stakeholders
Control Measure ID	**Control Measure Description**
ETHANOL	ADM and Cargill ethanol plant enforcement settlements
MACT	EPA post-2002 MACT Standards
NOXSIPCALL	NonEGUs affected by NOx SIP Call
REFINERIES	Global Refinery Enforcement Initiative
SHUTDOWN	Post-2002 Plant Permanent Shutdowns
STATERULE	Post-2002 State Rules
BART	EGUs in North Dakota not covered by CAIR; six taconite facilites in Minnesota and two in Michigan; an industrial boiler in Minnesota
Field Name	**How Populated?**
RECORD TYPE	C
COUNTRY CODE	US
STATE CODE	xx__ from NIF files
COUNTY FIPS	xxx from NIF files
SIC	Blank
SCC	xxxxxxxxxx from NIF files
SITEID	Xxxxxxxxxxxxxxx from NIF files
EMISSION UNIT ID	xxxxxx from NIF files
EMISSION RELEASE POINT ID	xxxxxx from NIF files
POLLUTANT CODE	SO2 or NOx
PROCESS ID	xxxxxx from NIF files
BASE DATE	010102
FUTURE DATE	010109
PRIMARY CONTROL CODE	Blank
BASE DATE CONTROL EFFICIENCY	0
FUTURE DATE CONTROL EFFICIENCY	Populated with future year overall percentage emission reduction from 2002 base year levels
FUTURE DATE GROWTH FACTOR	Blank
CONTROL TYPE	Refers to Control Measure ID used identified above
FUTURE DATE CHEMICAL SPECIATION	Blank
ALLOWABLE EMISSIONS CAP	Non-Blank for NOx SIP Call sources
MARKET PENETRATION OF SPECIATION	Blank
FIELD 3	Blank
FIELD 2	Blank
FIELD 1	Blank
CONTROL DESCRIPTION	Description of source category or control measure
PRIMARY CONTACT	ejsabo@mactec.com jwilson@pechan.com

TABLE 6 – NONEGU "CANDIDATE MEASURES" CONTROL FACTOR FILE

The ASCII file listed below provides control factors for nonEGU point sources. There is a single control factor file. These control factors are intended to be applied to the NIF files supplied by LADCO in January 2005. The table below identifies the RPO Data Exchange Protocol fields populated in this file.	
File Name	**Geographic Coverage**
NonEGU_MRPO_2009.txt (dated 2/15/2006)	Applies to all medium and large ICI boilers (defined as SO2 or NOx > 100 tpy), cement kilns, and glass/fiberglass furnaces
Control Measure ID	**Control Measure Description**
ICI1	Apply 40% SO2 and 60% NOx reduction to all medium and large ICI boilers
ICI3	Apply 90% SO2 and 80% NOx reduction (similar to BART) to all medium and large ICI boilers
KILN1	Apply reasonably available controls (90% SO2 and 50% NOx reduction) to all cement kilns in the region
GLASS1	Apply "highly" cost-effective controls (30% NOx reduction) to all glass/fiberglass furnaces in the region
GLASS2	Apply cost-effective controls (75% NOx reduction) to all glass/fiberglass furnaces in the region
Field Name	**How Populated?**
RECORD TYPE	C
COUNTRY CODE	US
STATE CODE	xx__ from NIF files
COUNTY FIPS	xxx from NIF files
SIC	Blank
SCC	xxxxxxxxxx from NIF files
SITEID	Xxxxxxxxxxxxxxx from NIF files
EMISSION UNIT ID	xxxxxx from NIF files
EMISSION RELEASE POINT ID	xxxxxx from NIF files
POLLUTANT CODE	SO2 or NOx
PROCESS ID	xxxxxx from NIF files
BASE DATE	010102
FUTURE DATE	010109
PRIMARY CONTROL CODE	Blank
BASE DATE CONTROL EFFICIENCY	0
FUTURE DATE CONTROL EFFICIENCY	Populated with future year overall percentage emission reduction from 2002 base year levels
FUTURE DATE GROWTH FACTOR	Blank
CONTROL TYPE	Refers to Control Measure ID used in LADCO White Papers (ICI1, ICI3, KILN1, GLASS1, GLASS2)
FUTURE DATE CHEMICAL SPECIATION	Blank
ALLOWABLE EMISSIONS CAP	Blank
MARKET PENETRATION OF SPECIATION	Blank
FIELD 3	Blank
FIELD 2	Blank
FIELD 1	Blank
CONTROL DESCRIPTION	Control Measure ID used in LADCO White Papers and control measure description
PRIMARY CONTACT	ejsabo@mactec.com

TABLE 7 – NONEGU "BART" CONTROL FACTOR FILE INFORMATION

The ASCII file listed below provides control factors for nonEGU BART point sources. There is a single control factor file. These control factors are intended to be applied to the NIF files supplied by LADCO in January 2005. The table below identifies the RPO Data Exchange Protocol fields populated in this file.	
File Name	**Geographic Coverage**
CF_BART_mrpo_mn_nd_2013.txt (dated 2/28/2006)	Applies to all BART units in the MRPO region in the industrial boilers, cement, chemical manufacturing, iron and steel, and petroleum refinery BART categories
Control Measure ID	**Control Measure Description**
ICI2	Apply Likely Controls (90% SO2 and 80% NOx Reduction) to ICI Boilers subject to the proposed BART requirements
REF1	Apply likely controls (90% SO2 and 80% NOx Reduction) to sources subject to the proposed BART requirements
I&S1	Apply likely controls (90% SO2 and 80% NOx Reduction) to sources subject to the proposed BART requirements
KILN2	Apply likely controls (95% SO2 and 80% NOx reduction) to kilns subject to the proposed BART requirements
CHEM1	Apply likely controls (90% SO2 and 80% NOx Reduction) to chemical plant boilers subject to the proposed BART requirements
Field Name	**How Populated?**
RECORD TYPE	C
COUNTRY CODE	US
STATE CODE	xx__ from NIF files
COUNTY FIPS	xxx from NIF files
SIC	Blank
SCC	xxxxxxxxxx from NIF files
SITEID	Xxxxxxxxxxxxxxx from NIF files
EMISSION UNIT ID	xxxxxx from NIF files
EMISSION RELEASE POINT ID	xxxxxx from NIF files
POLLUTANT CODE	SO2 or NOx
PROCESS ID	xxxxxx from NIF files
BASE DATE	010102
FUTURE DATE	010113
PRIMARY CONTROL CODE	Blank
BASE DATE CONTROL EFFICIENCY	0
FUTURE DATE CONTROL EFFICIENCY	Populated with future year overall percentage emission reduction from 2002 base year levels
FUTURE DATE GROWTH FACTOR	Blank
CONTROL TYPE	Refers to Control Measure ID used in LADCO White Papers (ICI2, KILN2) or BART Measure ID (REF1, CHEM1, I&S1)
FUTURE DATE CHEMICAL SPECIATION	Blank
ALLOWABLE EMISSIONS CAP	Blank
MARKET PENETRATION OF SPECIATION	Blank
FIELD 3	Blank
FIELD 2	Blank
FIELD 1	Blank
CONTROL DESCRIPTION	Uses Control Measure ID used in LADCO White Papers and control measure description
PRIMARY CONTACT	ejsabo@mactec.com

VOC Area and Point Source Control Factors

MACTEC prepared VOC control factor files for eight source categories – AIM Coatings, Consumer and Commercial Solvents, Portable Fuel Containers, Auto Refinishing, Industrial Surface Coating, Industrial Solvent Cleaning, Gasoline Dispensing Facilities (Stage I, Stage II, and USTs), and Asphalt Paving. Three sets are control factor files were developed for three geographic areas: (1) all 8-hour ozone nonattainment counties in the 5-state MRPO region; (2) all 8-hour ozone nonattainment counties plus adjacent counties; and, (3) all counties in the MRPO region. Appendix B lists each county in the region, its attainment status for ozone and PM2.5, and whether it borders an 8-hour ozone nonattainment area.

For area sources, we followed the conventions established by E.H. Pechan and Associates in developing the "on-the-books" control factors for area sources. Information into two separate sets of files: one file that includes controls for which there is no change in emission reduction after the initial implementation year, and the other file that includes controls for which the emission reduction changes over time due to the effect of increased Rule Penetration (RP). In cases where it was feasible to do so, we populated the 5th, 4th, and 3rd fields from the end of each control factor file ("RESERVED FOR FUTURE USE" in the RPO Data Exchange Protocol Format) with future year CE, RE, and RP values. The field "BASE DATE CONTROL EFFICIENCY" was populated with the base year overall percentage emission reduction from uncontrolled levels. The field "FUTURE DATE CONTROL EFFICIENCY" was populated with the overall percentage emission reduction from uncontrolled levels for the control measure.

For point sources, VOC control factors were developed for the industrial surface coating category on a process by process basis. The field "BASE DATE CONTROL EFFICIENCY" was populated with the base year overall control efficiency from the NIF CE file. The field "FUTURE DATE CONTROL EFFICIENCY" was populated with the overall percentage emission reduction from uncontrolled levels for the control measure (i.e., 90 percent reduction). If the actual base year control efficiency was greater than 90 percent, then the future date control efficiency was set equal to the base year control efficiency.

Controls Affected by Rule Penetration

Three control factor files were developed for area source categories which the level of emission reduction increases over time due to increased RP. The only category included in this set of files is the Portable Fuel Container category. Table 8 provides information about the RPO Data Exchange Protocol files and fields. This file incorporates control factors for all years from 2007 through 2018.

Controls Unaffected by Rule Penetration

Three additional control factor files were developed for area and point source categories which the level of emission reduction does not change over time. Because there is no projected change in the emission reduction after the initial implementation year, this file reports control factors only for the first year that each control is due to be implemented. However, these control factors also apply to each post-implementation year. Table 9 identifies the RPO Data Exchange Protocol fields populated in this file.

TABLE 8 - AREA SOURCE CONTROL FACTOR FILE INFORMATION FOR CATEGORIES AFFECTED BY RULE PENETRATION

The ASCII files listed below contain VOC area source control factors for which the level of emission reduction increases over time due to increased RP. This file incorporates control factors for 2007-2018. The table below identifies the strategies and the RPO Data Exchange Protocol fields that are populated in these files.	
File Name	**Geographic Coverage**
VOCControlsAffectedByRP_8hr_Counties.txt (dated 2/15/2006)	Control Factors only for 8-hr ozone nonattainment counties in the MRPO Region
VOCControlsAffectedByRP_8hr_and_Adjacent_Counties.txt (dated 2/15/2006)	Control Factors for 8-hr ozone nonattainment counties and adjacent counties in the MRPO Region
VOCControlsAffectedByRP_All_Counties.txt (dated 2/15/2006)	Control Factors for all counties in the MRPO Region
Control Measure ID	**Control Measure Description**
SOLV3A	Portable Fuel Containers - OTC Model Rule
SOLV3B	Portable Fuel Containers - OTC Model Rule Plus Accelerated Phase-In in Nonattainment Areas
Field Name	**How Populated?**
RECORD TYPE	C
COUNTRY CODE	US
STATE CODE	xx__ from EM files
COUNTY FIPS	xxx from EM files
SIC	Blank
SCC	xxxxxxxxxx from White Papers
SITEID	Blank
EMISSION UNIT ID	Blank
EMISSION RELEASE POINT ID	Blank
POLLUTANT CODE	VOC
PROCESS ID	Blank
BASE DATE	010102
FUTURE DATE	010107-010118 (separate records for each year)
PRIMARY CONTROL CODE	Blank
BASE DATE CONTROL EFFICIENCY	0
FUTURE DATE CONTROL EFFICIENCY	Populated with overall percentage emission reduction from uncontrolled (product of CE, RE, and RP); changes by year
FUTURE DATE GROWTH FACTOR	Blank
CONTROL TYPE	Refers to Control Measure ID used in LADCO White Papers
FUTURE DATE CHEMICAL SPECIATION	Blank
ALLOWABLE EMISSIONS CAP	Blank
MARKET PENETRATION OF SPECIATION	Blank
FIELD 3	Future Year CE
FIELD 2	Future Year RE
FIELD 1	Future Year RP
CONTROL DESCRIPTION	Uses Control Measure ID used in LADCO White Papers, category affected, and control measure description
PRIMARY CONTACT	ejsabo@mactec.com

TABLE 9 – AREA SOURCE CONTROL FACTOR FILE INFORMATION FOR CATEGORIES NOT AFFECTED BY RULE PENETRATION

The ASCII files listed below provide control factors for VOC point and area source emission controls for which RP does not change over time. Because there is no projected change in the emission reduction after the initial implementation year, this file reports control factors only for the first year that each control is due to be implemented. However, these control factors also apply to each post-implementation year. The table below identifies the RPO Data Exchange Protocol fields populated in this file	
File Name	**Geographic Coverage**
VOCControlsByStartYear_8hr_Counties.txt (dated 2/15/2006)	Control Factors only for 8-hr ozone nonattainment counties in the MRPO Region
VOCControlsByStartYear_8hr_and_Adjacent_Counties.txt (dated 2/15/2006)	Control Factors for 8-hr ozone nonattainment counties and adjacent counties in the MRPO Region
VOCControlsByStartYear_All_Counties.txt (dated 2/15/2006)	Control Factors for all counties in the MRPO Region
Control Measure ID	**Control Measure Description**
SOLV1A	Adopt more stringent VOC limits (21% reduction beyond Federal Part 59 limits) for AIM coatings based on OTC Model Rule and Wisconsin NR433.17
SOLV1B	Adopt SCAQMD Phase III VOC limits in addition to OTC Model Rule
SOLV2A	Consumer Products - Limits Based on OTC Model Rule
SOLV2B	Consumer Products - Limits Based on CARB 2003 SIP Requirements in addition to OTC Model Rule
SOLV4A	Auto Refinishing - Extend Existing IL/IN/WI RACT Rules beyond 1-hr nonattainment counties
SOLV4B	Auto Refinishing - Adopt More Stringent RACT based on SCAQMD 1145
SOLV5A	Point Source Industrial Surface Coatings - More Stringent RACT, Lower Applicability Thresholds, Extended Geographic Coverage
SOLV5B	Area Source Industrial Surface Coatings - More Stringent RACT, Lower Applicability Thresholds, Extended Geographic Coverage
SOLV6A	Degreasing - Adopt Chicago/Metro East cold cleaning regulations in all counties
SOLV7A	GDFs Stage I - Adopt CARB Stage I EVR requirements
SOLV7B	GDFs Stage II - Adopt CARB Stage I EVR requirements
SOLV7C	GDFs UST - Require APCD on UST Vent
SOLV8A	Asphalt Paving - Adopt SCAQMD 1108.1 VOC content Limits for emulsified asphalt
Field Name	**How Populated?**
RECORD TYPE	C
COUNTRY CODE	US
STATE CODE	xx__ from EM files
COUNTY FIPS	xxx from EM files
SIC	Blank
SCC	xxxxxxxxxx from White Papers for area; from EM file for point
SITEID	Blank for area, xxxxxxxxxxxxxxx from EM file for point

Field Name	**How Populated?**
EMISSION UNIT ID	Blank for area, xxxxxx from EM file for point
EMISSION RELEASE POINT ID	Blank for area, xxxxxx from EM file for point
POLLUTANT CODE	VOC
PROCESS ID	Blank for area, xxxxxx from EM file for point
BASE DATE	010102
FUTURE DATE	010109
PRIMARY CONTROL CODE	Blank
BASE DATE CONTROL EFFICIENCY	Populated with base year overall percentage emission reduction from uncontrolled
FUTURE DATE CONTROL EFFICIENCY	Populated with future year overall percentage emission reduction from uncontrolled (product of CE, RE, and RP)
FUTURE DATE GROWTH FACTOR	Blank
CONTROL TYPE	Refers to Control Measure ID used in LADCO White Papers
FUTURE DATE CHEMICAL SPECIATION	Blank
ALLOWABLE EMISSIONS CAP	Blank
MARKET PENETRATION OF SPECIATION	Blank
FIELD 3	Future Year CE
FIELD 2	Future Year RE
FIELD 1	Future Year RP
CONTROL DESCRIPTION	Uses Control Measure ID used in LADCO White Papers, category affected, and control measure description
PRIMARY CONTACT	ejsabo@mactec.com

EGU Control Factors

MACTEC prepared ten control factor files for EGUs to account for the two control measures (EGU1 and EGU2), three years (2009, 2012, and 2018), and two geographic areas (the 5 MRPO States and 7 other States adjacent to the LADCO States). The five MRPO States are Illinois, Indiana, Michigan, Ohio, and Wisconsin. The other seven States are Minnesota, Iowa, Missouri, Kentucky, Tennessee, West Virginia, and Pennsylvania. These control factor files are intended to be applied to the EGU NIF files (2009, 2012, and 2018 CAIR control scenarios) that were created by E.H. Pechan from the IPM parsed files that were generated for VISTAS/MRPO in 2005. Table 10 identifies the RPO Data Exchange Protocol fields populated in the EGU files.

The unit-specific future date control efficiency for the 5 MRPO States was calculated in the following manner:

- For each control measure and year, calculate the 5-State MRPO region annual SO2 emission caps and winter/summer NOx emission caps based on the IPM-projected heat inputs (mmBtu) and the average emission rate (lbs/mmBtu) for the control measure/year;
- Identify all units with emission rates below the average emission rate for the control measure/year; set the future year percent control efficiency to 0 for these units since they are already below the average emission rate on which the caps are based;
- Subtract the emissions from units with emission rates below the average emission rate and calculate an "adjusted" emission rate (lbs/mmBtu) that units above the average emission rate must meet;
- Calculate the control factor (for units above the "adjusted" emission rate) as one minus the ratio of the "adjusted" average emission rate to the actual emission rate for that unit.

A similar procedure was used for the 12-State region. The base date control efficiency is populated with zero for every record since the future date control efficiency is the incremental reduction from the IPM-projected 2009, 2012, or 2018 emission estimate.

For SO2, a single annual average control factor was calculated on a unit-by-unit basis. For NOx, two control factors were calculated – one for the 7-month winter season (January to April, October to December) and the second for the 5-month summer season (May to September). This was done because units affected by the NOx SIP Call have lower average NOx emission rates in the summer than in the winter, and the degree of reduction needed to meet the average emission rate is less in the summer months. Thus, there are three NOx control factor records for each unit: the first for the first part of the winter season (future date = 010109, 010112, or 010118), the second for the summer season (future date = 050109 or 050118), and the third for the second part of the winter season (future date = 100109, 010112, or 100118).

The EGU source identifiers (State FIPS, County FIPS, Site ID, Emission Unit ID, Emission Release Point ID, and Process Rate) were taken from the EGU NIF files (control scenario) that were created by E.H. Pechan from the IPM parsed files. Each process level record in the NIF files has four corresponding records in the control factor file (i.e., one annual SO2 record, one summer NOx record, and two winter NOx records).

TABLE 10 – EGU CONTROL FACTOR FILE INFORMATION

The ASCII files listed below provide control factors for EGUs. There are ten control factor files to account for the two control measures (EGU1 and EGU2), three years (2009, 2012, and 2018), and two geographic areas (the 5 MRPO States and 7 adjacent states). These control factors are intended to be applied to the EGU NIF files for the CAIR control scenario that were created by E.H. Pechan from the IPM parsed files generated for VISTAS/MRPO in 2005.The table below identifies the RPO Data Exchange Protocol fields populated in this file.	
File Name	**Geographic Coverage**
EGU1_5state_2009.txt (dated 2/1/2006)	Measure EGU1 (interim emission caps based on 0.15 lbs/mmBtu for NOx and 0.36 lbs/mmBtu for SO2) for 5-state MRPO region
EGU2_5state_2009.txt (dated 2/1/2006)	Measure EGU2 (interim emission caps based on 0.12 lbs/mmBtu for NOx and 0.24 lbs/mmBtu for SO2) for 5-state MRPO region
EGU1_5state_2012.txt (dated 2/1/2006)	Measure EGU1 (interim emission caps based on 0.15 lbs/mmBtu for NOx and 0.36 lbs/mmBtu for SO2) for 5-state MRPO region
EGU2_5state_2012.txt (dated 2/1/2006)	Measure EGU2 (interim emission caps based on 0.12 lbs/mmBtu for NOx and 0.24 lbs/mmBtu for SO2) for 5-state MRPO region
EGU2_5state_2018.txt (dated 2/28/2006)	Measure EGU2 (final emission caps based on 0.07 lbs/mmBtu for NOx and 0.10 lbs/mmBtu for SO2) for 5-state MRPO region
EGU1_12state_2009.txt (dated 2/1/2006)	Measure EGU1 (interim emission caps based on 0.15 lbs/mmBtu for NOx and 0.36 lbs/mmBtu for SO2) for 5 MRPO and 7 adjacent state region
EGU2_12state_2009.txt (dated 2/1/2006)	Measure EGU2 (interim emission caps based on 0.12 lbs/mmBtu for NOx and 0.24 lbs/mmBtu for SO2) for 5 MRPO and 7 adjacent state region
EGU1_12state_2012.txt (dated 2/1/2006)	Measure EGU1 (interim emission caps based on 0.15 lbs/mmBtu for NOx and 0.36 lbs/mmBtu for SO2) for 5 MRPO and 7 adjacent state region
EGU2_12state_2012.txt (dated 2/1/2006)	Measure EGU2 (interim emission caps based on 0.12 lbs/mmBtu for NOx and 0.24 lbs/mmBtu for SO2) for 5 MRPO and 7 adjacent state region
EGU2_12state_2018.txt (dated 2/28/2006)	Measure EGU2 (final emission caps based on 0.07 lbs/mmBtu for NOx and 0.10 lbs/mmBtu for SO2) for 5 MRPO and 7 adjacent state region
Control Measure ID	**Control Measure Description**
EGU1	Adopt emission caps based on "Retrofit BACT Level" of 0.15 lbs/mmBtu for SO2 and 0.10 lbs/mmBtu for NOx to be achieved by 2013; interim caps for 2009-2012 of 0.36 lbs/mmBtu for SO2 and 0.15 lbs/mmBtu for NOx
EGU2	Adopt emission caps based on "BACT Level for New Plants" of 0.10 lbs/mmBtu for SO2 and 0.07 lbs/mmBtu for NOx to be achieved by 2013; interim caps for 2009-2012 of 0.24 lbs/mmBtu for SO2 and 0.12 lbs/mmBtu for NOx
Field Name	**How Populated?**
RECORD TYPE	C
COUNTRY CODE	US
STATE CODE	xx__ from Pechan NIF files
COUNTY FIPS	xxx from Pechan NIF files
SIC	Blank
SCC	xxxxxxxxxx from Pechan NIF files
SITEID	Xxxxxxxxxxxxxxx from Pechan NIF files
EMISSION UNIT ID	xxxxxx from Pechan NIF files
EMISSION RELEASE POINT ID	xxxxxx from Pechan NIF files
POLLUTANT CODE	SO2 or NOx
PROCESS ID	xxxxxx from Pechan NIF files

Field Name	**How Populated?**
BASE DATE	010102
FUTURE DATE	010109 or 010118 for winter NOx and annual SO2 050109 or 050118 for summer NOx 100109 or 100118 for winter NOx
PRIMARY CONTROL CODE	Blank
BASE DATE CONTROL EFFICIENCY	0
FUTURE DATE CONTROL EFFICIENCY	Populated with unit-specific emission reduction needed to achieve region-wide emission cap
FUTURE DATE GROWTH FACTOR	Blank
CONTROL TYPE	Refers to Control Measure ID used in LADCO White Papers (EGU1 or EGU2)
FUTURE DATE CHEMICAL SPECIATION	Blank
ALLOWABLE EMISSIONS CAP	Blank
MARKET PENETRATION OF SPECIATION	Blank
FIELD 3	Blank
FIELD 2	Blank
FIELD 1	Blank
CONTROL DESCRIPTION	Uses Control Measure ID used in LADCO White Papers and control measure description
PRIMARY CONTACT	ejsabo@mactec.com

SECTION 4

FUTURE CONSIDERATIONS

The following are issues that LADCO may wish to address in future control measure evaluations:

- Various alternatives to the EGU1 and EGU2 candidate control measures are being considered. There are different alternatives for year of implementation, stringency in terms of system-wide emission rate, and geographic coverage. The LADCO States should consider updating the control measures and control factor files for EGU1 and EGU2 based on the alternatives of interest and any future IPM modeling of alternatives.
- This report does not address possible emission reductions resulting from various alternative fuel scenarios being developed by the Southeast Michigan Council of Governments (SEMCOG) or mobile source control measures analyzed by Environ. Any reductions expected from these alternative fuel or mobile source measures would be in addition to the reductions shown in this report.
- The California Air Resources Board continues to evaluate revisions to their control measure analyses for several area source VOC categories, including architectural and industrial maintenance coatings, automobile refinishing coatings, consumer/commercial products, and portable fuel containers. LADCO should closely follow CARB's activities, which may result in measures that are more stringent (or possibly less stringent) than those identified in the LADCO White Papers.
- The Ozone Transport Commission is considering updates to several of its Model Rules that served as the basis for candidate control measures in several of the White Papers (AIM coatings, consumer productions, portable fuel containers, auto refinish coatings, solvent cleaning). The LADCO States should track the OTC's rule development process and compare any changes to the OTC Model Rules to the measures contained in these White Papers.
- The EPA proposed its mobile source air toxic rule in February, 2006. One of the categories in this rule is portable fuel containers. The LADCO States should track the EPA's proposed rule and compare it to the measures contained in the PFC White Paper.
- Finally, candidates for further study may include important categories with respect to primary particulate matter, organic and elemental carbon, and ammonia.

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APPENDIX A

SUMMARY OF CHANGES TO LADCO WHITE PAPERS

I. Changes to Electric Generating Units White Paper(December 8, 2005)

Comments Addressed in Revised EGU White Paper

Comment: Update regulatory section (e.g., reflect final CAIR and BART rules)
Response: MACTEC updated Tables 1 and 2 to use the results from the latest round of RPO IPM modeling reflecting the requirements of the final CAIR rule as well as updates to the input EGU inventory. No changes to the EGU1 and EGU2 levels of control were made. MACTEC expanded Tables 1 and 2 to show ozone season emissions for NOx, since the final CAIR specifies ozone season NOx emission budgets. We revised the description of the "On-the-Way Regulations" to reflect the provisions of the final CAIR and CAMR rules.

Comment: The discussion of allocating CAIR SO2 allowances in incorrect (i.e., SO2 allocations are set by the 1990 CAA, not CAIR) middle of page 7 in 1/14/2005 version.
Response: This paragraph was rewritten to accurately describe the CAIR cap-and-trade program.

Comment: Projected emissions (based on IPM) may not be accurate (e.g., size of allowance banks flawed, and assumptions about which plants will install pollution equipment does not match reality)
Response: MACTEC updated Tables 1 and 2 to use the results from the latest round of RPO IPM modeling reflecting the requirements of the final CAIR rule as well as updates to the input EGU inventory. Any projections of which plants will install pollution equipment have some uncertainty – IPM is generally considered to be the best available analytical tool for making those projections.

Comment: Need to clarify whether the NOx emission caps are on an annual basis, and address the implications of maintaining the summer ozone season CAIR NOx emission cap.
Response: Tables 1 and 2 were updated to show the ozone season NOx emissions in 2002, projected emissions under the CAIR, and projected emissions under EGU1 and EGU2. For now, the NOx emission caps for the ozone season were calculated using the same EGU1 and EGU2 lbs/mmBtu values as for the annual case (.i.e, "retrofit BACT levels" of 0.15 lbs/mmBtu for SO2 and 0.10 lbs/mmBtu for NOx, to be fully implemented by 2013; "BACT levels for new plants" of 0.10 lbs/mmBtu for SO2 and 0.07 lbs/mmBtu for NOx, to be fully implemented by 2013.)

Comments to be Addressed at a Later Date

Comment: The BBC study, commissioned by CEED, MOG, and NiSource shows:
- Electric rates would increase regionally by 11% (EGU1), 16% (EGU2)
- Demand for IL,IN,OH coal would decrease by 48% (EGU1), 54% EGU2)
- Economic output would decrease regionally by $7-10 billion (EGU1), $9-14 billion (EGU2)
- Employment in the region would decline by 50-70K jobs (EGU1), 70-95K (EGU2)

Comment: The Marchetti study, commissioned by MOG, shows:
- Retirement of 10.6 and 34.9 GW, respectively, of coal-fired capacity
- Increased annualized compliance costs (10x greater than those for CAIR)
- Displacement of 42.6-47.8 M tons of IL, IN, OH coal with natural gas, PRB coal
- Emission caps cannot be achieved even with aggressive application of FGDs, SCRs

Response: The emission caps assumed in the Marchetti and BBC studies are more stringent than those identified for EGU1 and EGU2 in the White Paper. A more complete benefit-cost study based on the correct EGU1 and EGU2 is currently being performed for LADCO.

Comment: Remarks on appropriate combination (and amount) of local and regional controls needed to provide for attainment of NAAQS and meet regional haze goals:
• Supports CAIR as a basis for regional controls.
• A wider range of EGU reductions should be considered.
• If the States continue to pursue beyond-CAIR reductions from EGUs, then consideration should be given exempting those utilities that will already have coalfired units equipped with FGDs and SCRs.
• The States should consider a balance between local and regional controls; in particular local reductions for nonEGU and mobile sources (e.g., EPA's ozone source apportionment modeling shows that nonroad, on-road, and nonEGU sources are the main contributors to ozone in Chicago)
• Source apportionment modeling shows that local controls of area and mobile sources are more important to achieve attainment. MRPO should support states in more localized control strategies.
• Nonattainment is a local problem and reductions should come from all sources within the nonattainment area.
• EGU1, EGU2 will not significantly aid individual states in developing their SIPs for ozone or PM2.5.
• Even if the control options are technically achievable, they should be disregarded if they do not make a meaningful difference in achieving attainment.

Comment: BACT is not an appropriate level of control to be considered for the universe of EGUs across the 5-state region. Furthermore, the amount of SO2 reduction needed to achieve the EGU1 and EGU2 limits of 0.15 and 0.10 lb/MMBTU for the high sulfur coals in IL, IN, and OH is on the order of 96-98%, which is unachievable across the universe of power plants of diverse capacity, age, retrofit difficult, and thermal efficiency. An emission limit of 0.35 lb/MMBTU would allow nearly all IL, IN, and OH coals to be used at an assumed 95% FGD control efficiency. EGU1 and EGU2 limits would necessitate fuel switching and discriminate against the use of local coal resources. Assumption that every retrofit can meet a high level of reduction (95- 98 percent removal) is incorrect.

Comment: EGU1, EGU2 will result in replacing the use of local (IL) coal with a lower sulfur coals supply, which is not a prudent policy.

Comment: The following additional information should be included in the White Paper:
• MW hours of electricity produced by coal-fired units in comparison to other generation sources in the Midwest.
• Number of existing control equipment that might need to be upgraded, the upgrade costs, and the time needed to implement the upgrades.

Comment: The control meaasures in the STAPPA/ALAPCO have not been analyzed for feasibility or cost.

Comment: Need to conduct more comprehensive study of key risk factors and rigorous analysis of what can be realistically accomplished by specific deadlines and what the costs will be.

Comment: Extrapolation of cost effectiveness information from USEPA's CAIR analysis is inappropriate. Marginal costs in a smaller region (i.e., 5-state LADCO region) will be higher than those in a larger 28-state region. An analysis of cost should be conducted for the 5-state region using the most accurate economic assumptions. Other cost metrics, beside $ per ton, should be considered.

Comment: In comparison to recent consent decrees and BACT determinations, EGU1 and EGU2:
• Are extremely aggressive targets.
• Are more stringent than NSPS.

• Will require universal deployment of SCRs for NOx (EGU2), which may not be possible on all existing units and may force retirement for certain smaller, older units (thereby, posing reliability problems). Furthermore, maintaining high levels of control for 12 months with SCR equipment is unproven.
• Will require retrofit of FGD for SO2 on most units, which may force retirement for certain smaller, older units (thereby, posing reliability problems)

Comment: The derivation of EGU1, EGU2 emission caps is overly simplistic and unrealistic:
• Ignores unit design, operation, fuel handling, and other site-specific factors
• Arbitrarily uses only 2001 heat input, rather than a range of years or future year growth.
• Interim caps not supported by appropriate technical analyses.
• Need to consult with appropriate state agencies, such as utility transmission and planning regulators.

Comment: The White Paper should address implementation of EGU1 and EGU2, including the interaction with the CAIR trading program, and use of the existing bank of SO2 allowances.

Comment: Need to address how state-specific mercury reduction requirements, which are more stringent than CAMR, impact SO2 and NOx reductions.

Comment: Miscellaneous Comments:
• Use of ICAC's position, without consideration of utility industry's opposing comments filed under CAIR undermines the credibility of the W.P.
• The estimated NOx reduction costs ($700-2,100 per ton) are well below the current allowance market price of $3,000-4,500 per ton.
• In "Candidate Control Measures", only the Emission Control Technologies item is relevant.
• Unreasonable to assume that any modeled control strategy that goes beyond the NOx SIP call and CAIR will be adopted by all the states in a timely manner.
• If EGU1, EGU2 are to be modeled in IPM, then the IPM assumptions should be documented and made available for review and comment.

II. Changes to the Industrial, Commercial, Institutional (ICI) Boilers (December 6, 2005)

Commenter: Citizens Thermal Energy, *Comments Regarding "Interim White Paper – Midwest RPO Candidate Control Measures: Source Category ICI Boilers (03/29/05)"*, July 29, 2005.

Comment #1: Comments Regarding Source Category Description: (a) ICI Boilers utilize a variety of fuels, (b) Most ICI Boiler designs cannot accommodate wholesale fuel switching with ease, (c) Consideration should be made to the CFB boiler technology by acknowledging its significant environmental benefits, (d) Table 2 must be improved – it is an "interesting first pass at characterizing the population of Midwest ICI boilers", but is "wholly inadequate as a base for regulatory assessment." .

Response to (1a): MACTEC has added a new table showing emissions by fuel type and an expanded discussion in the "Source Category Description" section to illustrate the variety of fuels used and emissions generated by fuel type. MACTEC also referred readers to new References 8 and, the Energy and Environmental Analysis report *Characterization of the U.S. Industrial/Commercial Boiler Population* and the Oak Ridge National Laboratory report *Guide to Low-Emission Boiler and Combustion Equipment Selection*, which provide a more detailed description the diversity of the ICI boiler population.

Response to (1b): MACTEC added a sentence in the "Source Category Description" to indicate that most boilers are design to combust specific fuels and that switching fuels may decrease capacity or efficiency.

Response to (1c): MACTEC added a sentence in the "Source Category Description" to describe CFB boilers.

Response to (1d): MACTEC added Table 2b to show emissions by fuel type. We are continuing to work with States and industry in improving the ICI boiler database to account for differences in boiler size, design, and fuel type.

Comment #2: Comments Regarding Regulatory History: (1) Reflect final CAIR and BART rules and (2) take into account current unit level reductions from NOx SIP Call and consent orders.

Response to (2a): MACTEC revised the discussion to reflect final CAIR and BART rules.

Response to (2b): As shown in Table 3a of the 3/29/05 versions of the White Paper, emission from the NOx SIP call were accounted for. We reviewed enforcement settlements for the refining and ethanol industries and accounted for these reductions in the "on-the-books" scenarios. We also identified plans for scrubbers at the Alcoa Warrick facility that will result in large reductions from this unique facility. Information on existing controls was collected from the states to better characterize the controls already in place for MRPO ICI boilers. The emissions shown in all of the tables were recalculated using this new information. We are continuing to work on improving the ICI boiler database to account for existing controls.

Comment #3: Comments Regarding Candidate Control Measures: control assumptions based on BART-eligible units are not applicable for all other units, emerging technologies have only been tested for a limited number of boiler types/sizes and may not scale down to the ICI boiler category, SCR for NOx has limited applicability to the ICI boiler category.

Response to #3: MACTEC is continuing to investigate whether data exists to develop more specific candidate control measures based on fuel type, size, and boiler design. For the Ozone Transport Commission, we are currently conducting a benchmarking study to better characterize emission controls for different boiler designs and fuel types. EPA is also working to improve its inventory of emissions anc

control cost information for nonEGU boilers. Results of these efforts may be incorporated in future versions of the White Paper to provide more specific emission reduction and cost-effectiveness estimates based on boiler type, size, and fuel type.

Comment #4: Comments Regarding Cost Effectiveness and Basis: cost-effectiveness does not account for the complexity of the ICI boiler population, candidate control measures are real options for only a few ICI boilers, must fully consider impact on non-traditional fuels.

Response to #4: See Response to #3.

Comment #5: Comments Regarding Timing of Implementation: Any future control program should be coordinated with the ICI boiler MACT standard, and should only require reductions that are cost-effective.

Response to #5: This issue will be addressed separately by the States at a later date.

III: Changes to the Cement Kilns White Paper (December 15, 2005)

Commenter: Portland Cement Association, *Comments on the Midwest Regional PlanningOrganization's Engineering Analysis on Cement Best Available Retrofit Technology (BART) and Interim White Paper - Midwest RPO Candidate Control Measures, Source Category: Cement Kilns"*, October 7, 2005.

Comment #1: The assessment of low-NOx burner technology assumes an extremely aggressive control efficiency and fails to include certain costs.

Response to #1: The performance and cost information for low-NOx burners in the White Paper came directly from EPA's *NOx Control Technologies for the Cement Industry,* September 19, 2000. Attachment 1 of the White Paper lists a range of $300 to $1200/ton for low-NOx burners, which came from Table 6-19 of the EPA document, which was based on an average 25% NOx reduction, which is in the middle of the range of the 4-47% NOx reduction quoted in the White Paper. These estimates represent average costs that might be expected for a typical kiln.

Comment #2: The assessment of SCR technology assumes an unsupported control efficiency and fails to include certain costs. Furthermore, the application of SCRs to cement kilns is extremely limited. The commentor disagreed that SCR technology is a reasonably available technology for controlling NOx emissions.

Response to #2: After reviewing available literature, we agree that SCR technology has limited applicability and is not likely to be considered reasonably available or BART. However, as the commenter points out, "other more established NOx-control technologies are capable of achieving the emission rates that are currently attained by the sole plant currently utilizing SCR…these other technologies are significantly less expensive to install and operate". For example, European Commission, Integrated Pollution Prevention and Control (IPPC) Bureau's *Reference Document on Best Available Techniques in the Cement and Lime Manufacturing*
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Industries indicates that two plants in Europe are achieving reduction rates of 80-85% using SNCR technologies. MACTEC made changes to the White Paper to indicate that SCR is not applicable, but retained the 80% reduction percentage as BART based on the experience of the two European plants that utilize SNCR.

Comment #3: Several problems were noted with respect to the cost estimates, including use of an inappropriate interest rate; lack of cost calculations for mid-kiln firing, SNCR, and change in feed material; lack of data to support purchased equipment costs; failure to include certain costs associate with FGC systems; and inclusion of a "tipping fee" in the cost effectiveness calculations.

Response to #3: Cost estimates for NOx controls in the White Paper came directly from EPA's *NOx Control Technologies for the Cement Industry,* September 19, 2000. Chapter 6 of that document provides detailed cost calculations for low-NOx burners, mid-kiln firing, SNCR, and SCR.

Comment #4: The White Paper fails to address site-specific considerations, such as space availability and other regulatory factors.

Response to #4: These factors are very site-specific and cannot be addressed in this preliminary discussion of candidate control measures. These factors will be addressed at a later time by the States.

Comment #5: The White Paper incorrectly states that there are no existing controls for SO2 or NOx. Many cement kilns are subject to the NOx SIP Call and some are subject to NOx RACT.

Response to #5: The emission inventory database that MACTEC is using lacked data on existing controls at cement kilns. This is a gap in the inventory database. To fill this gap, we asked each state to identify the existing controls at each cement kiln. The White Paper acknowledges in several places (Table 1, the discussion of the NOx SIP call on page 3, Table 2, and Table 3) that emission reductions from 2002 levels based on controls installed to comply with the NOx SIP call requirements. No state identified any existing SO2 controls.

Comment #6: Several problems were noted with respect to the assumed control technologies, including lack of data to support the assertion that advanced FGD is technically feasible, and lack of support for the assumed wet FGD control efficiencies.

Response to #6: We agree that the advanced FGD system referenced (the Passamaquoddy scrubber system) was a DOE demonstration project and it is questionable whether it is technically feasible. MACTEC changed the White Paper to use a wet FGD system for both candidate control measures *KILN1* and *KILN2*, using a 90% SO2 reduction for the wet FGD system The European Commission, Integrated Pollution Prevention and Control (IPPC) Bureau's *Reference Document on Best Available Techniques in the Cement and Lime Manufacturing Industries* indicates that wet scrubbers have achieved SO2 reductions of more than 90 percent at plants in Europe.

IV: Changes to the Consumer and Commercial Products White Paper (December 1, 2005)

Commenter: Consumer Specialty Products Association, *Comments on Interim White Paper – Source Category: Consumer and Commercial Products,* July 29, 2005.

Commenter: Automotive Specialty Products Alliance, *Comments on Interim White Paper on Consumer and Commercial Products,* August 1, 2005.

Commenter: Cosmetic, Toiletry, and Fragrance Association, *Interim White Paper – Possible Regulation of Consumer Products,* August 1, 2005.

Comment: Stakeholders support uniform and consistent regulations throughout the 5-State MRPO Region.
Response: MRPO States recognize the need to uniformity and consistency.

Comment: Adoption of Future CARB Regulations in the Midwest is Cost Prohibitive.
Response: This comment will be addressed separately by the MRPO States at a later date.

Comment: Costs to implement CARB regulation CONS-1 are underestimated (i.e., costeffectiveness is in the $12-20/pound ($24,000-41,560/ton) range, not the $2.40/pound ($4,800/ton) estimate listed in the White Paper.
Response: The $4,800/ton value quoted in the White Paper came from page VIII-175 of the CARB's *Initial Statement of Reasons for the Proposed Amendments to the California Aerosol Coating Products, Antiperspirants and Deodorants, and Consumer Product Regulations (May 7,2004)*. During the CARB rulemaking process, stakeholders commented that CARB's analysis underestimates by more than a factor of ten the actual costs attributable to the proposed rule. In the *Final Statement of Reasons for Rulemaking, Including Summary of Comments and Agency Responses (June 13, 2005),* CARB responded to this comment by saying "Staff does not agree that the costs of the proposed amendments were underestimated…The methodologies employed were also the same or very similar to those in other consumer products rulemakings. Staff has many years of experience in conducting these analyses, and this experience indicates that accurate cost estimates have resulted from these methodologies in the past."

Comment: Sell-Through Limitation Provisions are not necessary
Response: We included a discussion of the sell-through provision since it provided "a window during which manufacturers and distributors may continue to sell products that were produced before a set deadline even if they do not meet the more stringent VOC limits. The sell-through period is simply a safeguard to prevent compliance action for occasional older products remaining on retail shelves." Commenters believe it is more of a record-keeping burden than a safeguard. Since the OTC model rule does not include a sell-through provision, we revised the White Paper to reflect the comment that a sell-through period is not necessary.

Comment: Miscalculation (underestimation) of Emission Reduction Credits. Commenters take issue with White Paper assertion that "According to EPA, VOC emissions from those 24 product categories are reduced by 20 percent. But since over half of the inventory is unaffected by the rule, the Federal rule is estimated to yield VOC reductions of 9.7 percent from uncontrolled levels for the entire consumer and commercial production category." Commenters suggest that a 20 percent credit should be used as stated in Seitz 1995 memo *Regulatory Schedule for Consumer and Commercial Products under Section 183(e) of the Clean Air Act*.
Response: First, the 9.7 percent value on page one is a typo – it should read 8.0 percent, which is the value shown and used in Table 2 to represent the overall reduction from Federal Part 59 Rule. The reference for the 8.0 percent reduction is page 36 of LADCO's *Development of Growth and Control*

Factors for Lake Michigan Air Directors Consortium. The uncontrolled per capita factor listed in the LADCO report is 7.79 lbs/person, while the controlled factor after Part 59 is 7.17 lbs/person, which is a reduction of 7.96 percent. The LADCO report states that "these values are consistent with those used by EPA to compute 2002 national emission estimates for this source category". It also similar to the reductions estimated in the OTC's *Control Measure Development Support Analysis of Ozone Transport Commission Model Rules*. The uncontrolled per capita factor listed in the OTC report is 7.84 lbs/person, while the controlled factor after Part 59 is 7.06 lbs/person, which is a reduction of 0.8 lbs/person or 9.9 percent. These values are also consistent with the Seitz memo which states that "a 20 percent reduction would be approximately 0.8 pounds per capita annually". As shown in the table on page 7 of the White Paper, we are using the 20 percent reduction for the control efficiency, but multiplying it by the rule penetration (the percentage of products affected by the rule). We believe that the 20 percent reduction quoted in the Seitz memo only applies to those categories affected by the Federal Part 59, not to all products, and that the emissions reductions from the Part 59 rule quoted in the White Paper are correct.

Comment: MRPO States should provide a reasonable future effective date for any new VOC standards. Commenter suggests that a compliance date of Jan. 1 2009 is appropriate if States promulgated final regulations in 2006-2007.
Response: This comment will be addressed separately by the MRPO States at a later date.

Comment: CSPA Strongly Supports the Inclusion of Necessary Regulatory Flexibility Provisions like the Innovative Product and Alternative Control Plan.
Response: We modified the White Paper to note that these provisions exist in the OTC model rules and should be considered by MRPO States during regulatory development.

Comment: States should consider a voluntary program based on the OTC standards and consult with EPA about obtaining SIP credit for emission reductions that are not mandatory.
Response: This comment will be addressed separately by the MRPO States at a later date.

V: Changes to the AIM Coatings White Paper (December 1, 2005)

Commenter: National Paint and Coatings Association, *Comments on Architectural and Industrial Maintenance (AIM) and Industrial Surface Coatings,* August 1, 2005.

Commenter: National Paint and Coatings Association, *Comments on Midwest Region Planning Organization (MRPO) Identification and Evaluation of Candidate Control Measures (April 14, 2005 Version) Architectural and Industrial Maintenance Coatings* , November 22, 2005.

Comment: Accuracy of the Emission Estimates – emissions should track closely to state population since emissions are based on per capita factors.

Response: The emission estimates in the White Paper (and in the slides from the AIM presentation on June 29, 2005) came from the EPA'2 2002 Draft NEI. For architectural coatings, one would expect the emissions to be directly proportional to population since the emissions are per capita-based and there are no differences in the regulatory requirements among the five states. There seems to be different emission factors used by the states for this category – the 2002 Draft NEI has an 12 emission factor of 3.94 lbs/person for IL, 3.22 lbs/person for IN, and 3.12 lbs/person for WI (emission factors were not reported for MI or OH).

To address the inconsistency in emission factors, MACTEC recalculated the emissions for solvent-based architectural coatings, water-based architectural coatings, industrial maintenance coatings, and special purpose coatings using the latest emission factors from EPA's *Documentation for the Draft 2002 Nonpoint Source National Emission Inventory for Criteria and Hazardous Air Pollutants (March 2005 Version)*. The factors are 1.609 lbs/person for solventbased architectural coatings, 1.513 lbs/person for water-based coatings, 0.64 lbs/person for industrial maintenance coatings, and 0.64 lbs/person for special purpose coatings. These emission factors reflect the impact of the Part 59 AIM rules. It should be noted that EPA, states, and stakeholders are currently reviewing the emission calculation procedures for AIM coatings, both in terms of the baseline emission levels (with and without Part 59) as well as the emission reductions from the OTC Model Rule (See Federal Register notice dated August 31 entitled *Advance Notice to Solicit Comments, Data, and Information for Determining the Emission Reductions Achieved in Ozone Nonattainment Areas from the Implementation of Rules Limiting the VOC Content of AIM Coatings)*. In this notice, the EPA is encouraging all interested parties to submit information on how to best calculate the VOC emission reductions from the adoption of AIM coating rules. We recommend that the MRPO track the results of EPA's analysis to better quantify the baseline emission levels and reductions attributable to the OTC Model Rule.

Comment: Support the use of up-to-date references.

Response: As mentioned above, the procedures for calculating baseline emissions and reductions from the OTC Model Rule are currently being reevaluated. In addition to the Region III analysis, EPA's OAQPS has an on-going study to evaluate emissions from architectural coatings and other solvent categories, resulting in a draft report *"Solvent Mass Balance" Approach for Estimating VOC Emissions from Eleven Nonpoint Solvent Source Categories (March 28, 2005)*. As this is a draft report that cannot be cited, we recommend that the MRPO track the results of OAQPS's analysis to better quantify the baseline emission levels and reductions attributable to candidate control measures. The issues of reactivity is also the subject of ongoing studies. For example, EPA's September 1, 2005, *Interim Guidance on Control of VOC in Ozone State Implementation Plans,* which encourages states to consider recent scientific information on the photochemical reactivity of VOC in the development of SIPs. The interim guidance summarizes recent scientific findings, provides examples of innovative VOC control measures, and clarifies EPA innovative reactivity based policies. CARB is also conducting on-going studies of

reactivity-based control measures. We recommend that the MRPO track these on-going studies of reactivity-based control measures.

Comment: AIM Coatings Control vs. Other Control Measures. Commenter suggests that other categories offer much greater cost effective reductions – these include nonroad vehicles, highway vehicles, and industrial processes.

Response: This comment will be addressed separately by the MRPO States.

Comment: Numerous concerns with South Coast Rule 1113 were identified, including: 1. Phase III limits have not been implemented 2. Coatings formulated for southern CA will not work in the upper Midwest 3. CARB is still conducting several projects 4. CARB is working on revisions to its suggested control measure 5. EPA's ANPR on AIM coatings will raise issues that need to be resolved

Response: This comment will be addressed separately by the MRPO States.

VI: Changes to the Industrial Surface Coating White Paper (November 29, 2005)

Commenter: Michigan Manufacturers Association, *Comments on Midwest Planning Organization (RPO) Identification and Evaluation of Candidate Control Measures and Associated "White Papers"*, September 27, 2005.

Comment: With regard to auto assembly plants, the document is out of date by 10-15 years with regard to common coating practices and doesn't reflect the many have converted to low VOC coatings and have some level of add-on controls already.

Response: MACTEC added a paragraph to the "Source Category Description" section to indicate that some industries have implemented "low emission paint systems" over the past 10-15 years to meet regulatory requirements or pollution prevention goals. The White Paper does reflect that surface coating emissions are already significantly controlled. The second bullet on page 3 indicated that "many point sources are already controlled or soon will be controlled as a result of recently promulgated MACT standards". Table 3 shows that VOC emissions have already been reduced by an average of 78% across all surface coating categories, and will be reduced by an average of 84% from uncontrolled after implementation of MACT standards. For the Autos and Light Truck Category, Table 3 shows that uncontrolled emissions will be reduced by an average of 65% after implementation of the MACT standard.

Comment: Table 1a costs are inaccurate (i.e., not representative of the difficulty and cost of controlling auto coating lines with low concentration, high volume streams).

Response: MACTEC changed Table 1a and the "Cost Effectiveness and Basis" section to reflect the fact that controlling a low concentration waste stream will be much more expensive that cleaning a high pollutant load flow. We added Reference 8 to the White Paper which states that the cost effectiveness for regenerative thermal oxidizers may range up to $21,000 per ton when a control device is used for ver low-VOC concentration streams (less than around 100 ppmv) at very low flow rates.

Comment: Inclusion of emissions from attainment counties in Table 1a is inappropriate (i.e., only emissions from nonattainment counties should be included).

Response: At the requests of the states, MACTEC prepared Table 4 in the White Paper to show estimated emission reductions obtainable from nonattainment counties only, attainment counties adjacent to nonattainment areas, and all other attainment counties. This was done to allow states to evaluate policy options for geographic coverage of control measures.

Comment: Should not assume overall control of 90% for industrial surface coating as it may not be technically feasible or cost effective. Instead, there should be an examination of each source in a representative modern facility, with a rigorous analysis of retrofit costs, operating costs, and effectiveness before presenting prospective reduction figures.

Response: The purpose of the White Paper is to identify an initial set of possible control measures that may be considered in more detail in the future, with a "ballpark" estimate of the types of reductions that may be expected. The 90% reduction from uncontrolled was assumed based on the fact that many (but certainly not all) surface coating sources can achieve 98+% using 100% capture systems and add-on control equipment; for other sources this high level of control may not be technically feasible or cost effective. Conducting a rigorous analysis of cost and effectiveness for each of the many types of surface coating operations was beyond the scope of work for this initial identification of possible control

measures. States will need to conduct this type of rigorous analysis to determine the level of stringency for control measures selected for further consideration.

Comment: The White Paper does not address the serious issue of catalyst poisoning and blinding.

Response: We recognize that pretreatment to remove PM may be needed for certain types of coating operations and control systems to prevent catalyst poisoning or blinding. These issues will need to be considered if and when States conduct rigorous analyses to determine the level of stringency for control measures for specific types of coating operations.

Additional Changes

E.H. Pechan and Associates re-evaluated the potential VOC emission reductions that may be achieved through the implementation of the post-2002 MACT surface coating standards. For four categories (large appliances, metal furniture, plastic parts, and miscellaneous metal parts), Pechan determined that there will not be any additional VOC reductions as a result of post-2002 MACT implementation. Tables 1a, 3, and 4 have been modified to reflect this change.

VII: Changes to the Gasoline Distribution Facilities White Paper (November 29, 2005)

Commenter: Michigan Manufacturers Association, *Comments on Midwest Planning Organization (RPO) Identification and Evaluation of Candidate Control Measures and Associated "White Papers"*, September 27, 2005.

Comment: April 8, 2005 version of White Paper references CARB's 2000 Initial Statement of Reasons report that was subsequently been updated in 2002. CARB's revised analysis indicated that costs identified in the 2000 report were off (low) by a factor of three.

Response: MACTEC obtained and reviewed the more recent CARB reference document (*Staff Report: Enhanced Vapor Recovery Technology Review*. October 2002). On page 43 of the 2002 Staff Report, CARB states: . "The EVR technical review modifications to the cost analysis are reflected in the costeffectiveness values in the bottom row of the table. The cost-effectiveness values have increased by about a factor of three. The main reason is correction of the calculation error discussed in the previous section regarding distribution of the equipment costs over the 4 year phase-in period."

VIII. Additional Changes Since December 30, 2005 (March 10, 2006)

ICI BOILERS
Revised emissions presented in Tables 1a, 1b, 3a, and 3b for Control Measure ICI2 (OTB plus likely control for sources subject to BART) using the latest version of LADCO's 12/29/05 "List of Sources Possibly Subject to BART".

PETROLEUM REFINERIES
Corrected the emissions for all refineries in Illinois to reflect the latest LADCO inventory (Base K); made editorial comments and corrections suggested by Bob Elvert of ExxonMobil.

CEMENT KILNS
Changed Table 2 to reflect current BART status base on latest version of LADCO's 12/29/05 "List of Sources Possibly Subject to BART". Revised emissions presented in Tables 1 and 3 for Control Measure KILN2 (Apply likely control to kilns subject to BART) using the latest version of LADCO's 12/29/05 "List of Sources Possibly Subject to BART".

ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATINGS
Changed emissions in Tables 1 and 3 per Grant Hetherington comment that there should be no reductions for traffic markings in WI since the control measure is based on WI NR 422.17 which is already in place in WI.

Added a paragraph to the end of the regulatory history to give an update on CARB's future revisions AIM suggested control measure. "*CARB is in the process of updating the 2000 Suggested Control Measure (SCM) for Architectural Coatings. They are currently completing a 2004 survey of AIM coating usage and VOC contents. They will not begin the formal SCM update process until the survey is completed, and are expected to propose revisions to the SCM in mid to late 2007. It cannot be determined at this time whether CARB's updated SCM will be as stringent as the SCAQMD Phase III limits.* "

CONSUMER PRODUCTS
Slightly changed Regulatory History paragraph on CARB 2003 SIP requirements to indicate that CARB expects to adopt the second phase of the amendments (CONS-2) by the end of 2006.

AUTO REFINISH COATINGS
Changed emissions in Tables 1, 2, and 3 per Grant Hetherington, who pointed out an error in which counties in Wisconsin were considered adjacent and not adjacent to nonattainment areas. The 3/28/2005 version used an older version of the county lookup table and was not updated (as the other White Papers were) to reflected the updated adjacent/not adjacent classifications. Added a paragraph to the end of the regulatory history to indicated that CARB has a new automotive coating suggested control measure and that SCAQMD 1151 was recently updated to be consistent with the SCM. "*SCAQMD updated their rules in December 2005 based on CARB's October 2005 Proposed Suggested Control Measure (SCM) for automotive coatings.*" Revised cost-effectiveness information based on CARB's 2005 Suggested Control Measure analysis.

Added a reference for the CARB 2005 Suggest Control Measure staff report.

PORTABLE FUEL CONTAINERS
Changed the Regulatory History section to provide an update on the CARB rules, which were amended on September 15, 2005, to add requirements for kerosene and utility jugs and other changes to improve effectiveness of the container design.

Change the Regulatory History and Rule Development sections to provide on update on EPA's proposed national rules. "*On February 28, 2006, EPA proposed a national regulation to reduce hazardous air pollutant emissions from mobile sources. Included in the proposed rules are standards that would reduce hydrocarbon emissions PFCs from evaporation, permeation, and spillage. The proposed EPA program is very similar to the revised California program. Although a few aspects of the program are different, EPA believes manufacturers would be able to meet both EPA and California requirements with the same gas can designs. Since the proposed EPA requirements would not go into effect in 2009 and there will be 5-10 year period for the new containers to penetrate the market, only a very small reduction in VOC emissions is expected in 2009.*"

ASPHALT PAVING
Changed emission reductions to correct calculation error as pointed out by Grant Hetherington. The documentation says 40% reduction from emulsified asphalt, but error in spreadsheet only took 37.5% reduction. Tables 1 and 2 changed accordingly.

GASOLINE DISTRIBUTION FACILITIES
Changed Stage II emissions in 9 WI counties based on Grant Hetherington comment: "For Kewaunee, Kenosha, Manitowoc, Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee and Racine counties, the current CE, RE and RP values achieved by existing Stage II systems are comparable to those achieved by the new EVR Stage II systems. Consequently, there is no benefit to moving to EVR Stage II in the 9-counties."

Changed Stage I emissions in 20 WI counties based on Grant Hetherington comment: "For stage I emissions in the 20 NAA and adjacent counties, I'm using CE=97.39, RE=98 and RP=98. The revised emissions are in the attached spreadsheet." Revised Tables 1 and 2 accordingly.

INDUSTRIAL SURFACE COATING
Added area source emissions for SCC=24-01-090-000 Misc. Manufacturing to emission tables as these emissions were inadvertently left out (per comment from Grant Hetherington).

Bill Juris of Ohio EPA suggested that the area source emissions in the White Paper should be changed to reflect the final 2002 NEI which he says "will most likely include VOC emission estimates based upon the methodology developed in the draft EPA report "'Solvent Mass Balance' Approach for Estimating VOC Emissions From Eleven Nonpoint Solvent Source Categories" (March 28, 2005). " I downloaded the final NEI 2002 and the area source VOC emissions for surface coating are virtually identical to what is in the White Paper.

Bill Juris of Ohio EPA recommended doing a separate White Paper on printing/graphic arts, which is a separate category and not included in the surface coating category.

Bill Juris of Ohio EPA made several technical clarifications and corrections which were incorporated into the White Paper.
3
SOLVENT CLEANING (DEGREASING)
Grant Hetherington pointed out that we were taking reductions from the electronics sector which are specifically excluded from the OTC model rule and Chicago area Cold Cleaning RACT regulations. Changed calculations to exclude electronics and revised 1 and 3 with revised emission reduction estimates.

Bill Juris's comments indicate that Maryland and the OTC overestimated by 50% the reductions achievable from their model rule. His argument seems to make sense, but I don't think we should change

the White Paper until a more detailed analysis can be done and we get a better handle on what the actual emissions are (see following comment).

He also comments the area source emissions in the White Paper are too high and should be changed to reflect the final 2002 NEI which he says “the methodology for estimating 2002 emissions may be outdated as shown in the draft EPA report "'Solvent Mass Balance' Approach for Estimating VOC Emissions From Eleven Nonpoint Solvent Source Categories" (March 28, 2005). In that "solvent mass balance" report, the 2002 VOC emissions from surface cleaning for Ohio are shown as 7,402 tons…the 2002 VOC emissions for Ohio in the White Paperare shown as 17,877 tons” I downloaded the final NEI 2002 and the area source VOC emissions for degreasing are identical to what is in the White Paper, so it doesn’t look like EPA decided to use “solvent mass balance” approach.

APPENDIX B

SUMMARY TABLES FOR CANDIDATE CONTROL MEASURES

TABLE B.1 – SO2 CONTROL MEASURE SUMMARY FOR EGUs

Control Measure Summary	**SO2 Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures (MRPO average SO2 is 1.16 lbs/mmBtu): NSPS; PSD/NSR; State RACT Rules; Title IV SO2 Program	2002 Base:	2,798,884
2009 On-the-Way measures: CAIR (IPM estimates 36% reduction in 2009 emissions from 2002 levels due to early reductions)	Reduction: 2009 Remaining:	-1,003,922 1,794,962
Candidate measure ID EGU1: Adopt Emission Caps Based on "Retrofit SO2 BACT Level" of 0.15 lbs/mmBtu by 2013 (with Interim Cap Based on 0.36 lbs/mmBtu in 2009) *Emission Reductions*: 62% reduction from 2002 levels in 2009, 83% reduction from 2002 levels in 2013 *Control Cost*: $800/ton to $1,500/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining: 2013 Reduction: 2013 Remaining:	-1,748,171 1,050,713 -2,333,059 465,825
Candidate measure ID EGU2: Adopt Emission Caps Based on "SO2 BACT Level for New Plants" of 0.10 lbs/mmBtu by 2013 (with Interim Cap Based on 0.24 lbs/mmBtu in 2009) *Emission Reductions*: 75% reduction from 2002 levels in 2009, 89% reduction from 2002 levels in 2013 *Control Cost*: $800/ton to $3,000/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining: 2013 Reduction: 2013 Remaining:	-2,098,139 700,745 -2,488,334 310,550

TABLE B.2 – NOx CONTROL MEASURE SUMMARY FOR EGUs

Control Measure Summary	**Annual NOx Emissions (tons/year) in MRPO Region**	
2002 Existing measures (MRPO average NOx is 0.43 lbs/mmBtu): NSPS; PSD/NSR; State RACT Rules; Title IV NOx Requirements	2002 Base:	1,047,484
2009 On-the-Way: CAIR (IPM estimates 57% reduction from 2002 levels)	Reduction: 2009 Remaining:	-597,854 449,630
Candidate measure ID EGU1: Adopt Emission Caps Based on "Retrofit NOx BACT Level" of 0.10 lbs/mmBtu by 2013 (with Interim Cap Based on 0.15 lbs/mmBtu in 2009) *Emission Reductions*: 58% reduction from 2002 levels in 2009 70% reduction from 2002 levels in 2013 *Control Cost*: $700/ton to $1,600/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining: 2013 Reduction: 2013 Remaining:	-609,687 437,797 -736,934 310,550
Candidate measure ID EGU2: Adopt Emission Caps Based on "NOx BACT Level for New Plants" of 0.07 lbs/mmBtu by 2013 (with Interim Cap Based on 0.12 lbs/mmBtu in 2009) *Emission Reductions*: 67% reduction from 2002 levels in 2009 79% reduction from 2002 levels in 2013 *Control Cost*: $700/ton to $2,100/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining: 2013 Reduction: 2013 Remaining:	-697,246 350,238 -830,099 217,385

Control Measure Summary	**Ozone Season NOx Emissions (tons/season) in MRPO Region**	
2002 Existing measures (MRPO average NOx is 0.43 lbs/mmBtu): NSPS; PSD/NSR; State RACT Rules; Title IV NOx Requirements	2002 Base:	439,374
2009 On-the-Way: CAIR (IPM estimates 57% reduction from 2002 levels)	Reduction: 2009 Remaining:	-249,049 190,325
Candidate measure ID EGU1: Adopt Emission Caps Based on "Retrofit NOx BACT Level" of 0.10 lbs/mmBtu by 2013 (with Interim Cap Based on 0.15 lbs/mmBtu in 2009) *Emission Reductions*: 57% reduction from 2002 levels in 2009 69% reduction from 2002 levels in 2013 *Control Cost*: $700/ton to $1,600/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining: 2013 Reduction: 2013 Remaining:	-249,765 189,609 -304,124 135,250
Candidate measure ID EGU2: Adopt Emission Caps Based on "NOx BACT Level for New Plants" of 0.07 lbs/mmBtu by 2013 (with Interim Cap Based on 0.12 lbs/mmBtu in 2009) *Emission Reductions*: 65% reduction from 2002 levels in 2009 78% reduction from 2002 levels in 2013 *Control Cost*: $700/ton to $2,100/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining: 2013 Reduction: 2013 Remaining:	-287,687 151,687 -344,699 94,675

TABLE B.3 – SO2 CONTROL MEASURE SUMMARY FOR ICI BOILERS

Control Measure Summary	**SO2 Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State RACT Rules	2002 Base:	362,347
2009 On-the-Books measures: Enforcement settlements and Alcoa announced scrubbers	Reduction: 2009 OTB:	-66,826 295,521
Candidate measure ID ICI1: OTB measures plus 40% SO2 Reduction to All Medium and Large ICI Boilers *Emission Reductions*: overall reduction of 29% from the 2009 on-the-books estimate, based on 40% reduction in SO2 emissions from ICI boilers > 100 mmBtu/hr *Control Cost*: $633 to $1,075 per ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 OTB: 2009 Reduction: 2009 Remaining:	295,521 -86,425 209,096
Candidate measure ID ICI2: OTB Measures plus Likely Controls to ICI Boilers subject to the proposed BART requirements *Emission Reductions*: overall reduction of 40% from the 2009 on-the-books estimate, based on 90% reduction in SO2 emissions from ICI boilers subject to BART requirements *Control Cost*: $1,622 to 5,219 per ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 OTB 2013 Reduction: 2013 Remaining:	295,521 -117,721 177,800
Candidate measure ID ICI3: OTB Measures plus 90% SO2 Reduction (similar to BART) to All Medium and Large ICI Boilers *Emission Reductions*: overall reduction of 66% from the 2009 on-the books estimate, based on 90% reduction in SO2 emissions from ICI boilers > 100 mmBtu/hr *Control Cost*: $1,622 to 5,219 per ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 OTB 2009 Reduction: 2009 Remaining:	295,521 -194,456 101,065

Note: ICI1 and ICI3 apply to all medium and larger boilers in the region; ICI3 is a more stringent version of ICI1; ICI2 applies only to ICI boilers subject to BART and emission reductions are not anticipated until 2013.

TABLE B.4 – NOx CONTROL MEASURE SUMMARY FOR ICI BOILERS

Control Measure Summary	**NOx Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State RACT Rules	2002 Base:	218,547
2009 On-the-Books measures: NOx SIP Call for large boilers, enforcement settlements	Reduction: 2009 OTB:	-5,264 213,283
Candidate measure ID ICI1: OTB Measures plus 60% Reduction (similar to NOx SIP Call) to all Medium and Large ICI Boilers *Emission Reductions*: overall reduction of 19% from 2009 on-the-books estimates, based on 60% reduction for all ICI boilers > 100 mmBtu/hr *Control Cost*: $280 to 1,399 per ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 OTB:2009 Reduction: 2009 Remaining:	213,283 -39,714 173,569
Candidate measure ID ICI2: OTB Measures plus Likely Controls to ICI Boilers subject to the proposed BART requirements *Emission Reductions*: overall reduction of 8% from 2009 on-the-books estimates, based on 80% reduction for ICI boilers subject to BART requirements *Control Cost*: $536 to 4,493 per ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2009 OTB:2013 Reduction: 2013 Remaining:	213,283 -17,007 196,276
Candidate measure ID ICI3: OTB Measures plus 80% Reduction (similar to BART) to all Medium and Large ICI Boilers *Emission Reductions*: overall reduction of 31% from 2009 on-the-books estimates, based on 80% reduction for ICI boilers > 100 mmBtu/hr *Control Cost*: $536 to 4,493 per ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 OTB:2009 Reduction: 2009 Remaining:	213,283 -66,330 146,953

Note: ICI1 and ICI3 apply to all medium and larger boilers in the region; ICI3 is a more stringent version of ICI1; ICI2 applies only to ICI boilers subject to BART and emission reductions are not anticipated until 2013.

TABLE B.5 – SO2 CONTROL MEASURE SUMMARY FOR PETROLEUM REFINERIES

Control Measure Summary	**SO2 Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State RACT Rules, MACT standards	2002 Base:	75,223
On-the-Books measures: Refinery Enforcement Settlements (contols on FCCUs, boilers/heaters, sulfur recovery units, flaring, equipment leaks, and wastewater treatment)	2009 Reduction: 2009 Remaining: 2012 Reduction: 2012 Remaining:	-49,942 25,281 -55,641 19,582

TABLE B.6 – NOx CONTROL MEASURE SUMMARY FOR PETROLEUM REFINERIES

Control Measure Summary	**NOx Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State RACT Rules, MACT standards	2002 Base:	31,831
On-the-Books measures: Refinery Enforcement Settlements (contols on FCCUs, boilers/heaters, sulfur recovery units, flaring, equipment leaks, and wastewater treatment); NOx SIP Call	2009 Reduction: 2009 Remaining: 2012 Reduction: 2012 Remaining:	-9,299 22,532 -13,941 17,890

TABLE B.7 - SO2 CONTROL MEASURE SUMMARY FOR IRON & STEEL PLANTS

Control Measure Summary	**SO2 Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State Rules	2002 Base:	47,786
Candidate measure ID REF1: Apply Likely Controls to Refinery Sources subject to the proposed BART requirements *Emission Reductions*: overall reduction of 25% from the iron and steel category, based on 90% reduction in SO2 emissions from boilers, furnaces, and process units identified as being subject to BART *Control Cost*: $4,734 to 10,008 for sinter wind boxes; $4,165 to 10,098 for coke oven under firing; $20,073 to 37,024 for furnaces *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: Affected BART sources in MRPO region	2013 Reduction: 2013 Remaining:	-12,047 35,739

TABLE B.8 - NOx CONTROL MEASURE SUMMARY FOR IRON & STEEL PLANTS

Control Measure Summary	**NOx Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State Rules	2002 Base:	43,479
Candidate measure ID REF1: Apply Likely Controls to Refinery Sources subject to the proposed BART requirements *Emission Reductions*: overall reduction of 16% from the iron and steel category, based on 80% reduction in NOx emissions from boilers, furnaces, and process units identified as being subject to BART *Control Cost*: $850 per ton for boilers; $2,018 per ton for furnaces *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: Affected BART sources in MRPO region	2013 Reduction: 2013 Remaining:	-6,964 36,515

TABLE B.9 – SO2 CONTROL MEASURE SUMMARY FOR CEMENT KILNS

Control Measure Summary	**SO2 Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State Rules	2002 Base:	38,703
2009 On-the-Books measures: None identified	Reduction: 2009 Remaining:	-0 38,703
Candidate measure ID KILN1: Apply Reasonably Available Controls to All Kilns in Region *Emission Reductions*: 90% from 2002 baseline for all cement kilns in MRPO region *Control Cost*: $2,211/ton to $6,917/ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining:	-34,833 3,870
Candidate measure ID KILN2: Apply Likely Controls to Kilns subject to the proposed BART requirements *Emission Reductions*: overall reduction of 56% from the cement kiln category, based on 90% reduction in SO2 emissions from kilns identified as being BART-eligible *Control Cost*: $2,211/ton to $6,917/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2013 Reduction: 2013 Remaining:	-21,637 17,066

TABLE B.10– NOx CONTROL MEASURE SUMMARY FOR CEMENT KILNS

Control Measure Summary	**NOx Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State RACT Rules	2002 Base:	34,032
2009 On-the-Books measures: NOx SIP Call for cement kilns (30% reduction from uncontrolled levels)	Reduction: 2009 Remaining:	-10,210 23,822
Candidate measure ID KILN1: Apply Reasonably Available Controls to All Kilns in Region *Emission Reductions*: overall reduction of 50% from 2002 Base emissions and 29% reduction from NOx SIP call levels *Control Cost*: $-310/ton to $2,500/ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining:	-17,016 17,016
Candidate measure ID KILN2: Apply Likely Controls to Kilns subject to the proposed BART requirements *Emission Reductions*: overall reduction of 28% from 2002 emissions category and 40% from NOx SIP Call levels, based on 80% reduction for cement kilns identified as being BART-eligible *Control Cost*: $1,500/ton to $2,500/ton *Timing of Implementation*: Assumes full reductions achieved in 2013 *Implementation Area*: 5-State MRPO region	2013 Reduction: 2013 Remaining:	-9,408 14,415

TABLE B.11 – CONTROL MEASURE SUMMARY FOR INDUSTRIAL SURFACE COATING – POINT SOURCES

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: NSPS; RSD/NSR: State RACT rules in 1-hour ozone nonattainment counties; 2-, 4-, and 7-year MACT standards; results in 78% reduction from uncontrolled levels	Uncontrolled: 2002 Reduction: 2002 Base:	313,179 -242,799 70,380
2009 On-the Books measures: 10-year MACT surface coating standards, incremental reduction of 20% from 2002 actual levels	2002 Base: 2009 Reduction: 2009 Remaining:	70,380 -13,790 56,590
Candidate measure: Adopt More Stringent RACT regulations, lower applicability thresholds, and extend geographic coverage *Measure ID:* SOLV5A *Emission Reductions*: reduction of 42-83% from 2002 levels depending on the geographic coverage *Control Cost*: varies considerably by process, ranging from $100 for uncontrolled high concentration streams to $21,000 per ton for very low-VOC concentration streams. *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2009 *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties	2002 Base: 2009 Reduction: 2009 Remaining:	70,380 -58,216 12,164

Notes: 2002 emission reductions shown are reductions from uncontrolled levels; 2009 emission reductions shown are reductions from 2002 base emissions, assuming that control measures are implemented statewide; 2009 emissions are not growth-adjusted.

TABLE B.12 – CONTROL MEASURE SUMMARY FOR INDUSTRIAL SURFACE COATING – AREA SOURCES

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: None identified	2002 Base:	118,036
2009 On-the Books measures: None identified	2002 Base: 2009 Reduction: 2009 Remaining:	118,036 -0 118,036
Candidate measure: Adopt More Stringent RACT regulations, lower applicability thresholds, and extend geographic coverage *Measure ID:* SOLV5B *Emission Reductions*: reduction of 42-72% from 2002 levels depending on the geographic coverage *Control Cost*: varies considerably by process, ranging from $100 for uncontrolled high concentration streams to $21,000 per ton for very low-VOC concentration streams. *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2009 *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties	2002 Base: 2009 Reduction: 2009 Remaining:	118,036 -84,986 33,050

Notes: 2002 emission reductions shown are reductions from uncontrolled levels; 2009 emission reductions shown are reductions from 2002 base emissions, assuming that control measures are implemented statewide; 2009 emissions are not growth-adjusted.

TABLE B.13 – CONTROL MEASURE SUMMARY FOR INDUSTRIAL SOLVENT CLEANING – AREA SOURCES

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: CTG Requirements in 1-hour nonattainment areas; halogenated solvent cleaning MACT standard	2002 Base:	61,226
2009 On-the Books measures: Illinois cold cleaning VOC regulation for the Chicago and Metro East areas and an equivalent regulation affecting the southern Indiana counties of Clark and Floyd is expected to achieve the 66 percent VOC reduction in 2003 in those counties.	2002 Base: 2009 Reduction: 2009 Remaining:	61,226 -4,931 56,295
Candidate measure: Adopt Chicago/Metro East Cold Cleaning Regulations in additional counties *Measure ID:* SOLV6A *Emission Reductions*: reduction of 36-63% from 2002 levels depending on the geographic coverage *Control Cost*: $1,400 per ton *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2009 *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties	2002 Base: 2009 Reduction: 2009 Remaining:	61,226 -38,436 22,790

Notes: 2002 emission reductions shown are reductions from uncontrolled levels; 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented statewide; 2009 emissions are not growth-adjusted.

TABLE B.14 – CONTROL MEASURE SUMMARY FOR ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATINGS

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measure: Federal AIM rules 40CFR Part 59 *Emission Reductions*: 20% reduction from uncontrolled levels *Control Cost*: $250 per ton *Timing of Implementation*: Compliance required by September 1999 *Implementation Area*: Nationwide	Uncontrolled: 2002 Reduction: 2002 Base:	130,300 -26,060 104,240
Candidate measure: Adopt more stringent VOC limits for AIM coatings based on OTC Model Rule and Wisconsin NR433.17 *Measure ID:* SOLV1A *Emission Reductions*: 31% beyond Federal AIM rule (for a total reduction of 36% from uncontrolled emissions) *Control Cost*: $6,400 per ton *Timing of Implementation*: Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 *Implementation Area*: 5-state MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	104,240 -20,783 83,457
Candidate measure: Adopt SCAQMD Phase III VOC limits in addition to OTC Model Rule *Measure ID:* SOLV1B *Emission Reductions*: 13.4% beyond OTC Model Rule (for a total reduction of 44% from uncontrolled emissions) *Control Cost*: $20,000 per ton *Timing of Implementation*: Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 *Implementation Area*: 5-state MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	104,240 -31,944 72,296
Candidate measure: Develop Reactivity-Based Limits *Measure ID:* SOLV1C *Emission Reductions*: cannot be determined at this time *Control Cost*: cannot be determined at this time *Timing of Implementation*: cannot be determined at this time	Not available (n/a)	n/a

Notes: 2002 emission reductions shown are reductions from uncontrolled levels; 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented statewide; 2009 emissions are not growth-adjusted.

TABLE B.15 – CONTROL MEASURE SUMMARY FOR PORTABLE FUEL CONTAINERS

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measure: None *Emission Reductions*: none *Control Cost*: $0 per ton *Timing of Implementation*: n/a *Implementation Area*: n/a	2002 Base:	50,970
Candidate measure: Adopt OTC Model Rule for PFCs *Measure ID:* SOLV3A *Emission Reductions*: 18% in 2009 (75% control efficiency phased in at 10% turnover per year, with rule effectiveness of 80%), and 54% when fully implemented in 2015 *Control Cost*: $250 per ton to $480 per ton *Timing of Implementation*: Assuming 2007 effective date of rule and 10% per year turnover, full reductions are achieved in 2015 *Implementation Area*: 5-state MRPO region	2002 Base: 2009 Reduction: 2009 Remaining: 2015 Reduction: 2015 Remaining:	50,970 -9,175 41,795 -27,524 23,446
Candidate measure: Adopt Incentive Programs in Nonattainment Areas to Accelerate Phase-In of Compliant PFCs *Measure ID:* SOLV3B *Emission Reductions*: 27% in 2009 (75% from control efficiency phased in at 15% turnover per year, with rule effectiveness of 80%), and 54% when fully implemented in 2015 *Control Cost*: $4,600 per ton *Timing of Implementation*: Assuming 2007 effective date of rule and 15% per year turnover in nonattainment areas and 10% per year in attainment areas, full reductions are achieved in 2015 *Implementation Area*: Nonattainment counties only	2002 Base: 2009 Reduction: 2009 Remaining: 2015 Reduction: 2015 Remaining:	50,970 -12,281 38,690 -27,524 23,446

Notes: 2009 and 2015 emission reductions shown are reductions for 2002 base emissions.

TABLE B.16 – CONTROL MEASURE SUMMARY FOR AUTOBODY REFINISHING

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: Federal Auto Body Refinishing rules 40CFR Part 59 and RACT in 1-hour ozone nonattainment counties *Emission Reductions*: 55% reduction from uncontrolled levels in 1-hour nonattainment counties due to RACT and 37% from uncontrolled levels due to Part 59 VOC content limits *Control Cost*: $118 per ton for Part 59 rules *Timing of Implementation*: Part 59 compliance required by January 1999 *Implementation Area*: Part 59 – Nationwide; RACT only in 1-hour nonattainment counties in IL, IN, and WI	Uncontrolled: 2002 Reduction: 2002 Base:	42,545 -17,226 25,319
Candidate measure: Extend the existing IL/IN/WI RACT regulations beyond 1-hr nonattainment counties *Measure ID:* SOLV4A *Emission Reductions*: reduction of 55% from uncontrolled emissions, with an incremental reduction of 15-24 percent from 2002 levels depending on the geographic coverage *Control Cost*: $1,354 per ton *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2009 *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties in MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	25,301 -6,168 19,133
Candidate measure: Adopt More Stringent RACT regulations based on SCAQMD 1151 *Measure ID:* SOLV4B *Emission Reductions*: reduction of 89% from uncontrolled emissions, with an incremental reduction of 55-82 percent from 2002 levels depending on the geographic coverage *Control Cost*: $2,860 per ton incremental cost from going from IL/IN/WI RACT rules to new SCAQMD 1151 *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2009 *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties in MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	25,301 -20,624 4,677

Notes: 2002 emission reductions shown are reductions from uncontrolled levels; 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented statewide; 2009 emissions are not growth-adjusted.

TABLE B.17 – CONTROL MEASURE SUMMARY FOR CONSUMER AND COMMERCIAL PRODUCTS

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measure: Federal Consumer and Commercial Products rules 40CFR Part 59 *Emission Reductions*: Overall 8.0% from uncontrolled levels (20% reduction for products covered by rule, only 40% of all products are covered by the rule) *Control Cost*: $237 per ton *Timing of Implementation*: Compliance required by December 1998 *Implementation Area*: Nationwide	Uncontrolled: 2002 Reduction: 2002 Base:	180,168 -14,339 165,829
Candidate measure: Adopt OTC Model Rule with additional product coverage and more stringent VOC limits *Measure ID:* SOLV2A *Emission Reductions*: 14.2% beyond Federal Part 59 rule (for a total reduction of 21.0% from uncontrolled emissions) *Control Cost*: $800 per ton *Timing of Implementation*: Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 *Implementation Area*: 5-state MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	165,829 -23,548 142,281
Candidate measure: Adopt CARB 2003 SIP requirements with additional products and more stringent VOC limits (in addition to OTC Model Rule) *Measure ID:* SOLV2B *Emission Reductions*: 12.5% beyond OTC Model Rule (for a total reduction of 30.9% from uncontrolled emissions) *Control Cost*: $4,800 per ton *Timing of Implementation*: Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 *Implementation Area*: 5-state MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	165,829 -41,333 124,496

Notes: 2002 emission reductions shown are reductions from uncontrolled levels; 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented statewide; 2009 emissions are not growth-adjusted.

TABLE B.18 – CONTROL MEASURE SUMMARY FOR GASOLINE DISTRIBUTION FACILITIES – STAGE I

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: Submerged fill and vapor balance/recovery in selected counties	2002 Base:	42,463
2009 On-the Books measures: None	2002 Base: 2009 Reduction: 2009 Remaining:	42,463 -0 42,463
Candidate measure: Adopt CARB EVR Stage I requirements in 8-hour nonattainment areas and adjacent counties *Measure ID:* SOLV7A *Emission Reductions*: reduction of 29-77% from 2002 levels depending on the geographic coverage* *Control Cost*: $7,640 per ton to upgrade existing systems to meet CARB EVR Phase I requirements; $100 to 4,742 for new Stage I systems; dependent on the size of the station *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2011 with CARB's four-year window for existing facilities to upgrade equipment *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties in MRPO region	2002 Base: 2011 Reduction: 2011 Remaining:	42,463 -32,666 9,796

Notes: 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented in all counties; 2009 emissions are not growth-adjusted.

If implemented statewide, the reduction would be 77% from 2002 levels. If implemented only in 8-hour ozone nonattainment areas, the reduction would be 29%. If implemented in both 8-hour nonattainment areas and counties adjacent to 8-hour areas, the reduction would be 55%.

TABLE B.19 – CONTROL MEASURE SUMMARY FOR GASOLINE DISTRIBUTION FACILITIES – STAGE II

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: Stage II vapor recovery systems in moderate, serious, and severe for 1-hour ozone nonattainment areas	2002 Base:	44,815
2009 On-the Books measures: Use of on-board refueling vapor recovery (ORVR) canisters to capture and adsorb vapors from the vehicle fuel tank. ORVR is required to be installed on some new vehicles in 1998, and all new vehicles will be required to have ORVR installed by 2006.	2002 Base: 2009 Reduction: 2009 Remaining:	44,815 -23,312 21,503
Candidate measure: Adopt CARB EVR Stage II requirements in 8-hour nonattainment areas and adjacent counties *Measure ID:* SOLV7B *Emission Reductions*: reduction of 45-83% from 2002 levels depending on the geographic coverage *Control Cost*: $36,260 per ton to upgrade existing systems to meet CARB EVR Phase II requirements; about $13,300 for new Stage II systems in 2009, increasing to $28,500 by 2015 *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2011 with CARB's four-year window for existing facilities to upgrade equipment *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties in MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	44,815 -40,550 4,265

Notes: 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented in all counties; 2009 emissions are not growth-adjusted.

If implemented statewide, the reduction would be 83% from 2002 levels. If implemented only in 8-hour ozone nonattainment areas, the reduction would be 45%. If implemented in both 8-hour nonattainment areas and counties adjacent to 8-hour areas, the reduction would be 67%.

TABLE B.20 – CONTROL MEASURE SUMMARY FOR GASOLINE DISTRIBUTION FACILITIES – UNDERGROUND STORAGE TANKS

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: P/V valve in Chicago and Metro East areas	2002 Base:	10,194
2009 On-the Books measures: None	2002 Base: 2009 Reduction: 2009 Remaining:	10,194 -0 10,194
Candidate measure: Require Air Pollution Control Device for UST Vent *Measure ID:* SOLV7C *Emission Reductions*: reduction of 28 to 72% from 2002 levels depending on the geographic coverage *Control Cost*: minimal if system recovers gasoline vapors and returns to storage tank *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2009 *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties in MRPO region	2002 Base: 2009 Reduction: 2009 Remaining:	10,194 -7,340 2,854

Notes: 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented in all counties; 2009 emissions are not growth-adjusted.

If implemented statewide, the reduction would be 72% from 2002 levels. If implemented only in 8-hour ozone nonattainment areas, the reduction would be 28%. If implemented in both 8-hour nonattainment areas and counties adjacent to 8-hour areas, the reduction would be 53%.

TABLE B.21 – CONTROL MEASURE SUMMARY FOR ASPHALT PAVING

Control Measure Summary	**VOC Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measures: CTG Requirements	2002 Base:	48,348
Candidate measure: Adopt SCAQMD 1108.1 VOC content limit for emulsified aphalt *Measure ID:* SOLV8A *Emission Reductions*: annual reduction of 40% from 2002 levels emulsified asphalt, no additional reductions for cutback asphalt since it is banned during ozone season; the net annual reduction from both emulsified and cutback is 33% *Control Cost*: Not Available *Timing of Implementation*: Assuming 2007 effective date of rule, emission reductions are achieved in 2009 *Implementation Area*: (1) 8-hr ozone nonattainment areas, (2) 8-hr ozone nonattainment areas plus adjacent counties, or (3) all counties	2002 Base: 2009 Reduction: 2009 Remaining:	48,348 -16,106 32,242

Notes: 2009 emission reductions shown are reductions for 2002 base emissions, assuming that control measures are implemented statewide; 2009 emissions are not growth-adjusted.

TABLE B.22 – CONTROL MEASURE SUMMARY FOR GLASS AND FIBERGLASS FURNACES

Control Measure Summary	**NOx Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : NSPS; PSD/NSR; State RACT Rules	2002 Base:	15,354
2009 On-the-Books measures: Wisconsin Rule 428.05	Reduction: 2009 Remaining:	-338 15,016
Candidate measure: Apply "Highly Cost-Effective" Reasonably Available Controls to all Glass Manufacturing Plants in Region *Measure ID:* GLASS1 *Emission Reductions:* average of 30% control from 2002 in MRPO region *Control Cost:* less than $2,000/ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining:	-4,269 10,748
Candidate measure: Apply "Cost-Effective" Reasonably Available Controls to all Glass Manufacturing Plants *Measure ID:* GLASS2 *Emission Reductions:* average of 75% control from 2002 in MRPO region *Control Cost:* $2,000/ton to $4,000/ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining:	-11,262 3,754

Note: the 2009 emission estimates presented here are not growth-adjusted.

TABLE B-23 – CONTROL MEASURE SUMMARY FOR ASPHALT MANUFACTURING

Control Measure Summary	**NOx Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : State fuel combustion rules	2002 Base:	4,014
2009 On-the-Books measures: None identified	Reduction: 2009 Remaining:	-0 4,014
Candidate measure: Apply Available Combustion Modification Controls to All Asphalt Manufacturing Plants *Emission Reductions:* 25% control from 2002 in MRPO region *Control Cost:* $17,630/ton to $21,084/ton *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining:	-1,004 3,011

Control Measure Summary	**SO_2 Emissions (tons/year) in 5-state MRPO Region**	
2002 Existing measures : State fuel combustion rules	2002 Base:	3,614
2009 On-the-Books measures: None identified	Reduction: 2009 Remaining:	-0 3,614
Candidate measure: Apply Available Fuel Switching Controls (Natural Gas or Low-Sulfur Fuel Oil) Where Feasible to All Asphalt Manufacturing Plants *Emission Reductions:* cannot be estimated at this time – requires site-by-site analysis of availability of natural gas *Control Cost:* cannot be estimated at this time – requires site-by-site analysis of availability of natural gas *Timing of Implementation*: Assumes full reductions achieved in 2009 *Implementation Area*: 5-State MRPO region	2009 Reduction: 2009 Remaining:	Cannot be estimated at this time

TABLE B-24 – CONTROL MEASURE SUMMARY FOR GROUND SERVICE EQUIPMENT

Control Measure Summary	**NO_x Emissions (tons/year) in 5-State MRPO Region**	
2002 existing measure: None Identified	2002 Base:	1,266
2009 On-the-Books measures: None identified	Reduction: 2009 Remaining:	-0 1,266
Candidate measure: Convert or replace gasoline and diesel GSE engines to alternative fuels *Measure ID:* GSE01 *Emission Reductions*: 90% reduction of NOx emissions over a ten year period *Control Cost*: Varies from cost savings to $5,800 per ton, depending upon the type of equipment being replaced *Timing of Implementation*: 25% reduction by 2009, 50% reduction by 2012, and 90% reduction by 2018 *Implementation Area*: primarily large metropolitan areas in the 5-state MRPO region	2002 Base: 2009 Reduction: 2009 Remaining: 2012 Reduction: 2012 Remaining: 2018 Reduction: 2018 Remaining:	1,266 -316 949 -633 633 -1,139 127

APPENDIX C

LIST OF COUNTIES AND ATTAINMENT STATUS

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
IL	17001	Adams	Attainment	Attainment
IL	17003	Alexander	Attainment	Attainment
IL	17005	Bond	Attainment Border	Attainment
IL	17007	Boone	Attainment Border	Attainment
IL	17009	Brown	Attainment	Attainment
IL	17011	Bureau	Attainment	Attainment
IL	17013	Calhoun	Attainment Border	Attainment
IL	17015	Carroll	Attainment	Attainment
IL	17017	Cass	Attainment	Attainment
IL	17019	Champaign	Attainment	Attainment
IL	17021	Christian	Attainment	Attainment
IL	17023	Clark	Attainment Border	Attainment
IL	17025	Clay	Attainment	Attainment
IL	17027	Clinton	Attainment Border	Attainment
IL	17029	Coles	Attainment	Attainment
IL	17031	Cook	Moderate	Entire
IL	17033	Crawford	Attainment	Attainment
IL	17035	Cumberland	Attainment	Attainment
IL	17037	De Kalb	Attainment Border	Attainment
IL	17039	De Witt	Attainment	Attainment
IL	17041	Douglas	Attainment	Attainment
IL	17043	Du Page	Moderate	Entire
IL	17045	Edgar	Attainment Border	Attainment
IL	17047	Edwards	Attainment	Attainment
IL	17049	Effingham	Attainment	Attainment
IL	17051	Fayette	Attainment	Attainment
IL	17053	Ford	Attainment	Attainment
IL	17055	Franklin	Attainment	Attainment
IL	17057	Fulton	Attainment	Attainment
IL	17059	Gallatin	Attainment	Attainment
IL	17061	Greene	Attainment Border	Attainment
IL	17063	Grundy	Moderate	Partial
IL	17065	Hamilton	Attainment	Attainment
IL	17067	Hancock	Attainment	Attainment
IL	17069	Hardin	Attainment	Attainment
IL	17071	Henderson	Attainment	Attainment
IL	17073	Henry	Attainment	Attainment
IL	17075	Iroquois	Attainment	Attainment
IL	17077	Jackson	Attainment	Attainment
IL	17079	Jasper	Attainment	Attainment
IL	17081	Jefferson	Attainment	Attainment
IL	17083	Jersey	Moderate	Attainment
IL	17085	Jo Daviess	Attainment	Attainment
IL	17087	Johnson	Attainment	Attainment
IL	17089	Kane	Moderate	Entire

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
IL	17091	Kankakee	Attainment Border	Attainment
IL	17093	Kendall	Moderate	Partial
IL	17095	Knox	Attainment	Attainment
IL	17097	Lake	Moderate	Entire
IL	17099	La Salle	Attainment Border	Attainment
IL	17101	Lawrence	Attainment	Attainment
IL	17103	Lee	Attainment	Attainment
IL	17105	Livingston	Attainment Border	Attainment
IL	17107	Logan	Attainment	Attainment
IL	17109	McDonough	Attainment	Attainment
IL	17111	McHenry	Moderate	Entire
IL	17113	McLean	Attainment	Attainment
IL	17115	Macon	Attainment	Attainment
IL	17117	Macoupin	Attainment Border	Attainment
IL	17119	Madison	Moderate	Entire
IL	17121	Marion	Attainment	Attainment
IL	17123	Marshall	Attainment	Attainment
IL	17125	Mason	Attainment	Attainment
IL	17127	Massac	Attainment	Attainment
IL	17129	Menard	Attainment	Attainment
IL	17131	Mercer	Attainment	Attainment
IL	17133	Monroe	Moderate	Entire
IL	17135	Montgomery	Attainment Border	Attainment
IL	17137	Morgan	Attainment	Attainment
IL	17139	Moultrie	Attainment	Attainment
IL	17141	Ogle	Attainment	Attainment
IL	17143	Peoria	Attainment	Attainment
IL	17145	Perry	Attainment	Attainment
IL	17147	Piatt	Attainment	Attainment
IL	17149	Pike	Attainment	Attainment
IL	17151	Pope	Attainment	Attainment
IL	17153	Pulaski	Attainment	Attainment
IL	17155	Putnam	Attainment	Attainment
IL	17157	Randolph	Attainment Border	Partial
IL	17159	Richland	Attainment	Attainment
IL	17161	Rock Island	Attainment	Attainment
IL	17163	St. Clair	Moderate	Entire
IL	17165	Saline	Attainment	Attainment
IL	17167	Sangamon	Attainment	Attainment
IL	17169	Schuyler	Attainment	Attainment
IL	17171	Scott	Attainment	Attainment
IL	17173	Shelby	Attainment	Attainment
IL	17175	Stark	Attainment	Attainment
IL	17177	Stephenson	Attainment	Attainment
IL	17179	Tazewell	Attainment	Attainment

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
IL	17181	Union	Attainment	Attainment
IL	17183	Vermilion	Attainment	Attainment
IL	17185	Wabash	Attainment	Attainment
IL	17187	Warren	Attainment	Attainment
IL	17189	Washington	Attainment Border	Attainment
IL	17191	Wayne	Attainment	Attainment
IL	17193	White	Attainment	Attainment
IL	17195	Whiteside	Attainment	Attainment
IL	17197	Will	Moderate	Entire
IL	17199	Williamson	Attainment	Attainment
IL	17201	Winnebago	Attainment Border	Attainment
IL	17203	Woodford	Attainment	Attainment
IN	18001	Adams	Attainment Border	Attainment
IN	18003	Allen	Basic	Attainment
IN	18005	Bartholomew	Attainment Border	Attainment
IN	18007	Benton	Attainment	Attainment
IN	18009	Blackford	Attainment Border	Attainment
IN	18011	Boone	Basic	Attainment
IN	18013	Brown	Attainment Border	Attainment
IN	18015	Carroll	Attainment	Attainment
IN	18017	Cass	Attainment	Attainment
IN	18019	Clark	Basic	Entire
IN	18021	Clay	Attainment Border	Attainment
IN	18023	Clinton	Attainment Border	Attainment
IN	18025	Crawford	Attainment	Attainment
IN	18027	Daviess	Attainment Border	Attainment
IN	18029	Dearborn	Basic	Partial
IN	18031	Decatur	Attainment Border	Attainment
IN	18033	De Kalb	Attainment Border	Attainment
IN	18035	Delaware	Basic	Attainment
IN	18037	Dubois	Attainment Border	Entire
IN	18039	Elkhart	Basic	Attainment
IN	18041	Fayette	Attainment	Attainment
IN	18043	Floyd	Basic	Entire
IN	18045	Fountain	Attainment	Attainment
IN	18047	Franklin	Attainment Border	Attainment
IN	18049	Fulton	Attainment	Attainment
IN	18051	Gibson	Attainment Border	Partial
IN	18053	Grant	Attainment Border	Attainment
IN	18055	Greene	Basic	Attainment
IN	18057	Hamilton	Basic	Entire
IN	18059	Hancock	Basic	Attainment
IN	18061	Harrison	Attainment Border	Attainment
IN	18063	Hendricks	Basic	Entire

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
IN	18065	Henry	Attainment Border	Attainment
IN	18067	Howard	Attainment	Attainment
IN	18069	Huntington	Attainment Border	Attainment
IN	18071	Jackson	Basic	Attainment
IN	18073	Jasper	Attainment Border	Attainment
IN	18075	Jay	Attainment Border	Attainment
IN	18077	Jefferson	Attainment Border	Partial
IN	18079	Jennings	Attainment Border	Attainment
IN	18081	Johnson	Basic	Entire
IN	18083	Knox	Attainment Border	Attainment
IN	18085	Kosciusko	Attainment Border	Attainment
IN	18087	Lagrange	Attainment Border	Attainment
IN	18089	Lake	Moderate	Entire
IN	18091	La Porte	Marginal	Attainment
IN	18093	Lawrence	Attainment Border	Attainment
IN	18095	Madison	Basic	Attainment
IN	18097	Marion	Basic	Entire
IN	18099	Marshall	Attainment Border	Attainment
IN	18101	Martin	Attainment Border	Attainment
IN	18103	Miami	Attainment	Attainment
IN	18105	Monroe	Attainment Border	Attainment
IN	18107	Montgomery	Attainment Border	Attainment
IN	18109	Morgan	Basic	Entire
IN	18111	Newton	Attainment Border	Attainment
IN	18113	Noble	Attainment Border	Attainment
IN	18115	Ohio	Attainment Border	Attainment
IN	18117	Orange	Attainment	Attainment
IN	18119	Owen	Attainment Border	Attainment
IN	18121	Parke	Attainment Border	Attainment
IN	18123	Perry	Attainment	Attainment
IN	18125	Pike	Attainment Border	Partial
IN	18127	Porter	Moderate	Entire
IN	18129	Posey	Attainment Border	Attainment
IN	18131	Pulaski	Attainment	Attainment
IN	18133	Putnam	Attainment Border	Attainment
IN	18135	Randolph	Attainment Border	Attainment
IN	18137	Ripley	Attainment Border	Attainment
IN	18139	Rush	Attainment Border	Attainment
IN	18141	St. Joseph	Basic	Entire
IN	18143	Scott	Attainment Border	Attainment
IN	18145	Shelby	Basic	Attainment
IN	18147	Spencer	Attainment Border	Partial
IN	18149	Starke	Attainment Border	Attainment
IN	18151	Steuben	Attainment	Attainment
IN	18153	Sullivan	Attainment Border	Attainment

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
IN	18155	Switzerland	Attainment Border	Attainment
IN	18157	Tippecanoe	Attainment Border	Attainment
IN	18159	Tipton	Attainment Border	Attainment
IN	18161	Union	Attainment	Attainment
IN	18163	Vanderburgh	Basic	Entire
IN	18165	Vermillion	Attainment Border	Attainment
IN	18167	Vigo	Basic	Attainment
IN	18169	Wabash	Attainment	Attainment
IN	18171	Warren	Attainment	Attainment
IN	18173	Warrick	Basic	Entire
IN	18175	Washington	Attainment Border	Attainment
IN	18177	Wayne	Attainment	Attainment
IN	18179	Wells	Attainment Border	Attainment
IN	18181	White	Attainment	Attainment
IN	18183	Whitley	Attainment Border	Attainment
MI	26001	Alcona	Attainment	Attainment
MI	26003	Alger	Attainment	Attainment
MI	26005	Allegan	Basic	Attainment
MI	26007	Alpena	Attainment	Attainment
MI	26009	Antrim	Attainment	Attainment
MI	26011	Arenac	Attainment	Attainment
MI	26013	Baraga	Attainment	Attainment
MI	26015	Barry	Attainment Border	Attainment
MI	26017	Bay	Attainment	Attainment
MI	26019	Benzie	Basic	Attainment
MI	26021	Berrien	Basic	Attainment
MI	26023	Branch	Attainment Border	Attainment
MI	26025	Calhoun	Basic	Attainment
MI	26027	Cass	Marginal	Attainment
MI	26029	Charlevoix	Attainment	Attainment
MI	26031	Cheboygan	Attainment	Attainment
MI	26033	Chippewa	Attainment	Attainment
MI	26035	Clare	Attainment	Attainment
MI	26037	Clinton	Basic	Attainment
MI	26039	Crawford	Attainment	Attainment
MI	26041	Delta	Attainment	Attainment
MI	26043	Dickinson	Attainment	Attainment
MI	26045	Eaton	Basic	Attainment
MI	26047	Emmet	Attainment	Attainment
MI	26049	Genesee	Basic	Attainment
MI	26051	Gladwin	Attainment	Attainment
MI	26053	Gogebic	Attainment	Attainment
MI	26055	Grand Traverse	Attainment Border	Attainment
MI	26057	Gratiot	Attainment Border	Attainment

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
MI	26059	Hillsdale	Attainment Border	Attainment
MI	26061	Houghton	Attainment	Attainment
MI	26063	Huron	Basic	Attainment
MI	26065	Ingham	Basic	Attainment
MI	26067	Ionia	Attainment Border	Attainment
MI	26069	Iosco	Attainment	Attainment
MI	26071	Iron	Attainment	Attainment
MI	26073	Isabella	Attainment	Attainment
MI	26075	Jackson	Attainment Border	Attainment
MI	26077	Kalamazoo	Basic	Attainment
MI	26079	Kalkaska	Attainment	Attainment
MI	26081	Kent	Basic	Attainment
MI	26083	Keweenaw	Attainment	Attainment
MI	26085	Lake	Attainment Border	Attainment
MI	26087	Lapeer	Basic	Attainment
MI	26089	Leelanau	Attainment Border	Attainment
MI	26091	Lenawee	Marginal	Attainment
MI	26093	Livingston	Marginal	Entire
MI	26095	Luce	Attainment	Attainment
MI	26097	Mackinac	Attainment	Attainment
MI	26099	Macomb	Marginal	Entire
MI	26101	Manistee	Attainment Border	Attainment
MI	26103	Marquette	Attainment	Attainment
MI	26105	Mason	Basic	Attainment
MI	26107	Mecosta	Attainment	Attainment
MI	26109	Menominee	Attainment	Attainment
MI	26111	Midland	Attainment	Attainment
MI	26113	Missaukee	Attainment	Attainment
MI	26115	Monroe	Marginal	Entire
MI	26117	Montcalm	Attainment Border	Attainment
MI	26119	Montmorency	Attainment	Attainment
MI	26121	Muskegon	Marginal	Attainment
MI	26123	Newaygo	Attainment Border	Attainment
MI	26125	Oakland	Marginal	Entire
MI	26127	Oceana	Attainment Border	Attainment
MI	26129	Ogemaw	Attainment	Attainment
MI	26131	Ontonagon	Attainment	Attainment
MI	26133	Osceola	Attainment	Attainment
MI	26135	Oscoda	Attainment	Attainment
MI	26137	Otsego	Attainment	Attainment
MI	26139	Ottawa	Basic	Attainment
MI	26141	Presque Isle	Attainment	Attainment
MI	26143	Roscommon	Attainment	Attainment
MI	26145	Saginaw	Attainment Border	Attainment
MI	26147	St. Clair	Marginal	Entire

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
MI	26149	St. Joseph	Attainment Border	Attainment
MI	26151	Sanilac	Attainment Border	Attainment
MI	26153	Schoolcraft	Attainment	Attainment
MI	26155	Shiawassee	Attainment Border	Attainment
MI	26157	Tuscola	Attainment Border	Attainment
MI	26159	Van Buren	Basic	Attainment
MI	26161	Washtenaw	Marginal	Entire
MI	26163	Wayne	Marginal	Entire
MI	26165	Wexford	Attainment Border	Attainment
OH	39001	Adams	Attainment	Partial
OH	39003	Allen	Basic	Attainment
OH	39005	Ashland	Attainment Border	Attainment
OH	39007	Ashtabula	Moderate	Partial
OH	39009	Athens	Attainment Border	Attainment
OH	39011	Auglaize	Attainment Border	Attainment
OH	39013	Belmont	Basic	Entire
OH	39015	Brown	Attainment Border	Attainment
OH	39017	Butler	Basic	Entire
OH	39019	Carroll	Attainment Border	Attainment
OH	39021	Champaign	Attainment Border	Attainment
OH	39023	Clark	Basic	Entire
OH	39025	Clermont	Basic	Entire
OH	39027	Clinton	Basic	Attainment
OH	39029	Columbiana	Basic	Entire
OH	39031	Coshocton	Attainment Border	Partial
OH	39033	Crawford	Attainment	Attainment
OH	39035	Cuyahoga	Moderate	Entire
OH	39037	Darke	Attainment Border	Attainment
OH	39039	Defiance	Attainment Border	Attainment
OH	39041	Delaware	Basic	Entire
OH	39043	Erie	Attainment Border	Attainment
OH	39045	Fairfield	Basic	Entire
OH	39047	Fayette	Attainment Border	Attainment
OH	39049	Franklin	Basic	Entire
OH	39051	Fulton	Attainment Border	Attainment
OH	39053	Gallia	Attainment	Partial
OH	39055	Geauga	Moderate	Attainment
OH	39057	Greene	Basic	Entire
OH	39059	Guernsey	Attainment Border	Attainment
OH	39061	Hamilton	Basic	Entire
OH	39063	Hancock	Attainment Border	Attainment
OH	39065	Hardin	Attainment Border	Attainment
OH	39067	Harrison	Attainment Border	Attainment
OH	39069	Henry	Attainment Border	Attainment

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
OH	39071	Highland	Attainment Border	Attainment
OH	39073	Hocking	Attainment Border	Attainment
OH	39075	Holmes	Attainment Border	Attainment
OH	39077	Huron	Attainment Border	Attainment
OH	39079	Jackson	Attainment	Attainment
OH	39081	Jefferson	Basic	Entire
OH	39083	Knox	Basic	Attainment
OH	39085	Lake	Moderate	Entire
OH	39087	Lawrence	Attainment	Entire
OH	39089	Licking	Basic	Entire
OH	39091	Logan	Attainment	Attainment
OH	39093	Lorain	Moderate	Entire
OH	39095	Lucas	Basic	Entire
OH	39097	Madison	Basic	Attainment
OH	39099	Mahoning	Basic	Entire
OH	39101	Marion	Attainment Border	Attainment
OH	39103	Medina	Moderate	Entire
OH	39105	Meigs	Attainment Border	Attainment
OH	39107	Mercer	Attainment	Attainment
OH	39109	Miami	Basic	Attainment
OH	39111	Monroe	Attainment Border	Attainment
OH	39113	Montgomery	Basic	Entire
OH	39115	Morgan	Attainment Border	Attainment
OH	39117	Morrow	Attainment Border	Attainment
OH	39119	Muskingum	Attainment Border	Attainment
OH	39121	Noble	Attainment Border	Attainment
OH	39123	Ottawa	Attainment Border	Attainment
OH	39125	Paulding	Attainment Border	Attainment
OH	39127	Perry	Attainment Border	Attainment
OH	39129	Pickaway	Attainment Border	Attainment
OH	39131	Pike	Attainment	Attainment
OH	39133	Portage	Moderate	Entire
OH	39135	Preble	Attainment Border	Attainment
OH	39137	Putnam	Attainment Border	Attainment
OH	39139	Richland	Attainment Border	Attainment
OH	39141	Ross	Attainment	Attainment
OH	39143	Sandusky	Attainment Border	Attainment
OH	39145	Scioto	Attainment	Entire
OH	39147	Seneca	Attainment Border	Attainment
OH	39149	Shelby	Attainment Border	Attainment
OH	39151	Stark	Basic	Entire
OH	39153	Summit	Moderate	Entire
OH	39155	Trumbull	Basic	Entire
OH	39157	Tuscarawas	Attainment Border	Attainment
OH	39159	Union	Attainment Border	Attainment

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
OH	39161	Van Wert	Attainment Border	Attainment
OH	39163	Vinton	Attainment	Attainment
OH	39165	Warren	Basic	Entire
OH	39167	Washington	Basic	Entire
OH	39169	Wayne	Attainment Border	Attainment
OH	39171	Williams	Attainment Border	Attainment
OH	39173	Wood	Basic	Entire
OH	39175	Wyandot	Attainment	Attainment
WI	55001	Adams	Attainment	Attainment
WI	55003	Ashland	Attainment	Attainment
WI	55005	Barron	Attainment	Attainment
WI	55007	Bayfield	Attainment	Attainment
WI	55009	Brown	Attainment Border	Attainment
WI	55011	Buffalo	Attainment	Attainment
WI	55013	Burnett	Attainment	Attainment
WI	55015	Calumet	Attainment Border	Attainment
WI	55017	Chippewa	Attainment	Attainment
WI	55019	Clark	Attainment	Attainment
WI	55021	Columbia	Attainment	Attainment
WI	55023	Crawford	Attainment	Attainment
WI	55025	Dane	Attainment Border	Attainment
WI	55027	Dodge	Attainment Border	Attainment
WI	55029	Door	Basic	Attainment
WI	55031	Douglas	Attainment	Attainment
WI	55033	Dunn	Attainment	Attainment
WI	55035	Eau Claire	Attainment	Attainment
WI	55037	Florence	Attainment	Attainment
WI	55039	Fond Du Lac	Attainment Border	Attainment
WI	55041	Forest	Attainment	Attainment
WI	55043	Grant	Attainment	Attainment
WI	55045	Green	Attainment	Attainment
WI	55047	Green Lake	Attainment	Attainment
WI	55049	Iowa	Attainment	Attainment
WI	55051	Iron	Attainment	Attainment
WI	55053	Jackson	Attainment	Attainment
WI	55055	Jefferson	Attainment Border	Attainment
WI	55057	Juneau	Attainment	Attainment
WI	55059	Kenosha	Moderate	Attainment
WI	55061	Kewaunee	Basic	Attainment
WI	55063	La Crosse	Attainment	Attainment
WI	55065	Lafayette	Attainment	Attainment
WI	55067	Langlade	Attainment	Attainment
WI	55069	Lincoln	Attainment	Attainment
WI	55071	Manitowoc	Basic	Attainment

STATE	FIPS Code	County Name	8-Hour Ozone Attainment Status	PM2.5 Attainment Status
WI	55073	Marathon	Attainment	Attainment
WI	55075	Marinette	Attainment	Attainment
WI	55077	Marquette	Attainment	Attainment
WI	55078	Menominee	Attainment	Attainment
WI	55079	Milwaukee	Moderate	Attainment
WI	55081	Monroe	Attainment	Attainment
WI	55083	Oconto	Attainment	Attainment
WI	55085	Oneida	Attainment	Attainment
WI	55087	Outagamie	Attainment Border	Attainment
WI	55089	Ozaukee	Moderate	Attainment
WI	55091	Pepin	Attainment	Attainment
WI	55093	Pierce	Attainment	Attainment
WI	55095	Polk	Attainment	Attainment
WI	55097	Portage	Attainment	Attainment
WI	55099	Price	Attainment	Attainment
WI	55101	Racine	Moderate	Attainment
WI	55103	Richland	Attainment	Attainment
WI	55105	Rock	Attainment Border	Attainment
WI	55107	Rusk	Attainment	Attainment
WI	55109	St. Croix	Attainment	Attainment
WI	55111	Sauk	Attainment	Attainment
WI	55113	Sawyer	Attainment	Attainment
WI	55115	Shawano	Attainment	Attainment
WI	55117	Sheboygan	Moderate	Attainment
WI	55119	Taylor	Attainment	Attainment
WI	55121	Trempealeau	Attainment	Attainment
WI	55123	Vernon	Attainment	Attainment
WI	55125	Vilas	Attainment	Attainment
WI	55127	Walworth	Attainment Border	Attainment
WI	55129	Washburn	Attainment	Attainment
WI	55131	Washington	Moderate	Attainment
WI	55133	Waukesha	Moderate	Attainment
WI	55135	Waupaca	Attainment	Attainment
WI	55137	Waushara	Attainment	Attainment
WI	55139	Winnebago	Attainment Border	Attainment
WI	55141	Wood	Attainment	Attainment

APPENDIX D

INTERIM WHITE PAPERS

1. Airport Related Activities
2. Architectural and Industrial Maintenance Coatings
3. Asphalt Manufacturing
4. Asphalt Paving
5. Auto Body Refinishing
6. Cement Kilns
7. Chemical Manufacturing
8. Consumer and Commercial Products
9. Electric Generating Units
10. Gasoline Distribution Facilities
11. Glass Manufacturing
12. Industrial, Commercial, and Institutional Boilers
13. Industrial Solvent Cleaning
14. Industrial Surface Coating
15. Petroleum Refineries
16. Portable Fuel Containers

Federal Register

Tuesday,
November 29, 2005

Part II

Environmental Protection Agency

40 CFR Parts 51, 52, and 80

Final Rule To Implement the 8-Hour Ozone National Ambient Air Quality Standard; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 52, and 80

[OAR 2003–0079; FRL–7996–8]

RIN 2060–AJ99

Final Rule To Implement the 8-Hour Ozone National Ambient Air Quality Standard—Phase 2; Final Rule To Implement Certain Aspects of the 1990 Amendments Relating to New Source Review and Prevention of Significant Deterioration as They Apply in Carbon Monoxide, Particulate Matter and Ozone NAAQS; Final Rule for Reformulated Gasoline

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: In this document, we are taking final action on most remaining elements of the program to implement the 8-hour ozone national ambient air quality standard (NAAQS or standard). This final rule addresses, among other things, the following control and planning obligations as they apply to areas designated nonattainment for the 8-hour ozone NAAQS: reasonably available control technology and measures (RACT and RACM), reasonable further progress (RFP), modeling and attainment demonstrations, and new source review (NSR). We are issuing this rule so that States and Tribes will know how these statutory control and planning obligations apply and when State implementation plan (SIP) revisions are due for these obligations so that the States may develop timely submissions consistent with the statutory obligations and attain the NAAQS as expeditiously as practicable but no later than their maximum attainment dates. The intended effect of the rule is to provide certainty to States and Tribes regarding development of those plans.

In this rule, we are also finalizing several revisions to the regulations governing the nonattainment NSR programs mandated by section 110(a)(2)(C) and part D of title I of the Clean Air Act (CAA).

Finally, this rule addresses what effect the transition to the 8-hour standard will have on certain aspects of the Reformulated Gasoline (RFG) program. The nine original mandatory RFG areas, as well as most other areas that have become mandatory RFG areas by being reclassified as severe areas under section 181(b) of the CAA, will continue to be required to use RFG at least until they are redesignated to attainment for the 8-hour NAAQS. The EPA reserves for future consideration what effect the transition to the 8-hour standard will have on areas reclassified as severe areas for the 1-hour NAAQS under section 181(b) of the CAA that were redesignated to attainment for the 1-hour standard before revocation of that standard.

EFFECTIVE DATE: This rule is effective on January 30, 2006.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. OAR–2003–0079. All documents in the docket are listed in the EDOCKET index at *http://www.epa.gov/edocket*. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in EDOCKET or in hard copy at the EPA Docket Center (Air Docket), EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Office of Air and Radiation Docket and Information Center is (202) 566–1742.

In addition, we have placed a variety of earlier materials regarding implementation of the 8-hour ozone NAAQS on the Web site: *http://www.epa.gov/ttn/naaqs/ozone/o3imp8hr*.

FOR FURTHER INFORMATION CONTACT: For general information: Mr. John Silvasi, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Mail Code C539–02, Research Triangle Park, NC 27711, phone number (919) 541-5666, fax number (919) 541-0824 or by e-mail at *silvasi.john@epa.gov* or Ms. Denise Gerth, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Mail Code C539–02, Research Triangle Park, NC 27711, phone number (919) 541–5550, fax number (919) 541–0824 or by e-mail at *gerth.denise@epa.gov*. For information concerning new source review: Ms. Janet McDonald, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Mail Code C539–03, Research Triangle Park, NC 27711, phone number (919) 541–1450, fax number (919) 541–5509 or by e-mail at *mcdonald.janet@epa.gov*.

SUPPLEMENTARY INFORMATION:

Outline

I. What is the Background for this Rule?
II. What is Included in this Rule?
III. In Short, What Does this Final Rule Contain?
IV. Final Rule for Phase 2 Elements Other than NSR and RFG
  A. Should prescribed requirements of subpart 2 apply in all 8-hour nonattainment areas classified under subpart 2, or is there flexibility in application in certain narrowly-defined circumstances?
  B. How will we address long-range transport of ground-level ozone and its precursors when implementing the 8-hour ozone standard?
  C. How will we address transport of ground-level ozone and its precursors for rural nonattainment areas, areas affected by intrastate transport, and areas affected by international transport?
  D. How will EPA address requirements for modeling and attainment demonstration SIPs for areas implementing the 8-hour ozone standard?
  E. What requirements for RFP should apply under the 8-hour ozone standard?
  F. Are contingency measures required in the event of failure to meet a milestone or attain the 8-hour ozone NAAQS?
  G. What requirements should apply for RACM and RACT for 8-hour ozone nonattainment areas?
  H. How will the section 182(f) NO_X provisions be handled under the 8-hour ozone standard?
  I. Should EPA promulgate a NSR provision to encourage development patterns that reduce overall emissions?
  J. How will EPA ensure that the 8-hour ozone standard will be implemented in a way which allows an optimal mix of controls for ozone, PM2.5, and regional haze?
  K. What emissions inventory requirements should apply under the 8-hour ozone NAAQS?
  L. What guidance should be provided that is specific to Tribes?
  M. What are the requirements for Ozone Transport Regions (OTRs) under the 8-hour ozone standard?
  N. Are there any additional requirements related to enforcement and compliance?
  O. What requirements should apply to emergency episodes?
  P. What ambient monitoring requirements will apply under the 8-hour ozone NAAQS?
  Q. When will EPA require 8-hour attainment demonstration SIP submissions?
  R. How will the statutory time periods in the CAA be addressed when we redesignate areas to nonattainment following initial designations for the 8-hour NAAQS?
V. EPA's Final Rule for New Source Review
  A. Background
  B. Summary of Final Rule and Legal Basis

C. Comments and Responses
D. NSR Implementation Under the 8-hour ozone NAAQS
VI. Final Rule for RFG
A. Introduction
B. Background
C. What Action is EPA Taking?
D. Why is EPA Taking This Action?
E. Future Proceedings
F. Miscellaneous Administrative Changes to RFG Regulations
G. Comments and Responses
VII. Other Considerations
A. How will EPA's implementation of the 8-hour ozone NAAQS affect funding under the Congestion Mitigation and Air Quality Improvement (CMAQ) Program?
B. What is the relationship between implementation of the 8-hour standard and the CAA's title V permits program?
C. What action is EPA taking on the Overwhelming Transport Classification for Subpart 1 Areas?
VIII. Statutory and Executive Order Reviews
A. Executive Order 12866: Regulatory Planning and Review
B. Paperwork Reduction Act
C. Regulatory Flexibility Act
D. Unfunded Mandates Reform Act
E. Executive Order 13132: Federalism
F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments
G. Executive Order 13045: Protection of Children from Environmental Health and Safety Risks
H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use
I. National Technology Transfer Advancement Act
J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act
L. Petitions for Judicial Review
M. Determination Under Section 307(d)
Appendix A to Preamble—Methods to Account for Non-Creditable Reductions when Calculating ROP Targets for the 2008 and Later ROP Milestone Years
Appendix B to Preamble—Glossary Of Terms and Acronyms

I. What Is the Background for This Rule?

On June 2, 2003 (68 FR 32805), we published a proposed rule to implement the 8-hour ozone NAAQS. The proposal addressed a number of implementation issues. We proposed one or more options for each issue addressed in the proposal. Please refer to the proposed rule (68 FR 32802) for a detailed discussion and background information on the 8-hour ozone NAAQS; the associated litigation; our proposed strategy for areas to achieve the NAAQS; and the stakeholder process for gathering input into this effort, among other topics.

On August 6, 2003 (68 FR 46536), we published a notice of availability of the draft regulatory text for the proposed rule to implement the 8-hour ozone NAAQS. This notice started a 30-day public comment period on the draft regulatory text.

On April 30, 2004 (69 FR 23951), we published a final rule that addressed the following key elements related to implementation of the 8-hour ozone NAAQS: classifications for the 8-hour NAAQS; revocation of the 1-hour NAAQS (i.e., when the 1-hour NAAQS will no longer apply); how anti-backsliding principles will ensure continued progress toward attainment of the 8-hour ozone NAAQS; attainment dates; and the timing of emissions reductions needed for attainment.

Following publication of the April 30, 2004 final rule, the Administrator received three petitions, pursuant to section 307(b)(7)(B) of the CAA requesting reconsideration of a number of aspects of the final rule.[1] On September 23, 2004, we granted reconsideration of three issues raised in the Earthjustice Petition. On February 3, 2005 (70 FR 5593), we published a proposed rule to take comment on two of these issues: (1) The provision that section 185 fees would no longer be applicable once the 1-hour NAAQS is revoked and (2) the timing for determination of what is an ''applicable requirement.'' On May 20, 2005, the final rule on these two issues was signed by the Administrator of EPA. On April 4, 2005 (70 FR 17018), we published a proposed rule to take comment on the issue of whether we should interpret the Act to require areas to retain major NSR requirements that apply to certain 1-hour ozone nonattainment areas in implementing the 8-hour standard. We took final action on the NSR issues on June 30, 2005 (70 FR 39413; July 8, 2005).

On January 10, 2005, we granted reconsideration of the overwhelming transport classification issue raised by Earthjustice in their Petition. At the same time, we denied reconsideration of the issues they raised in their Petition dealing with the applicability of RFG when the 1-hour NAAQS is revoked and future 8-hour ozone redesignations to nonattainment. We intend to publish a proposed rule on the overwhelming transport classification shortly. We are continuing to review the issues raised in the National Petrochemical and Refiners Association and American Petroleum Institute Petitions. Copies of the Petitions for Reconsideration and actions EPA has taken regarding the Petitions may be found at: *www.epa.gov/ttn/naaqs/ozone/o3imp8hr*.

In addition, in the April 30, 2004 rule, we established a subpart E in 40 CFR part 81 ''Identification of Area Designations and Classifications for the 1-Hour Ozone NAAQS as of June 15, 2004 [Reserved].'' We intend to publish that list shortly.

Concerning the major NSR provisions, today's final regulations were proposed as part of two different regulatory packages. On July 23, 1996 (61 FR 38250), we proposed changes to the major NSR program, including codification of the requirements of part D of title I of the 1990 CAA Amendments for major stationary sources of volatile organic compounds (VOC), NO_X, particulate matter having a nominal aerodynamic diameter less than or equal to 10 microns (PM_{10}), and CO. On June 2, 2003 (68 FR 32802), we proposed a rule to implement the 8-hour ozone NAAQS. In the 2003 action, we proposed a rule to identify the statutory requirements that apply for purposes of developing SIPs under the CAA to implement the 8-hour ozone NAAQS (68 FR 32802). We did not propose specific regulatory language for implementation of NSR under the 8-hour NAAQS. However, we indicated that we intended to revise the nonattainment NSR regulations to be consistent with the rule for implementing the 8-hour ozone NAAQS (68 FR 32844). On April 30, 2004 (69 FR 23951), we published a final rule that addressed classifications for the 8-hour NAAQS. The April 2004 rule also included the NSR permitting requirements for the 8-hour ozone standard, which necessarily follow from the classification scheme chosen under the terms of subpart 1 and subpart 2.

Also, in our 1996 action, and then again in our June 2, 2003 action, we proposed to amend our nonattainment NSR provisions to expressly include NO_X as an ozone precursor in nonattainment major NSR programs (61 FR 38297 and 68 FR 32847). We also proposed that, as provided under CAA section 182(f), a waiver from nonattainment NSR for NO_X as an ozone precursor would be available for both subpart 1 and subpart 2 areas (68 FR 32846). Moreover, we proposed to require States to modify their existing programs to include NO_X as an ozone

[1] Three petitions for reconsideration of the Phase 1 Rule were filed by: (1) Earthjustice on behalf of the American Lung Association, Environmental Defense, Natural Resources Defense Council, Sierra Club, Clean Air Task Force, Conservation Law Foundation, and Southern Alliance for Clean Energy; (2) the National Petrochemical and Refiners Association and the National Association of Manufacturers; and (3) the American Petroleum Institute, American Chemistry Council, American Iron and Steel Institute, National Association of Manufacturers and the U.S. Chamber of Commerce.

precursor in attainment areas (68 FR 32846).

In 1996, we proposed to revise the regulations limiting offsets from emissions reductions due to shutting down an existing source or curtailing production or operating hours below baseline levels (''shutdowns/curtailments''). We proposed substantive revisions in two alternatives that would ease, under certain circumstances, the existing restrictions on the use of emission reduction credits from source shutdowns and curtailments as offsets.

On July 23, 1996, we proposed to revise § 52.24 to incorporate changes made by the 1990 CAA Amendments related to the applicability of construction bans (61 FR 38305). To clarify our intent, our proposed 8-hour ozone NAAQS implementation rule in June 2003 explained that § 52.24(k) remained in effect and would be retained. In that action, we also proposed that we would revise § 52.24(k) to reflect the changes in the 1990 CAA Amendments (68 FR 32846). On June 2, 2003 (68 FR 32802), we explained implementation of the major NSR program under the 8-hour ozone NAAQS during the SIP development period, and proposed flexible NSR requirements for areas that expected to attain the 8-hour NAAQS within 3 years after designation.

In this rule, we are also finalizing several revisions to the regulations governing the nonattainment NSR programs mandated by section 110(a)(2)(C) and part D of title I of the Clean Air Act (CAA). First, we are codifying requirements added to part D of title I of the CAA in the 1990 Amendments related to permitting of major stationary sources in areas that are nonattainment for the ozone, particulate matter (PM), and carbon monoxide (CO) NAAQS. Second, we are revising the criteria for crediting emissions reductions credits from shutdowns and curtailments as offsets. Third, we are revising the regulations for permitting of major stationary sources in nonattainment areas in interim periods between designation of new nonattainment areas and EPA's approval of a revised SIP. Fourth, we are changing the regulations that impose a moratorium (ban) prohibiting construction of new or modified major stationary sources in nonattainment areas where the State fails to have an implementation plan meeting all of the requirements of part D. In addition to the changes to the nonattainment NSR regulations, we also are making one change to the Prevention of Significant Deterioration (PSD) regulations under part C of title I of the CAA. We are codifying nitrogen oxides (NO_X) as an ozone precursor in attainment and unclassifiable areas.

Today's changes regarding NSR are based on the proposed rule published on June 2, 2003 to Implement the 8-hour Ozone National Ambient Air Quality Standard (NAAQS), as well as the proposed rule published on July 23, 1996 for ''Prevention of Significant Deterioration (PSD) and Non-attainment New Source Review (NSR).'' These changes provide a consistent national program for permitting major stationary sources under section 110(a)(2)(C) and parts C and D of title I, including major stationary sources of ozone precursors in ozone nonattainment areas.

For the reader's convenience, a glossary and list of acronyms appears in Appendix B of this preamble.

II. What Is Included in This Rule?

Today's action, Phase 2 of the implementation rule, addresses numerous topics, but primarily focuses on the following key implementation obligations for areas designated nonattainment for the 8-hour NAAQS: RACT and RACM; RFP; modeling and attainment demonstrations; and NSR. It also addresses what effect the transition to the 8-hour standard will have on certain aspects of the RFG program.

III. In Short, What Does This Final Rule Contain?

This summary is intended to give only a convenient overview of our final rule. It should not be relied on for the details of the actual rule. The final rule (regulatory text) and the discussion of it in the sections below should be consulted directly.

Summary of Section IV (Below): Final Rule for Phase 2 Elements Other Than NSR and RFG

A. Should prescribed requirements of subpart 2 apply in all 8-hour nonattainment areas classified under subpart 2, or is there flexibility in application in certain narrowly defined circumstances?

There may be a basis for waiving a prescribed requirement on a case-by-case basis where imposition of the requirement would create an absurd result. If a State submits a demonstration that application of a specific requirement in a specific nonattainment area would create an absurd result, we will consider application of the absurd results doctrine at that time. We believe that absurd results that might occur from application of mandatory control measures would happen only in rare instances, if at all.

B. How will we address long-range transport of ground-level ozone and its precursors when implementing the 8-hour ozone standard?

The EPA has issued two major rules to address interstate transport of ozone pollution. The 1998 NO_X SIP Call Rule already is achieving significant reductions in NO_X emissions that contribute to interstate ozone pollution in the eastern United States. Nineteen States were required to achieve reductions by May 2004, and additional reductions are required by May 2007.

On May 12, 2005, EPA published the Clean Air Interstate Rule (CAIR) in the **Federal Register** (70 FR 25162). It establishes statewide sulfur dioxide (SO_2) and NO_X emissions budgets for upwind States that significantly contribute to nonattainment or interfere with maintenance of the fine particle or 8-hour ozone air quality standards in downwind States. For ozone, this action established summertime NO_X budgets for the District of Columbia and 25 States in the eastern half of the country, with reductions to be achieved by 2009 and 2015. The CAIR goes beyond the SIP call by requiring reductions from additional States and by requiring further emissions reductions in SIP call States.

C. How will we address transport of ground-level ozone and its precursors for rural nonattainment areas, areas affected by intrastate transport, and areas affected by international transport?

1. Rural Transport Nonattainment Areas

The final rule does not contain any revisions to current policy on rural transport areas under section 182(h). We do not believe there are any 8-hour nonattainment areas covered under subpart 2 that are ''rural'' and therefore eligible for consideration for coverage under section 182(h).

2. Intrastate Transport

The final rule does not contain any additional provisions for addressing intrastate transport for the reasons stated in the proposal.

3. How will EPA address transport of ground-level ozone and its precursors for areas affected by international transport?

We are not setting forth any regulatory provisions related to international transport in this rule. Section 179B of the CAA applies for these purposes. We continue to recommend that States confer with the appropriate EPA

Regional Office to establish on a case-by-case basis the technical requirements for these analyses. These analyses will be subject to public comment during the State and Federal SIP processes.

D. How will EPA address requirements for modeling and attainment demonstration SIPs for areas implementing the 8-hour ozone standard?

The final rule retains the following three elements that each attainment demonstration SIP must include: (1) Technical analyses to locate and identify sources of emissions that are causing violations of the 8-hour NAAQS within nonattainment areas (i.e., analyses related to the emissions inventory required for the nonattainment area), (2) adopted measures with schedules for implementation and other means and techniques necessary and appropriate for attainment, and (3) contingency measures required under section 172(c)(9) of the CAA that can be implemented without further action by the State or the Administrator to cover failures to meet RFP milestones and/or attainment.

1. Attainment Demonstration Due Date

Areas required to submit an attainment demonstration must do so no later than 3 years after the effective date of designation for the 8-hour ozone NAAQS.

2. Multi-State Nonattainment Areas

State partners involved in a multi-State ozone nonattainment area must work together to perform the appropriate modeling analyses to identify control measures that will enable the area to achieve attainment as expeditiously as practicable. Each State will be responsible for its portion of the control program and will be held accountable for controls identified for implementation within its State boundaries.

3. Role of Modeling Guidance in Attainment Demonstrations

Attainment demonstrations must be consistent with 40 CFR 51.112. We will generally review the demonstrations for technical merit using EPA's most recent modeling guidance at the time the modeled attainment demonstration is performed.

4. Multi-pollutant Assessments (One-Atmosphere Modeling)

There is no regulatory text on this issue, but the preamble makes several recommendations concerning multi-pollutant assessments.

E. What requirements for RFP should apply under the 8-hour ozone standard?

1. General Discussion

We are adopting nearly all the approaches set forth in our proposed rule for the various 1-hour rate-of-progress (ROP) and 8-hour RFP issues.

2. What is the content and timing of the plan for addressing the RFP requirements under section 182(b)(1) for areas covered under subpart 2?

Areas that are classified as moderate under the 8-hour standard that have already implemented their 15 percent plans under their 1-hour ozone SIPs would be considered to have met the statutory 15 percent requirement. Reasonable further progress for the first 6 years from the baseline year would be covered under the more generic RFP requirements of subpart 1. Serious and above areas would have to meet 3 percent reductions per year starting in the baseline year averaged over each 3-year period out to the attainment year.

An 8-hour nonattainment area that is identical, geographically, to its predecessor 1-hour nonattainment area (which has already done the 15 percent reduction) will not be required to do another 15 percent VOC-only reduction plan. For an 8-hour moderate or higher nonattainment area that contains a 1-hour nonattainment area that has an approved 15 percent VOC ROP plan but also contains areas that do not have an approved 15 percent VOC ROP plan, the final rule allows States the choice between two options:

Option 1. Develop a new baseline and new 15 percent VOC ROP emission reduction target for the entire newly expanded area. Determine that emissions reductions that occur after the 2002 baseline emissions inventory year are creditable in the combined new area. The reductions must be of VOC only.

Option 2. Treat the 8-hour nonattainment area as divided between the old 1-hour area(s) and the newly added 8-hour area. For the newly added portion (which had not previously implemented a 15 percent plan), States must establish a separate 15 percent VOC target under subpart 2. The previous nonattainment area that fell under the 1-hour standard will now be subject to the subpart 1 provisions of the CAA and will be able to credit both VOC and NO_X toward meeting the RFP target for this portion of the nonattainment area. VOC reductions to meet the 15 percent requirement for the portion of the new 8-hour nonattainment area that has not yet met this requirement may come from across the entire 8-hour area.

The subpart 1 RFP provisions addressed by the rule below that are applicable in the former 1-hour portion of the area depend on the subpart 2 area's attainment date as follows:

- In moderate areas that have an attainment date within 5 years after their 8-hour designation, for which portions of the area have previously met their 15 percent requirements under the 1-hour standard, the former 1-hour portion will only be subject to subpart 1 RFP requirements, which will be satisfied with the measures that demonstrate attainment as expeditiously as practicable. These areas will not be developing RFP plans separate from their attainment plans. Thus, for these areas, the only motor vehicle emissions budgets that will be developed will be for the attainment year.
- In moderate areas that have an attainment date beyond 5 years after their 8-hour designation, for which portions of the area have previously met their 15 percent requirements under the 1-hour standard, the former 1-hour portion will only be subject to subpart 1 RFP requirements, which will be satisfied with a plan to demonstrate 15 percent emissions reductions (which may be either VOC or NO_X or a combination of both) from 2002 to 2008, and any additional emissions reductions needed for attainment beyond 2008. Thus, these areas (the entire 8-hour nonattainment area) would establish a motor vehicle emission budget for 2008 and for their attainment year.

Serious and above areas will be developing both a 15 percent VOC plan for the new portion of the 8-hour nonattainment area and an 18 percent VOC/NO_X plan for the portion of the area that previously met its 15 percent requirement. Thus, the RFP plan as a whole will establish total allowable emissions for 2008 for the entire 8-hour nonattainment area. Therefore, the plans for these areas, as well as moderate areas that choose option one, will establish motor vehicle emissions budgets for both 2008 and the attainment year.

3. What baseline year should be required for the emissions inventory for the RFP requirement?

We are using the 2002 inventory as the baseline inventory for the RFP requirement for areas designated nonattainment in 2004 primarily because of timing concerns related to attainment dates and when data is collected and compiled. However, in response to several comments, we are allowing States the option of justifying the use of an alternative baseline year inventory year for RFP.

4. Should moderate and higher classified areas be subject to prescribed additional RFP requirements prior to their attainment date?

Moderate areas would have to provide additional emissions reductions (VOC/NO_X) needed to provide for attainment by the beginning of the ozone season prior to the area's attainment date. Serious and higher classified areas would need to provide in their SIPs an additional average of three percent per year emission reduction over each subsequent 3-year period beyond the initial 6-year period through the attainment year.

5. What is the timing of the submission of the RFP plan?

For moderate and higher classified areas, the first RFP SIP must be submitted within 3 years after the area's nonattainment designation. For areas with a June 15, 2004 effective date, for the 8-hour designations, the SIP would be due by June 15, 2007. This would provide up to 3 years for States to develop and submit RFP plans, and 1 additional year (until the end of 2008) for control measures to be implemented. The RFP SIP for any remaining 3-year periods out to the attainment date beyond the first 6 years would be required to be submitted with the attainment demonstration, i.e., within 3 years after designation. We recommend that States complete their RFP plans as soon as possible after designation to provide more time for sources to implement the emissions reductions.

6. How should CAA restrictions on creditable measures be interpreted? Which national measures should count as generating emissions reductions credit toward RFP requirements?

All emissions reductions that occur after the baseline emissions inventory year are creditable for purposes of the RFP requirements in this section except as specifically provided in section 182(b)(1)(C) and (D) and section 182(c)(2)(B) of the CAA which exclude four categories of emissions reductions requirements required to be adopted prior to 1990.

7. For areas covered only by subpart 1, how should the RFP requirement be structured?

We are finalizing rules for two rather than three categories of areas based on the CAA's division of attainment dates for subpart 1 areas under section 172(a)(2). The following are the two scenarios and the RFP requirements for each:

Scenario A: Areas with attainment dates 5 years or less after designation (i.e., for most areas on or before June 15, 2009). Reasonable further progress for these areas would be met by ensuring emissions reductions needed for attainment are implemented, as noted above, by the beginning of the ozone season prior to the attainment date. This would be similar to subpart 2 RFP for areas classified as marginal.

Scenario B: Areas with attainment dates beyond 5 years after designation (i.e., beyond 2009).

- The RFP plan must show increments of progress from the baseline emissions inventory year out to the attainment date.
- The RFP SIP would first have to provide for a 15 percent emission reduction from the baseline year within 6 years after the baseline year (i.e., out to 2008).
- The 15 percent RFP SIP would have to be submitted within 3 years after designation (i.e., in 2007).
- Either NO_X or VOC emissions reductions (or both) could be used to achieve the 15 percent emission reduction requirement.
- For each subsequent 3-year period (after 2008) out to the attainment date, the RFP SIP would have to provide for an additional increment of progress no less than the amount of emissions reductions that would be roughly proportional to the time between the end of the first increment (in 2008) and the attainment date. This second RFP SIP would also have to be submitted within 3 years after the effective date of designation (i.e., in 2007).

8. Where part of an 8-hour nonattainment area was a 1-hour nonattainment area with a ROP obligation extending past 2002, can emissions reductions from the area's 1-hour ROP plan be used as credit toward meeting the area's 8-hour RFP plan?

Where an area has both 1-hour and 8-hour RFP obligations for the post-2002 period, the State may rely on emissions reductions from the 1-hour plan in achieving RFP for the 8-hour standard. The State could develop a new baseline and new RFP emission reduction targets for the entire 8-hour standard nonattainment area (i.e., the old 1-hour standard nonattainment area and any newly added portion of the 8-hour standard nonattainment area). Emissions reductions from measures in the 1-hour ozone SIP that are achieved after the 8-hour ozone NAAQS baseline year could count (subject to creditability restrictions as discussed above) toward meeting the RFP requirement for the entire 8-hour area.

This approach would set an RFP target for the entire 8-hour ozone nonattainment area. Under this approach, the new RFP target for the 8-hour standard would replace the previous 1-hour ROP target (while ensuring that, at a minimum, the emissions reductions required to meet the old target are met; see 40 CFR 51.905(a)(1)(iii)).

9. Will EPA's ''Clean Data Policy'' apply for purposes of 8-hour RFP, attainment demonstrations and other related requirements?

We intend to apply the Clean Data Policy, which we had applied under the 1-hour standard, for purposes of the 8-hour standard. In this action EPA is finalizing the statutory interpretation that is embodied in the policy. The text of the final rule encapsulates the statutory interpretation set forth in the policy.

10. How will RFP be addressed in Tribal areas?

We intend to follow the Tribal Authority Rule (TAR), which provides Tribes with the ability to develop Tribal implementation plans (TIPs) to address and implement the NAAQS in Indian country. It further provides the Tribes with flexibility to develop these plans in a modular way, as long as the elements of their TIPs are reasonably ''severable.''

11. How will RFP targets be calculated?

Appendix A to the preamble to this final rule provides calculation procedures for determining the RFP targets. These have been revised from those in the proposal to account for NO_X and for emissions models in addition to the MOBILE model.

12. Should EPA continue the policy of allowing substitution of controls from outside the nonattainment area within 100 kilometers for VOC and 200 kilometers for NO_X?

We intend to continue to rely on this policy at the current time. The use of emissions reductions outside the nonattainment area must be shown to be beneficial toward reducing ozone in the nonattainment area and must ensure that the reductions meet the standard tests of creditability (permanent, enforceable, surplus, and quantifiable).

13. When must RFP emissions reductions be achieved?

The target level of emissions must be met by the attainment date of the attainment year. Section 182(c)(2)(B) requires that RFP be continued out to the attainment date.

14. Banked emission reduction credits (including shutdown credits): Can pre-baseline emission reduction credits be used to satisfy the RFP requirement?

- The baseline emissions should not include pre-enactment banked emission credits since they were not actual emissions during the calendar year of enactment of the CAA Amendments of 1990.
- Banked emissions reductions credits created prior to enactment of the CAA Amendments of 1990 are not creditable toward the 15 percent progress requirement. However, for purposes of equity, EPA encourages States to allow sources to use such banked emissions credits for offsets and netting as authorized.
- When States use such banked credits for offsets and netting to the extent otherwise creditable under the part D NSR regulations, these pre-enactment emissions credits must be treated as growth. Prior guidance on this issue is still relevant for banked emission reduction credits in relation to the RFP requirement for the 8-hour ozone standard. However, because the rule for implementing the 8-hour ozone standard uses a 2002 baseline year, the prior guidance should be interpreted with that baseline in mind instead of enactment of the CAA Amendments of 1990.

F. Are contingency measures required in the event of failure to meet a milestone or attain the 8-hour ozone NAAQS?

Contingency measures are required to be implemented in the event of failure to meet a milestone or attain the 8-hour ozone NAAQS and must accompany the attainment demonstration SIP. All subpart 1 and subpart 2 areas other than marginal areas need contingency measures.

G. What requirements should apply for RACM and RACT for 8-hour ozone nonattainment areas?

1. Reasonably Available Control Technology (RACT)

For subpart 1 areas that submit a demonstration of attainment for 5 or less years after designation (i.e., do not request an attainment date extension beyond 5 years after designation), the CAA's RACT requirement is met with the control requirements associated with a demonstration that the NAAQS is attained as expeditiously as practicable.

For subpart 1 areas that submit an attainment demonstration that requests an attainment date extension (i.e., beyond 5 years after designation), subpart 2 moderate and above areas, and areas within an Ozone Transport Region (OTR), a RACT SIP is required covering CTG sources and major non-CTG sources. The RACT submittal date is 27 months after designation, except a subpart 1 area shall submit the RACT SIP with its attainment date extension request.[2] States must require sources to implement RACT no later than the first ozone season or portion thereof which occurs 30 months after the required submittal date.

Where a RACT SIP is required, State SIPs implementing the 8-hour standard generally must assure that RACT is met, either through a certification that previously required RACT controls represent RACT for 8-hour implementation purposes or through a new RACT determination. States may use existing EPA guidance in making RACT determinations. The State need not perform a NO_X RACT analysis for sources subject to the State's emission cap-and-trade program where the cap-and-trade program has been adopted by the State and approved by EPA as meeting the NO_X SIP Call requirements or, in States achieving CAIR reductions solely from electric generating units (EGUs), the CAIR NO_X requirements.[3] States are free to conduct case-by-case RACT determinations, or RACT determinations or certifications for groups of sources, at their discretion.

2. Reasonably Available Control Measures (RACM)

For each nonattainment area required to submit an attainment demonstration, the State must submit with the attainment demonstration a SIP revision demonstrating that it has adopted all control measures necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements.

H. How will the section 182(f) NO_X provisions be handled under the 8-hour ozone standard?

The final rule allows a person to petition the Administrator for an exemption from nonattainment major NSR and/or RACT requirements for major stationary sources of NO_X in 8-hour ozone nonattainment areas and for any area in a section 184 ozone transport region. The final rule includes an extension of the NO_X waiver provisions to 8-hour ozone nonattainment areas covered under subpart 1 (as proposed) as well as subpart 2 nonattainment areas. In addition, the final rule states that a section 182(f) NO_X exemption granted under the 1-hour ozone standard does not relieve the area from any requirements under the 8-hour ozone standard. A petition must contain adequate documentation that the exemption provisions in section 182(f) are met. We recently issued updated guidance on appropriate documentation regarding section 182(f) for application to the 8-hour ozone program.[4]

I. Should EPA promulgate a NSR provision to encourage development patterns that reduce overall emissions?

Section V of this preamble below addresses rules for NSR for the 8-hour ozone standard. We are not at this time issuing any rule related to Clean Air Development Communities (CADCs).

J. How will EPA ensure that the 8-hour ozone standard will be implemented in a way which allows an optimal mix of controls for ozone, fine particulate matter $PM_{2.5}$), and regional haze?

We are continuing our policy of encouraging each State with an ozone nonattainment area which overlaps or is nearby a $PM_{2.5}$ nonattainment area to take all reasonable steps to coordinate the required revisions for these nonattainment areas and meet reasonable progress goals for regional haze.

K. What emissions inventory requirements should apply under the 8-hour ozone NAAQS?

Existing ozone-relevant emissions data element requirements under 40 CFR 51 subpart A are sufficient to satisfy the emissions inventory data requirements under the 8-hour ozone NAAQS.

L. What guidance should be provided that is specific to Tribes?

Section 301(d) of the CAA recognizes that American Indian Tribal governments are generally the appropriate authority to implement the CAA in Indian country. As discussed in the TAR, it is appropriate to treat Tribes in the same manner as States for purposes of implementing all of the provisions of the CAA, except those provisions for which EPA has specifically determined that it is not appropriate to treat Tribes in the same

[2] This is generally expected with the submission of the attainment demonstration.

[3] Alternatively, a State need not perform a NO_X RACT analysis for sources subject to Federal implementation plan that implements the emission reductions required by the NO_X SIP call or the CAIR.

[4] Memorandum dated January 14, 2005, ''Guidance on Limiting Nitrogen Oxides (NO_X) Requirements Related to 8-Hour Ozone Implementation'' from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to Air Directors, Regions I–X.

manner as States. (The CAA provisions for which EPA has determined it is not appropriate to treat Tribes in the same manner as States are listed in section IV.L. of this preamble.) Examples of CAA provisions for which EPA has determined it is not appropriate to treat Tribes in the same manner as States include specific plan submittal and implementation deadlines.

In implementing this rule, it is important for both States and Tribes to work together to coordinate planning efforts. Other than in very limited circumstances, State regulations do not apply to Indian Country, but SIP control measures could impact downwind areas, including Indian communities. In addition, nonattainment area boundaries may include a portion of Indian Country. Coordinated planning will help ensure that the planning decisions made by the States and Tribes complement each other and achieve progress toward meeting the NAAQS.

M. What are the requirements for Ozone Transport Regions (OTRs) under the 8-hour ozone standard?

Section 184 continues to apply for purposes of the 8-hour standard; therefore, the current OTR remains in place and the section 184 control requirements continue to apply for purposes of the 8-hour standard. If a new OTR is established for purposes of the 8-hour standard pursuant to section 176A, that area would also be subject to the provisions and additional control requirements of section 184.

N. Are there any additional requirements related to enforcement and compliance?

We are not setting forth any additional rule related to compliance and enforcement.

O. What requirements should apply to emergency episodes?

We have not yet proposed any rule revision related to emergency episodes (at 40 CFR part 51, subpart H), and the final rule below does not contain any such rule revision.

P. What ambient monitoring requirements will apply under the 8-hour ozone NAAQS?

No monitoring requirements are being promulgated as part of this rulemaking. The preamble discusses current relevant requirements (40 CFR part 58) and anticipated activities.

Q. When will EPA require 8-hour attainment demonstration SIP submissions?

Modeled attainment demonstrations—where required—must be submitted within 3 years after the effective date of the area's nonattainment designation.

R. How will the statutory time periods in the CAA be addressed when we redesignate areas to nonattainment following initial designations for the 8-hour NAAQS?

For any area that is initially designated attainment or unclassifiable for the 8-hour NAAQS and subsequently redesignated to nonattainment for the 8-hour ozone NAAQS, the attainment date and dates for submittal of any applicable requirements under subpart 1 or subpart 2 and these regulations would run from the date of redesignation to nonattainment for the 8-hour NAAQS.

Summary of Section V (Below): EPA's Final Rule for New Source Review

In today's action, we are finalizing previously proposed changes to three regulations that govern major NSR permitting of major stationary sources in nonattainment areas—40 CFR 51.165, appendix S of 40 CFR part 51, and 40 CFR 52.24.

The regulations at 40 CFR 51.165 contain the minimum elements that a State's preconstruction permitting program for major stationary sources in nonattainment areas must contain in order for EPA to approve the State's program into the SIP. In § 51.165, we are making revisions to incorporate the major stationary source thresholds, significant emission rates, and offset ratios pursuant to part D of title I of the CAA, as amended in 1990, for the 8-hour ozone NAAQS, the CO NAAQS, and the PM_{10} NAAQS. We are also promulgating final changes to the requirements for emissions reductions achieved from shutdowns or curtailments at § 51.165(a)(3)(ii)(C). We are not currently acting on any other proposed changes to 40 CFR 51.165.

Appendix S of 40 CFR part 51 contains the preconstruction permitting program that applies to major stationary sources in nonattainment areas lacking an approved part D NSR program. It applies during the interim period after EPA designates an area as nonattainment, but before EPA approves a SIP to implement the nonattainment NSR requirements for that pollutant (SIP development period). We are making the same changes to appendix S that we are making to § 51.165 to implement the CAA as revised by the 1990 Amendments. In addition, we are finalizing revisions to section VI of appendix S to qualify applicability of this section. This revision is an outgrowth of the proposed revisions to section VI in the 8-hour NAAQS implementation proposal (68 FR 32802). We also are removing an outdated exemption for sources increasing emissions less than 50 tons per year (tpy).

The regulations at 40 CFR 52.24 contain restrictions on the construction or modification of major stationary sources, including a construction ban applicable in circumstances enumerated by the 1977 CAA. These regulations also apply if the Administrator determines pursuant to CAA section 173(a)(4) that the State is not adequately implementing the SIP for meeting the part D requirements. today's final rules codify requirements of the 1990 CAA Amendments related to the applicability of construction bans. The final rules at § 52.24 also codify that § 51.165 applies in interpreting the terms in § 52.24. The regulations at 40 CFR 52.24(k) retain the requirement that appendix S governs permits to construct and operate applied for during the period between the date of designation as nonattainment and the date the part D plan for NSR is approved, but is updated to remove the reference to the construction ban.

In addition to the changes to the nonattainment NSR regulations, we also are making one change to the PSD regulations under part C of title I of the CAA. We are codifying NO_X as an ozone precursor in attainment and unclassifiable areas.

Summary of Section VI (Below): Final Rule for RFG

Today's rule specifies that the nine original RFG mandatory areas must continue to use RFG at least until they are redesignated to attainment for the 8-hour standard. Similarly, areas that have been reclassified as severe areas under section 181(b) of the CAA for the 1-hour NAAQS, and which were not redesignated to attainment for the 1-hour NAAQS prior to its revocation, must continue to use RFG at least until they are redesignated to attainment for the 8-hour standard. The EPA is reserving for future consideration what RFG requirements apply to areas that were reclassified as severe under the 1-hour standard, but were redesignated to attainment for that standard before its revocation. The only such area that was redesignated to attainment prior to revocation of the 1-hour standard is Atlanta, Georgia. The EPA is also reserving for future consideration whether areas must continue using RFG

after they are redesignated to attainment for the 8-hour standard, for the original nine mandatory areas as well as the areas reclassified to severe. Finally, EPA clarifies that the current opt-in rules will remain in place after the 1-hour standard is revoked. Areas classified under subpart 2 as marginal or above are eligible to opt-in to the RFG program.

Summary of Section VII (Below): Other Considerations

A. How will EPA's implementation of the 8-hour ozone NAAQS affect funding under the Congestion Mitigation and Air Quality Improvement (CMAQ) Program?

This section describes the relationship between the CMAQ program and the 8-hour ozone NAAQS implementation program.

B. What is the relationship between implementation of the 8-hour standard and the CAA's title V permits program?

The interrelationship between implementation of the 8-hour ozone standard and the title V permits program was not discussed in the proposed rule. However, various questions have been raised about the interface between the implementation of the 8-hour ozone standard and the title V operating permits program. The preamble presents several questions and answers, mainly dealing with how title V applicability is affected by the new 8-hr ozone standard and the revocation of the 1-hour ozone standard.

C. What action is EPA taking on the Overwhelming Transport Classification for subpart 1 areas?

We are not completing rulemaking on the overwhelming transport classification in this rulemaking. This section discusses the status of the rulemaking.

IV. Final Rule for Phase 2 Elements Other Than New Source Review and Reformulated Gasoline

The discussion of many of the regulatory elements below address timing of required actions, such as submission dates for SIP revisions. The discussion is primarily directed toward 8-hour ozone nonattainment areas for which the effective date of the designation was June 15, 2004. However, a number of areas may have later effective dates for their designations, such as early action compact areas and areas subsequently redesignated from attainment to nonattainment for the 8-hour ozone standard. For these situations, the timing will run from the effective date of those designations. In cases in this preamble where we have used June 15, 2004 as a substitute for the ''effective date,'' we are using it only for purposes of those areas with an effective date of June 15, 2004.

A. Should prescribed requirements of subpart 2 apply in all 8-hour nonattainment areas classified under subpart 2, or is there flexibility in application in certain narrowly-defined circumstances?

[Section VI.D. of June 2, 2003 proposed rule (68 FR 32825); no draft or final regulatory text.]

1. Background

The 1990 CAA Amendments overhauled the CAA's requirements for ozone nonattainment areas and, in doing so, specified new mandatory measures for many areas. The approach embodied in subpart 2 was to classify areas according to the severity of their pollution. Areas with more serious ozone pollution were given a higher classification that did two things. First, the successively higher classifications provided a successively longer maximum timeframe for attaining the ozone NAAQS. Second, each higher classification mandated specific additional and/or more stringent obligations than the classification immediately below. Specifying mandatory measures in the statute was necessary because States and EPA, prior to 1990, had failed to ensure that SIPs achieved steady reasonable progress in reducing emissions or to require readily available measures that were cost effective and necessary to meet the standard. See generally H.R. Rep. No. 101–490 at 144–48 (1990).

For this rule, we examined the issue of mandatory measures from both a legal and policy standpoint. Our legal view is guided by the statutory language in part D of title I of the CAA. In addition, we were guided by the Supreme Court's view of this language. Our policy view is guided by past precedents and also the principles we set forth in our proposed rule (June 3, 2003; 68 FR 32802).

We have consistently interpreted the CAA to mean that once an area is classified under subpart 2, the subpart 2 requirements apply. While certain requirements allow for some flexibility in how they apply, the requirements do not allow for broad waivers. For example, all areas classified as serious or above must meet the requirement for an enhanced inspection and maintenance (I/M) program, however, there is some flexibility in determining what type of I/M program meets the requirement for an enhanced I/M program. The Supreme Court, in addressing whether the classification provisions in subpart 2 applied for purposes of the 8-hour ozone NAAQS found that they did and stated that EPA's implementation scheme, which would have avoided classifications under subpart 2, was unreasonable because it would effectively nullify the subpart 2 provisions that Congress created with the intent to limit State and EPA discretion. *Whitman* v. *American Trucking Assoc.,* 531 U.S. 484–85.

In the proposed rule, we recognized that there is case law doctrine that might allow a case-by-case waiver from mandatory requirements when sufficient evidence is presented that application of a specific requirement in a particular area would cause absurd results.

2. Final Rule

We continue to interpret the CAA to mean that the prescribed requirements for each classification under subpart 2 apply to areas with such classification for the 8-hour NAAQS. As we noted in the preamble to the proposed rule, there may be a basis for waiving a prescribed requirement on a case-by-case basis where imposition of the requirement would create an absurd result. However, as stated in the proposed rule, we believe that absurd results that might occur from application of mandatory control measures would happen only in rare instances. If a State submits a demonstration that application of a specific requirement in a specific nonattainment area would create an absurd result, we will consider application of the absurd results doctrine at that time.

3. Comment and Responses

Comment: A number of commenters supported the approach that we discussed in the proposed rule. Other commenters agreed with the overall concept that we proposed but felt that we should take additional factors into consideration if we make case-by-case waivers from subpart 2 requirements. Several commenters suggested that we take the cost of controls into consideration when determining if there were an absurd result while others suggested that we look at relative control strategy effectiveness, e.g., allowing a demonstration that NO_X reductions are more effective and therefore may be substituted for mandatory VOC emissions reductions.

Several other commenters stated that we should more broadly allow substitution of subpart 2 mandatory measures. One commenter felt that substitution of subpart 2 measures should be allowed as long as the

substituted measures are at least equivalent to the mandatory measures. Another commenter stated that we should allow areas to adopt substitute measures in lieu of subpart 2 measures where the subpart 2 measures would not be as effective as the substitute measures in reaching attainment. The commenter stated that we have been overly limited in our characterization of when subpart 2 measures might be waived to avoid an absurd result. The commenter believed that we should create a categorical exemption as an exercise of agency power to allow areas to substitute NO_X for VOC measures or more effective control measures for less effective control measures when doing so would expedite attainment. Another commenter urged us to limit the strict application of subpart 2 measures because the imposition of such measures creates economic disincentives for companies to locate and expand in nonattainment areas. A number of commenters stated that they do not support the vehicle I/M or Stage II vapor recovery programs and recommended that we provide States with flexibility in meeting these requirements.

Response: Many of the commenters' suggestions go beyond the application of an absurd results doctrine and instead suggest broad waiver of subpart 2 requirements based on a determination that an alternative or substitute is more effective. We do not believe that we have the authority to broadly waive measures mandated by Congress. As noted by the Supreme Court, Congress intended to cabin States' discretion when it mandated the specific controls under subpart 2. See e.g., *Whitman,* 531 U.S. 484–85. (''Whereas subpart 1 gives EPA considerable discretion to shape nonattainment programs, subpart 2 prescribes large parts of them by law'' and ''EPA may not construe the statute in a way that completely nullifies textually applicable provisions meant to limit discretion'').

However, as stated in our proposed rule, we believe that case law may provide EPA with limited flexibility to waive federally mandated requirements on a case-by-case basis where application of those requirements would produce an absurd result. We do not need to conclude here what precise circumstances would create an absurd result. Rather, that decision would need to be made on a case-by-case basis in the context of a specific request. In general, we note that to demonstrate an absurd result, a State would need to demonstrate that application of the requirement would result in more harm than benefit. For example, the programs mandated under subpart 2 are generally effective in reducing emissions of the two ozone precursors—NO_X and VOC—and because reductions of those precursors generally lead to improved air quality, we believe that such a demonstration could be made, if at all, only in rare instances.

With regard to the comment relating to Stage II vapor recovery, section 202(a)(6) of the CAA does provide for revision or waiver of the Stage II vapor recovery requirement under certain conditions: ''The requirements of section 182(b)(3) (relating to stage II gasoline vapor recovery) for areas classified under section 181 as moderate for ozone shall not apply after promulgation of such standards and the Administrator may, by rule, revise or waive the application of the requirements of such section 182(b)(3) for areas classified under section 181 as Serious, Severe, or Extreme for ozone, as appropriate, after such time as the Administrator determines that onboard emissions control systems required under this paragraph are in widespread use throughout the motor vehicle fleet.'' Currently, EPA is formulating policy concerning how widespread use will be determined and has been seeking participation from affected parties. Further information is available at: *http://www.epa.gov/ttn/naaqs/ozone/ozonetech/stage2/.*

Comment: A few commenters disagreed with the approach in our proposed rule. One commenter stated that we do not have the statutory authority to create new waivers to subpart 2 requirements. Another commenter stated that the CAA does not allow case-by-case waivers to avoid ''absurd'' results. The commenter further stated that doing so would in effect require us to rewrite the statute by regulation.

Response: As stated above, we agree that we do not have broad authority to waive subpart 2 requirements and that the CAA itself does not expressly create authority to waive such requirements. However, the ''absurd results'' line of cases provides that where application of a statute as written would create a result counter to what Congress intended, an Agency has limited authority to construe that provision in a manner than would effectuate Congress' intent.[5]

B. How will we address long-range transport of ground-level ozone and its precursors when implementing the 8-hour ozone standard?

[Section VI.F. of June 2, 2003 proposed rule (68 FR 32827); no draft or final regulatory text.]

1. Background

Interstate transport can make it difficult or impossible for some States to meet attainment deadlines for areas within their boundaries solely by regulating sources within their own boundaries. Section 110(a)(2)(D) of the CAA provides an important tool for addressing the problem of interstate transport. It provides that a State must include adequate provisions in its SIP to prohibit sources within the State from emitting air pollutants in amounts that contribute significantly to nonattainment, or interfere with maintenance, in one or more downwind States. Section 110(k)(5) of the CAA authorizes EPA to find that a SIP is substantially inadequate to meet any CAA requirement, including the requirements of section 110(a)(2)(D) of the CAA. If we make such a finding, we must require the State to submit, within a specified period, a SIP revision to correct the inadequacy. The CAA further addresses interstate transport of pollution in section 126, which authorizes any State to petition EPA to regulate emissions from significant upwind sources of air pollutants in other States.

In addition to requiring States to control interstate air pollution under section 110(a)(2)(D), the CAA requires States with nonattainment areas to develop State plans under part D that provide for meeting the NAAQS as expeditiously as practicable, and for maintaining healthy air quality in those areas over time. Together, the section 110(a)(2)(D) and part D provisions provide for upwind State and in-State controls to ensure that national health-based air quality standards are met and maintained.

2. Current Approach

In the NO_X SIP Call Rule, EPA found the SIPs for certain States in the eastern U.S. to be substantially inadequate to address emissions transported to downwind States and required those States to select and adopt control measures to meet statewide ozone-season NO_X emissions budgets based on highly cost-effective NO_X emissions

[5] See Holy Trinity Church v. United States, 143 U.S. 457 (1892) (''If literal construction of the words of a statute be absurd, the act must be so construed to avoid the absurdity.''); Griffin v. Oceanic Contractors, Inc. 458 U.S. 564 (1982) (recognizing the absurdity exemption, but concluding that a harsh penalty provision did not produce results counter to Congress' intent); Mova Pharm. Corp. v. Shalala, 140 F. 3d 1060 (D.C. Cir. 1998) (recognizing the absurdity exemption, but finding that a ''successful defense'' regulation went beyond the statute was not necessary to meet Congressional intent.)

reductions (63 FR 57356, October 27, 1998.) In that rule, we determined that the same level of emissions reductions was needed to address transport for both the 1-hour and 8-hour standards.[6]

The NO_X SIP Call Rule is achieving substantial emissions reductions and air quality improvement well in advance of the attainment dates of 8-hour nonattainment areas. In the eastern United States, monitoring data shows a 10 percent improvement between 2002 and 2004 in the seasonal (May–September) average of daily maximum 8-hour ozone concentrations, after adjustment for meteorological differences. The EPA believes that the NO_X reductions achieved as a result of the NO_X SIP Call are an important factor in this improvement. The compliance date for achieving the required NO_X reductions under phase I of the NO_X SIP Call was May 31, 2004. All of the 19 affected States and the District of Columbia submitted complete Phase I SIPs, which EPA approved, in response to the NO_X SIP Call and are implementing their NO_X control programs. State programs to implement the rule have focused on reducing emissions from electric power generators and large industrial emitters. The phase II NO_X SIP Call Rule, which responds to court decisions on issues from the original SIP call rule involving certain types of sources and geographic coverage, requires additional emissions reductions by May 1, 2007.

The EPA's modeling for the CAIR indicates that ozone levels across the eastern half of the country will improve substantially by 2010 because of existing requirements—including the NO_X SIP call, federal motor vehicle and nonroad engine regulations, and other existing State and federal rules. Last year, EPA designated more than 100 areas in that region as having ozone levels not meeting the 8-hour ozone standard, based on 2001–2003 data. Air quality improvements due to existing requirements (i.e., without State measures required for areas designated nonattainment for the 8-hour standard) are projected to leave only 16 of these areas in nonattainment in 2010. This estimate is derived from base case CAIR modeling results shown in the final notice for the CAIR (70 FR 25254, Table VI–12).

On May 12, 2005, EPA published the Clean Air Interstate Rule in the **Federal Register** (70 FR 25162). The EPA determined that 28 States and the District of Columbia contribute significantly to downwind nonattainment, or interfere with maintenance, of the $PM_{2.5}$ and 8-hour ozone NAAQS in other States. The rule requires these States to submit SIP revisions to reduce SO_2 and/or NO_X emissions.

To reduce interstate ozone transport, the rule established statewide ozone-season NO_X budgets for 25 States and the District of Columbia. The budgets are based on the level of emissions that can be achieved through highly cost-effective controls that EPA determined are available from EGUs; however, States have flexibility to choose the measures they will use to achieve the necessary emissions reductions. Due to feasibility constraints, EPA is requiring the CAIR budgets to be achieved in two phases. For summertime NO_X, the first phase starts in 2009 (covering 2009–2014);[7] the second phase of NO_X reductions begins in 2015 (covering 2015 and thereafter).

The 25 States that are required to meet a summertime NO_X cap for ozone purposes, along with the District of Columbia, are Alabama, Arkansas, Connecticut, Delaware, Florida, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin.

The CAIR is geographically broader and more stringent than EPA's previous ozone interstate transport rule, the NO_X SIP Call, adopted in 1998.[8] The CAIR's ozone requirements are based on updated analyses of the impacts of pollution transported across State borders, and of highly cost-effective control opportunities for NO_X.

As detailed in the final CAIR action, the CAIR rule will further reduce ozone transport to assist States in their efforts to bring ozone nonattainment areas into attainment or—in the case of downwind receptor areas that attain prior to some or all CAIR reductions—maintain air quality meeting the 8-hour ozone NAAQS. In the CAIR rulemaking, EPA projected that 39 counties (in the 16 nonattainment areas referenced above) would have ozone levels exceeding the standard in 2010 in the absence of further control requirements (i.e., the base case without CAIR). Most of these counties were projected to be within a few parts per billion (ppb) of the standard. For the 39 counties, the average reduction in ozone levels estimated from 2009 CAIR NO_X controls is 0.4 ppb, and the maximum improvement is 1.4 ppb (70 FR 25254, Table VI–12.) The 2009 CAIR NO_X requirements will achieve reductions prior to the maximum attainment date for downwind 8-hour ozone areas classified as moderate.

We believe that States will be able to demonstrate timely attainment for most 8-hour ozone nonattainment areas with the help of emissions reductions from Federal rules. However, we also believe that a limited number of downwind areas, while showing improvement, are likely to remain in nonattainment after 2009. This is due to the severity of projected ozone levels in certain areas, uncertainties about the levels of emissions reductions that will actually occur, and persistence of historical difficulties with attaining the 1-hour ozone standard. The EPA determined in the CAIR that even if all downwind receptor areas attained on time, many areas will remain close enough to the standard to be at risk of falling back into nonattainment. The EPA concluded that the 2015 summertime NO_X reductions will assist attainment and maintenance of the 8-hour standard.[9]

In addition to controlling interstate air pollution under section 110(a)(2)(D), EPA national rules and State rules for controlling local sources of emissions are significantly reducing, and in the future will further reduce, the amount of pollution transported to 8-hour ozone nonattainment areas in downwind States. Downwind States, in devising their attainment and maintenance plans, will be able to take required upwind reductions into account. Depending on the particular area, the upwind reductions will help to hasten attainment of the NAAQS, make attainment and maintenance of the NAAQS less difficult and costly, or both.

The EPA notes that interstate pollution transport will be further reduced through cost-effective measures that individual States adopt for purposes of bringing their ozone

[6] In light of various challenges to the 8-hour NAAQS, we stayed the 8-hour basis for the NO_X SIP Call Rule (65 FR 56245; September 18, 2000).

[7] The CAIR first phase also provides an annual NO_X budget, which also starts in 2009.

[8] The CAIR requires summertime NO_X reductions in the following States not covered by the NO_X SIP Call: Arkansas, Florida, Iowa, Louisiana, Mississippi, and Wisconsin. The NO_X SIP Call has requirements for two States not covered by CAIR ozone requirements: Rhode Island and Georgia. The EPA has proposed a stay of applicability of the SIP Call to Georgia as an initial response to a petition for reconsideration on whether Georgia should be covered.

[9] For the 22 counties projected to be in nonattainment in 2015 in the absence of further control requirements (i.e., the CAIR base case), the average ozone reduction in 2015 from CAIR is 1.1 ppb, and the maximum improvement is 1.6 ppb. (70 FR 25254, 25455, Table VI–13.)

nonattainment areas into attainment.[10] Given the potential for measures adopted by one State to improve air quality downwind, EPA is supportive of multi-State cooperation on strategies for attaining the 8-hour standard.

3. Comments and Responses

This section addresses the more significant comments received; the response to comment document addresses other comments also.

Comment: Several commenters thought the June 2, 2003, 8-hour implementation proposal failed to adequately address transport and disagreed with our statement that 8-hour transport has been addressed up front by the NO_X SIP Call. Some added that this puts northeastern States located in the OTR in a situation where their citizens and businesses are bearing a disproportionate burden of health and economic impacts compared to upwind States that have fewer control requirements than OTR States. Some OTR State commenters said that the rule should address this inequity. One said we cannot assume that transport has been addressed until after the NO_X SIP Call is implemented and has been evaluated.

Response: The 8-hour ozone implementation rule is not intended as a rule to address interstate transport of pollution and to achieve emissions reductions from upwind sources as provided under CAA section 110(a)(2)(D). Rather, its purpose is to interpret nonattainment requirements (in subparts 1 and 2 of part D of title I) for State plans to implement the 8-hour NAAQS. We have addressed the section 110(a)(2)(D) obligation through the NO_X SIP Call and CAIR, which provide substantial air quality benefit for downwind areas significantly affected by transport of pollution from other States.

Comment: Two commenters recommended a regional approach among States to address transport. One commenter thought that Clear Skies is the best way to address transport, but absent that, would support a regional approach. Some commenters thought the 8-hour ozone implementation proposal ignored the issue that ozone is a regional problem that can only be solved through regional planning. These commenters added that instead of incentives for regional planning there were disincentives. Another commenter thought that EPA unrealistically expects States to be able to resolve all potential conflicts between the States by working together in a collaborative process to identify and adopt appropriate controls that provide for attainment. The commenter suggested that EPA oversight may be necessary in these situations. One commenter thought the development of multiple OTRs for regional planning and coordination may be highly desirable to bring States with a common problem together to coordinate efforts with the strength of several States rather than to go-it alone. Another suggested some criteria for EPA to use if we were to choose to establish OTRs.

Response: We believe that addressing interstate transport requires regional approaches and regional cooperation. The EPA has ensured regional action to reduce interstate ozone transport through the NO_X SIP Call Rule and CAIR. In addition, we note that groups of States have worked effectively together in the past to address regional ozone problems. For example, the Lake Michigan Air Directors Consortium (LADCO) was established in 1990 by the States of Illinois, Indiana, Michigan, and Wisconsin. The main purpose of LADCO is to provide technical assessments for and assistance to its member States on problems of ozone air quality and to provide a forum for its member States to discuss air quality issues. We will continue to encourage these multi-State efforts to assess and address ozone nonattainment and will work with these States as needed to provide support and ensure progress.

We agree with other commenters that States should work together in the SIP development process to ensure localized transport is addressed. States that share an interstate nonattainment area are expected to work together in developing the nonattainment SIP for that area and in reducing emissions that contribute to local-scale interstate transport problems. We would also encourage collaborative efforts even in cases where there is not a multi-State nonattainment area but where significant emissions sources in one State might affect air quality in a nonattainment area in an adjacent State.

In response to comments suggesting that EPA establish additional transport regions, at this time we do not anticipate formalizing any additional transport regions. We believe that the NO_X SIP Call and CAIR rules go far to effectively address the kind of transport that establishment of a transport region would be intended to address, without the costs of setting up a commission to oversee the transport region.

Comment: Some commenters stated that we should not rely on the proposed Clear Skies legislation to reduce emissions transport because there is no guarantee that the legislation will be enacted. Several State commenters added that Clear Skies would not provide adequate or timely emissions reductions. Another commenter suggested that we work with Congress to enact legislation to allow for the development and use of a transport argument in attainment demonstrations.

Response: While we still hope that Congress will adopt the Administration's Clear Skies multi-pollutant legislation, we acknowledge that the outcome of that process is uncertain. To ensure that regional transport is addressed in a timely manner, EPA finalized the CAIR in May 2005 based on our existing regulatory authority.

Comment: One commenter proposed that rather than addressing transport through national measures, we could include transport as one of the criteria for determining the adequacy of a SIP. This commenter supported the multi-State collaborative effort mentioned in the proposed rule, so that areas work together to address transport as their SIPs are being developed. The commenter asserted that our proposed early, top-down approach could significantly hinder SIP planning for local areas considering the complex chemistry of ozone and $PM_{2.5}$ formation.

Response: We believe that the NO_X SIP Call and CAIR help, rather than hinder, SIP planning for nonattainment areas. We agree that the CAA does allow the States to work together in a collaborative fashion to assess regional or sub-national transport. The EPA worked with a State-led effort in the mid-to late-1990's [the Ozone Transport Assessment Group (OTAG) process] to perform such an assessment, which documented the magnitude and extent of long-range transport of ozone and its precursors. At that time, EPA concluded that without some certainty of what levels of emission controls would be required in the larger region, States faced great uncertainty regarding the amounts of ozone and precursor concentrations being transported into the modeling domain of the nonattainment area for which they were required to develop their attainment demonstrations. Therefore, EPA issued the NO_X SIP Call—and more recently, CAIR—to establish the emission reduction responsibilities of upwind States under section 110(a)(2)(D). In this way, eastern States could then have a fair degree of certainty regarding required upwind reductions and the amount of transported emissions to be assumed in their 1-hour ozone

[10] Many types of sources contribute to ozone transport. The CAIR reduction requirements are based solely upon potential reductions from EGUs; EPA did not find other source types highly cost effective to control.

attainment demonstrations for individual nonattainment areas. Based on the OTAG experience, we believed that there was high risk that States working together in a collaborative fashion would not agree on a regional control strategy within the time the CAA provides for States to develop 8-hour attainment demonstrations. Therefore, we believe the commenter is incorrect that the ''top-down'' approach will significantly hinder SIP planning for the individual areas, and on the contrary, will provide the certainty needed to complete the attainment demonstrations in a timely manner.

The commenter also proposed that rather than addressing transport through national measures, we could include transport as one of the criteria for determining the adequacy of a SIP. It is true that section 110(a)(2)(D)(i)(I) requires a SIP to ''contain adequate provisions * * * prohibiting, consistent with the provisions of this title, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard * * *'' Furthermore, sections 110(a)(1) and (2) of the CAA require States to submit SIPs that implement, maintain, and enforce a new or revised NAAQS within 3 years of promulgation of the standard. Among other things, these SIP revisions must address a State's significant contribution of pollution to nonattainment and maintenance problems in other States under section 110(a)(2)(D). On March 10, 2005, EPA officially notified States that they have failed to submit SIPs to satisfy this requirement of the CAA with respect to the 8-hour ozone and $PM_{2.5}$ NAAQS (70 FR 21147; April 25, 2005). The finding starts a 2-year clock for EPA to issue a final Federal Implementation Plan (FIP) that will address the requirements of section 110(a)(2)(D) unless a SIP revision correcting the deficiency is approved by EPA before the FIP is promulgated. The EPA plans to issue guidance regarding how States could satisfy the section 110(a)(2)(D) requirement. For States affected by CAIR, an approved SIP responding to the CAIR would satisfy the requirement and turn off the FIP clock.

C. How will we address transport of ground-level ozone and its precursors for rural nonattainment areas, areas affected by intrastate transport, and areas affected by international transport?

[Section VI.G. of June 2, 2003 proposed rule (68 FR 32828); no draft or final regulatory text.] [11]

1. Rural Transport Nonattainment Areas

a. Background

In the June 2, 2003 proposal, we noted that section 182(h) of the CAA (under subpart 2) recognizes that the ozone problem in a rural transport area is almost entirely attributable to emissions from upwind areas. This section provides that the only requirements applicable to an area classified under subpart 2 that we determine is a rural transport area are the minimal requirements specified for marginal areas, i.e., those areas expected to attain within 3 years after designation. The timing for attainment for these areas will depend on the schedule for adoption and implementation of control measures in the upwind areas. We did not propose any revision to current policy and practices related to the rural transport area provisions under section 182(h).

b. Summary of Final Rule

The final rule does not contain any revisions to current policy on rural transport areas under section 182(h).[12]

c. Comments and Responses

Comment: Several commenters favored the proposed approach of not revising our current policies with regard to subpart 2 areas that meet the criteria for being a rural transport area under section 182(h).

Response: We agree with these comments.

Comment: Several commenters urged us to provide more flexibility such as extending the provision to other areas whose problems are caused by transport but that do not qualify as rural under section 182(h).

Response: These commenters did not suggest any legal mechanism for granting the flexibility provided under section 182(h) to areas that do not qualify as rural under section 182(h). We have not found any such legal mechanism and, therefore, the final rule does not extend the flexibility provided under section 182(h) to additional areas.

2. Intrastate Transport

a. Background

In the proposed rule, we noted that a number of State air agency representatives had voiced concern about intrastate transport of ozone and precursor emissions and asked EPA to address this concern. We indicated that the CAA requires individual States, as an initial matter, to deal with intrastate transport. We also pointed out that a State could recommend designation of nonattainment areas that are large enough to encompass upwind and downwind areas of the State and require that the individual jurisdictions work together on an attainment plan that accounts for transport and results in attainment by the attainment date for the entire nonattainment area. We also solicited comments on other ways of addressing intrastate transport within the context of the CAA provisions.

b. Summary of Final Rule

The final rule does not contain any additional provisions for addressing intrastate transport for the reasons stated in the proposal. However, as indicated in the Phase 1 Rule published on April 30, 2004, for subpart 1 areas, States and EPA could consider intrastate transport in determining the attainment date for an area.[13] In identifying the appropriate attainment date for an area, the State should consider measures to address intrastate transport of pollution from sources within its jurisdiction.

c. Comments and Responses

Comment: Two commenters recommended that States have regulatory authority to require controls as necessary regarding the problem of intrastate transport. They asserted that nonattainment areas should work with upwind contributing areas within the State to address regional transport within the State.

Response: As provided in the proposed rule (68 FR 32829), we agree with the commenters that States have the obligation and authority to address the transport of pollution from one area

[11] This section of the proposal also addressed multi-State nonattainment areas. The discussion of multi-State nonattainment areas is now covered under the discussion below on attainment demonstrations and modeling.

[12] Based on current information, we do not believe there are any 8-hour nonattainment areas covered under subpart 2 that are ''rural'' and therefore eligible for consideration for coverage under section 182(h). Existing policy on rural transport areas includes the ''General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Proposed Rule,'' April 16, 1992 (57 FR 13505).

[13] Intrastate transport also could be considered in determining the attainment date that is as expeditious as practicable for subpart 2 areas, but if the date were later than allowed for the area's classification, the State would need to request bump-up of the area to a higher classification for that date to be approved.

of the State to a different area of the State.

Comment: Several comments recommended an intrastate transport classification.

Response: Our response to those comments is in the response to comment document for the Phase 1 Rule of April 30, 2004. (Docket document OAR–2003–0079–0717; p. 68.)

3. How will EPA address transport of ground-level ozone and its precursors for areas affected by international transport?

a. Background

As discussed in the proposal, international transboundary transport of ozone and ozone precursors can contribute to exceedances of the NAAQS. It is possible that the international transport of air pollutants may affect the ability of some areas to attain and maintain the 8-hour ozone NAAQS. Section 179B of the CAA (International Border Areas), applies to nonattainment areas that are affected by emissions emanating from outside the United States. This provision requires EPA to approve a SIP for an ozone nonattainment area if it meets all of the requirements applicable under the CAA, other than a requirement that the area demonstrate attainment and maintenance of the ozone NAAQS by the applicable attainment date, and the State establishes to EPA's satisfaction that the SIP would be adequate to attain and maintain the ozone NAAQS by the applicable attainment date but for emissions emanating from outside the United States. The preamble to the proposed rule recommended that States should confer with the appropriate EPA Regional Office to establish on a case-by-case basis the technical requirements for these analyses.

b. Final Rule

As in the proposal, we are not setting forth any regulatory provisions related to international transport. Section 179B of the CAA applies for these purposes. We continue to recommend that States confer with the appropriate EPA Regional Office to establish on a case-by-case basis the technical requirements for analyses to support showings under section 179B. These analyses will be subject to public comment during the State and Federal SIP processes.

c. Comments and Responses

Comment: Several commenters addressed the discussion of international transport in the proposed rule. Two commenters suggested that EPA is placing too high a burden on States to make a demonstration that a nonattainment area would attain but for international transport (e.g., assessing emissions from foreign countries). These commenters stated that EPA has the appropriate resources and technical expertise to evaluate international transport and highlighted certain data EPA has gathered and modeling EPA has performed. The commenters suggested that EPA should re-evaluate relevant policies regarding section 179B of the CAA to ensure they are streamlined and not unnecessarily burdensome on States in making an international transport demonstration. Another commenter thought that the proposed rule does not adequately address ozone from international sources, especially in a situation where a State does not have jurisdiction over most of the significant sources of ozone or access to available data for modeling in that region. Another commenter encouraged EPA to expand its view of the applicability of section 179B and allow consideration of the impact on attainment of smoke from crop burning activities in Southern Mexico and Central America.

Response: The CAA, not EPA's proposed rule, places the burden on States to demonstrate that an area would be able to attain but for emissions from sources located outside the United States. However, EPA agrees with the commenters that EPA has been performing numerous activities that will provide data that States may be able to rely on as they develop these demonstrations. We recognize that adequate data for foreign sources may not be available to States. Therefore, modeling, according to the modeling guidance for attainment demonstrations, may not be possible in all cases. Because the availability of information and the causes of international pollution vary significantly from one area to another, EPA continues to believe that the best approach for addressing international transport is for States to work with EPA on an area-by-area basis to determine what is the best available information and the best method for analysis that fits the unique situation for each area.

Regarding consideration under section 179B of the impact on attainment of smoke from crop burning activities in Southern Mexico and Central America, in many cases it may not be possible to confidently quantify the impacts to the total ozone loadings from individual foreign sources that are hundreds or even thousands of miles from the U.S. border. Particularly since 1998, when spring fires in Mexico and Central America were very severe, EPA has received much information about the potential impacts from such occurrences on ozone and PM levels in the United States. A prime lesson learned from those experiences is that a well-designed, detailed analysis is required before one can estimate the degree of influence from such fires. In many cases, sufficient data will not exist to draw such a conclusion. Case-by-case consultation between EPA and the State will help determine how best to consider this information in attainment planning.

With respect to the applicability of section 179B to areas affected by emissions from very distant, foreign sources, EPA currently has not taken a position. If and when there are any SIP submittals that request a section 179B dispensation on such a basis, EPA will examine those submittals on a case-by-case basis, including focusing on the sufficiency of the technical demonstration, in order to make a determination of section 179B applicability.

The EPA considers international transport of pollution an important issue. The EPA is engaged in several international efforts that will allow us to better understand the linkages between air pollution sources in other countries and their impacts on public health and air quality in the United States. The EPA has cooperative agreements with both Canada and Mexico to investigate international border transport. The information generated by these partnerships will assist States in evaluating international transport affecting 8-hour nonattainment areas.

D. How will EPA address requirements for modeling and attainment demonstration SIPs for areas implementing the 8-hour ozone standard?

[Section VI.H. of June 2, 2003 proposed rule (68 FR 32830); § 51.908 in draft and final regulatory text.]

As noted in the proposal, an attainment demonstration SIP consists of (1) technical analyses to locate and identify sources of emissions that are causing violations of the 8-hour NAAQS within nonattainment areas (i.e., analyses related to the emissions inventory required for the nonattainment area), (2) adopted measures with schedules for implementation and other means and techniques necessary and appropriate for attainment, (3) commitments, in some cases, to perform a mid-course review (MCR), and (4) contingency measures required under section 172(c)(9) of the CAA that can be implemented without further action by the State or the Administrator to cover failures to meet RFP milestones and/or

attainment. The final rule retains three of these four elements, the exception being the requirement for a commitment to perform a MCR. As noted below, EPA will assess whether a MCR is needed on a case-by-case basis in reviewing individual attainment demonstrations.

In the Phase 1 Rule, § 51.908 contained only the requirement related to the timing of implementation of the emissions reductions needed for attainment. In today's final rule, that provision is retained as paragraph (d) of § 51.908, and other requirements related to modeling and attainment demonstrations appear in the remaining paragraphs of § 51.908.

In the proposal, we also solicited public comment on the guidance related to multi-pollutant assessments (as discussed below), areas with earlier and later attainment dates, MCR, modeling guidance, and multi-State nonattainment areas. These topics are discussed below. Associated with the attainment demonstration also are the RFP/ROP plans and the SIP submission concerning RACM, both of which we discussed elsewhere in the preamble to the proposed rule and which are discussed in later sections of this preamble.

1. Areas With Early Attainment Dates

a. Background

The proposal noted that under section 182(a), marginal areas, which have a maximum attainment date of 3 years after designation, are not required to perform a complex modeling analysis using photochemical grid modeling. We noted that areas covered under either subpart 1 or 2 with ozone concentrations close to the level of the NAAQS [e.g., within 0.005 parts per million (ppm)] [14] will most likely come into attainment within 3 years after designation as nonattainment without any additional local planning as a result of national and/or regional emission control measures that are scheduled to occur. We noted that regional scale modeling for national rules, such as the NO_X SIP Call and Tier II motor vehicle tailpipe standards, projects major ozone benefits for the 3-year period of 2004–2006. Attainment for many areas classified as marginal is further indicated by subsequent modeling used to support the CAIR. This 3-year period coincides with the period that would be used to determine whether an area attains the 8-hour standard within 3 years after designation for areas classified as marginal.

If existing modeling for a marginal area does not indicate the area will attain with the current planned control measures, EPA encouraged the areas to request reclassification to moderate and encouraged the State or Tribe to develop an attainment demonstration using photochemical grid modeling. (See 68 FR 32831; June 2, 2003.) Even though modeling is not required, it may be prudent.

In the proposal, we noted that many subpart 1 areas are projected through regional modeling to come into attainment within 3 years after designation with current control programs. Therefore, we proposed that no additional modeled attainment demonstration would be required for areas with air quality observations close to the level of the standard and where regional or national modeling exists that is appropriate for use to demonstrate the area will attain the 8-hour standard within 3 years after designation (i.e., based on data from 2004–2006).

We proposed that areas subject only to subpart 1 may request an attainment date no later than 3 years following designation for the 8-hour NAAQS by submitting within 1 year of the designation a SIP that demonstrates the area will attain within 3 years following designation. The demonstration must include modeling results and analyses that the State is relying on to support its claim. Such modeling must be consistent with EPA guidance and must be appropriate for the area.

b. Summary of Final Rule

Although we proposed that subpart 1 areas requesting an attainment date within 3 years after designation should submit their attainment demonstration within 12 months, we have removed that provision from the final rule. A subpart 1 area is free to choose to submit its attainment demonstration at any time prior to the 3-year due date.[15] As is the case with all required attainment demonstrations, the demonstration must be submitted no later than 3 years following designation and must be appropriate for use in the area. We anticipate that most subpart 1 areas will be included in the modeling analyses conducted by areas with later attainment dates. States are encouraged to use these available analyses, as well as future EPA national or regional modeling. The demonstration must include modeling results and analyses that the State or Tribe is relying on to support its claim. Such modeling should be consistent with EPA guidance and should be applicable and appropriate for the area.[16] If acceptable available modeling does not demonstrate attainment, the area would need to submit a local modeled attainment demonstration.

c. Comments and Responses

Comment: Several commenters recommended that the requirement for attainment demonstrations from all subpart 1 areas be eliminated.

Response: Section 172(c)(1) clearly requires that nonattainment areas "* * * shall provide for attainment of the national primary ambient air quality standards." To meet this requirement, a State must demonstrate that the area will attain by a specified date and identify and adopt the control measures that will bring the area into attainment. We see no authority for waiving this requirement for areas.

Comment: What are the requirements for subpart 1 areas requesting attainment dates within 3 years of designation?

Response: Subpart 1 areas must submit their attainment demonstrations within 3 years after designation.

2. Areas With Later Attainment Dates

a. Background

For areas with attainment dates of more than 3 years after designation, regardless of whether they are covered under subpart 1 or subpart 2 (except marginal areas), we proposed to require them to submit an attainment demonstration SIP. This proposal was reflected in § 51.908(b) and (c) of the draft regulatory text. We stated that local, regional and national modeling developed to support Federal or local controls could be used provided the modeling is consistent with EPA's modeling guidance. Several States have invested considerable time and resources in regional 8-hour ozone modeling projects following this guidance. Where exceedances of the 8-hour ozone standard are more pervasive and widespread than they were for the 1-hour ozone standard, we recommended that States work together in multi-State modeling efforts and

[14] Even though the June 2, 2003 proposal contained the reference to the 0.005 ppm criterion, the draft regulatory text issued for public comment did not contain a reference to this criterion.

[15] The EPA notes that 8-hour ozone nonattainment areas are also free to develop early SIPs with motor vehicle emissions budgets for transportation conformity purposes in advance of a complete SIP attainment demonstration. For more information on establishing an early 8-hour ozone SIP and how it could be used for conformity, please refer to EPA's July 1, 2004, conformity final rule (69 FR 40019).

[16] If an assessment indicates that a regional modeling analysis is not applicable to a particular nonattainment area, additional local modeling would be required.

leverage off work under development and resources spent on these projects.

b. Summary of Final Rule

Subpart 1 areas with attainment dates later than 3 years after designation and areas classified as moderate or higher under § 51.903, are required to submit an attainment demonstration no later than 3 years after the effective date of designation for the 8-hour ozone NAAQS. Areas with an effective date of designation of June 15, 2004 are required to submit an attainment demonstration no later than June 15, 2007. These demonstrations must be consistent with section 51.112, including appendix W. In addition, for the review of technical adequacy, we will generally rely on our most recent modeling guidance at the time the modeled attainment demonstration is performed. We will be making available a final version of the modeling guidance related to developing attainment demonstrations for the 8-hour ozone standard.[17]

Areas required to submit an attainment demonstration are encouraged to follow the procedures described in this guidance. Local, regional and national modeling developed to support Federal or local controls generally may be used provided the modeling is consistent with EPA's modeling guidance at the time the modeled attainment demonstration is performed.[18]

c. Comments and Responses

We received no comments on this topic per se; comments on the timing of submission of attainment demonstrations is discussed elsewhere. We noted in the proposal that comments on the modeling guidance were welcome at any time and that we would consider those comments in any future revision of that document. We noted that comments submitted on the modeling guidance document would not be docketed as part of this rulemaking, nor would a comment/response summary of these comments be a part of the final 8-hour ozone implementation rule since they will not affect the rule itself. We will address those comments at the time we issue the final modeling guidance.

3. Multi-State Nonattainment Areas

a. Background

As discussed in the June 2003 proposal, section 182(j) of the CAA defines a multi-State ozone nonattainment area as an ozone nonattainment area, portions of which lie in two or more States. Section 182(j)(1)(A) and (B) set forth certain requirements for such areas. First, each State in which a multi-State ozone nonattainment area lies must take all reasonable steps to coordinate the implementation of the required revisions to SIPs for the given nonattainment area [section 182(j)(1)(A)]. Next, section 182(j)(1)(B) requires the States to use photochemical grid modeling or any other equally effective analytical method approved by us for demonstrating attainment. We are prevented by section 182(j) from approving any SIP revision submitted under that section if a State has failed to meet the above requirements.

To address the provisions of section 182(j)(1)(A), States that include portions of a multi-State ozone nonattainment area should develop a joint work plan as evidence of early cooperation and integration. The work plan should include a schedule for developing the emissions inventories, and the attainment demonstration for the entire multi-State area. Each State within a multi-State ozone nonattainment area is responsible for meeting all the requirements relevant to the given area. Care should be taken to coordinate strategies and assumptions in a modeled area with those in other, nearby modeled areas in order to ensure that consistent, plausible strategies are developed.

Section 182(j)(2) for multi-State nonattainment areas recognizes that one State may not be able to demonstrate attainment for the nonattainment area if other States in which portions of the nonattainment area are located do not adopt and submit the necessary attainment plan for the area. In such cases, even though the area as a whole would not have an approvable attainment demonstration, the sanction provisions of section 179 will not apply in the portion of the nonattainment area located in a State that submitted an attainment plan.

b. Summary of Final Rule

As discussed in the proposal, State partners involved in a multi-State ozone nonattainment area must work together to perform the appropriate modeling analyses to identify control measures that will enable the area to achieve attainment as expeditiously as practicable. Each State will be responsible for its portion of the control program and therefore will be held accountable for controls identified for implementation within its State boundaries. The modeling analyses should encompass the entire multi-State nonattainment area as well as adjacent counties which may contribute to the nonattainment problem. State plans should address local transport within the region and its contribution to nonattainment in the multi-State area. Consideration of long-range transport and its contributions to nonattainment is discussed in section IV.B. of this preamble. Multi-State nonattainment areas are subject to the same modeling and attainment demonstration requirements of the final rule that apply to all other areas. Marginal multi-State nonattainment areas do not have to submit a modeled attainment demonstration because section 182(a) exempts marginal areas from the requirement to submit an attainment demonstration.

c. Comments and Responses

Comment: Several commenters encouraged us to clearly define in the rule how multi-State nonattainment areas will be treated if all or a portion of an area is subject only to subpart 1. One of these commenters requested a clarification that photochemical grid modeling will not be required for multi-State areas classified under subpart 1 or areas that are classified as marginal. The commenter's reasoning was that such modeling is unnecessary since they are close to achieving the 8-hour NAAQS and will be in attainment before the modeling can be completed.

Response: We agree with these commenters that since section 182(a) exempts marginal areas from the requirement to submit an attainment demonstration, such areas need not develop an attainment demonstration. Section 182(j) of the CAA requires that multi-State areas use photochemical grid modeling as part of their attainment demonstrations while Section 172 (Subpart 1 areas) of the CAA does not explicitly require photochemical grid modeling. For subpart 1 areas that do not seek an attainment date of 3 years or less after designation, we make no distinction between multi-State and

[17] U.S. EPA, (November 4, 2005), Guidance on the Use of Models and Other Related Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS, EPA–454/R–05–002, *http://www.epa.gov/ttn/scram,* (Modeling Guidance, File name: ozone-final.pdf).

[18] The guidance may not apply to a particular situation, depending upon the circumstances. The EPA and State decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions by EPA regarding a particular SIP demonstration will only be made based on the statute and regulations, and will only be made following notice and opportunity for public review and comment. Therefore, interested parties will be able to raise questions and objections about the contents of this guidance and the appropriateness of its application for any particular situation.

single-State subpart 1 nonattainment areas. All subpart 1 nonattainment areas are required to submit an attainment demonstration that relies on photochemical grid modeling, either one that has already been performed that is appropriate for use in the area, or a new one. We do not believe that techniques other than those based on photochemical grid modeling will provide credible assurance that an area will achieve the 8-hour ozone standard by the area's attainment date.

Comment: One commenter requested that we perform the modeling for multi-State areas. Two commenters stated that if any additional photochemical modeling is required for such areas pursuant to CAA 182(j)(1)(B), then EPA should refine previous modeling; perform new modeling; or approve a less resource-intensive, alternate method that fulfills the requirement. The commenters asserted that we should assist the States in coordinating the development of the attainment/maintenance plans and ensure that areas involving multiple EPA Regions are not hampered by jurisdictional conflicts and inconsistencies.

Response: The EPA has conducted, and will continue to conduct, regional and national scale modeling that covers most of the ozone nonattainment areas. Both single State and multi-State nonattainment areas will be able to make use of EPA modeling, where appropriate. The EPA will work with States to determine the steps necessary for the proper use of EPA modeling in a local attainment demonstration. States that plan to use EPA modeling in lieu of local modeling should be prepared to justify the local use of the regional projections as well as conduct additional analyses to monitor progress towards attainment. The EPA will continue to work with States to coordinate the development of consistent attainment/maintenance plans.

4. Role of Modeling Guidance in Attainment Demonstrations

a. Background

The proposal noted that section 182(b)(1)(A) requires ozone nonattainment areas to develop an attainment demonstration which provides for reductions in VOC and NO_X emissions ''as necessary to attain the national primary ambient air quality standard for ozone.'' Section 172(c), requires areas covered under subpart 1 to demonstrate attainment. For a subpart 1 area that does not qualify for an attainment date within 3 years after designation, we proposed to require the State to develop and submit a modeled attainment demonstration.[19]

We noted that section 182(c)(2)(A) provides that for serious and higher-classified areas the ''attainment demonstration must be based on photochemical grid modeling or any other analytical method determined by the Administrator, in the Administrator's discretion, to be at least as effective.'' A photochemical grid model should meet several general criteria for it to be a candidate for consideration in an attainment demonstration. We noted that, unlike in previous guidance,[20] we did not propose recommending a specific photochemical grid model for use in the attainment demonstration for the 8-hour NAAQS for ozone. At present, there is no single model which has been extensively tested and shown to be clearly superior or easier to use than other available models. Criteria for attainment demonstrations are contained in 40 CFR 51.112, including appendix W (i.e., ''EPA's Guideline on Air Quality Models,'' 68 FR 18440, April 15, 2003). Appendix W refers to EPA's ''Use of Models and Other Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS'' and lists a set of general requirements that an air quality model should meet to qualify for use in an attainment demonstration for the 8-hour ozone NAAQS.[21] The proposal described alternatives available to the States and the scope and coverage of the draft guideline. The draft regulatory text of 2003 addressed this requirement in § 51.908(d).

We noted that we were planning to make substantial changes to the draft version of this document before finalizing the attainment demonstration aspects of the implementation rule. We said we welcomed public comments on the guidance at any time and would consider those comments in any future revision of the document. However, we said we would not consider comments on the technical merits of the modeling guidance in this present rulemaking.

b. Summary of Final Rule

The final rule [§ 51.908(c)] requires each attainment demonstration to be consistent with the provisions of § 51.112, including appendix W to 40 CFR part 51. In addition, we will generally review the demonstrations for technical merit using EPA's most recent modeling guidance at the time the modeling relied on in the attainment demonstration is performed. This guidance will generally have the State provide (1) technical analyses to locate and identify sources of emissions that are causing violations of the 8-hour NAAQS within nonattainment areas, (2) adopted measures with schedules for implementation and other means and techniques necessary and appropriate for attainment that are needed for attainment, with implementation no later than the beginning of the attainment year ozone season[22] (e.g., prior to 2009 ozone season for areas with June 15, 2010 attainment dates), and (3) contingency measures required under section 172(c)(9) of the CAA that can be implemented without further action by the State or the Administrator to cover emissions shortfalls in RFP plans and failures to attain.

c. Comments and Responses

Comment: One commenter recommended that EPA must ensure that attainment demonstrations are based on scientifically valid regional airshed modeling rather than scientifically invalid linear proportional rollback and weight-of-evidence methods.

Response: Criteria for attainment demonstrations are contained in 40 CFR 51.112, including appendix W (i.e., ''EPA's Guideline on Air Quality Models,'' 68 FR 18440, April 15, 2003). Appendix W cites EPA's ''Use of Models and Other Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS'' and describes a set of general criteria that an air quality model and its application should meet to qualify for use in an attainment demonstration for the 8-hour ozone NAAQS.[23] The draft guidance was developed through a collaborative process, which included review from the scientific community, and it has been revised to reflect recent review comments. The procedures described are considered a scientifically

[19] As noted above in the discussion of subpart 1 areas with early attainment dates, although the draft regulatory text in § 51.908(a) was structured such that no attainment demonstration was needed for subpart 1 areas that received an attainment date within 3 years after the effective date of the nonattainment designation, this was misleading, since the draft § 51.904(b)(2) provision that affected these areas required submission of a demonstration of attainment within 3 years after designation. The final regulatory text in § 51.908(b) clarifies this point.

[20] U.S. EPA, (1991), Guideline for Regulatory Application of the Urban Airshed Model, EPA–450/4–91–013. Available at: *http://www.epa.gov/scram001/tt25.htm;* see document DRAFT8HR.

[21] U.S. EPA, (May 1998), Draft Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS, EPA–454/R–99–004, *http://www.epa.gov/ttn/scram,* (Modeling Guidance, File name: DRAFT8HR).

[22] See 40 CFR 51.900(g) for definition.

[23] U.S. EPA, (1998), Draft Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS, EPA–454/R–99–004, *http://www.epa.gov/ttn/scram,* (Modeling Guidance, File name: DRAFT8HR).

valid use of regional and urban airshed modeling. The modeled attainment test makes use of the model derived relationship between ozone and its precursors. It does not, as is the case with proportional rollback, assume equal proportions of the precursors will provide an equally proportional reduction in ozone. For example, it does not assume that 20 percent reduction in precursors will provide 20 percent improvement in ozone.

The guidance also identifies additional data which, if available, should enhance the credibility of model results and results of other analyses used in a weight of evidence determination. The EPA believes use of weight of evidence is appropriate as do many in the scientific community. Weight of evidence is a credible approach for considering inherent uncertainties in a modeling application. As noted above, we will be making available a final version of the modeling and attainment demonstration guidance for the 8-hour ozone standard.[24]

Comment: All attainment demonstrations should be subject to the same rigorous standards.

Response: The EPA envisions that the final 8-hour ozone modeling guidance will be available for use by the majority of subpart 1 areas and subpart 2 areas classified as moderate and above. However, due to the unique nature of the ozone problem in many areas, EPA will accept various applications of the guidance. Although EPA anticipates all areas will follow the guidance closely, there will be variation based on availability of new and improved data methods and field study data. The EPA is always striving to make best use of available data and improvements in methodologies as the science and our understanding of ozone formation and transport in different parts of the country increases. Unique to many areas is the source receptor configuration, level of precursor data collected and the model's ability to simulate unique factors influencing the formation and transport of ozone. As more information becomes available in particular areas, EPA expects more rigorous demonstrations will be provided. Areas close to attaining the standard for which there is a better understanding of the meteorology and the relationships between precursor emissions and ozone may not require as much rigor. These decisions will be made on a case-by-case basis and the public will be able to express their views during the State SIP development and EPA review process.

Comment: The EPA cannot adopt or change the Draft Guidance, use it for regulatory purposes, or require States to use it for regulatory purposes, without subjecting it to separate notice-and-comment rulemaking.

Response: The final rule [§ 51.908(c)] requires each attainment demonstration to be consistent with the provisions of 40 CFR 51.112, including appendix W. However, we are not adopting the Guidance as a rule. The EPA plans to use the current (2005) guidance and future updates as a benchmark for reviewing the technical analysis submitted in support of 8-hour ozone attainment demonstrations. The guidance document is not a regulation. Therefore, it does not impose binding, enforceable requirements on any party, and may not apply to a particular situation based upon the circumstances. The EPA and State decision makers have the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions by EPA regarding adequacy of a particular SIP to meet the 8-hour ozone NAAQS will be based on the CAA and our regulations. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guidance to a particular situation during the State SIP development and EPA review process.

Comment: One commenter requested an opportunity to review and comment on the revised guidance prior to the ''final'' release.

Response: States, Tribes and others were given an opportunity to comment on the revised draft guidance prior to release. Also, EPA received additional comments on the draft guidance during the comment period on the implementation rule. The EPA has reviewed and considered the comments and will be releasing the final guidance. For more information and updates to the modeling guidance for ozone, visit EPA's Technology Transfer Network Support Center for Regulatory Air Models (TTN/SCRAM) on the Internet, http://www.epa.gov/ttn/scram/. Even though the guidance will be issued in final form shortly, EPA is always open to suggestions for future improvements to the guidance, including the incorporation of methodologies and procedures that increase accuracy and credibility of results. Such suggestions may be made to EPA regional or headquarters modeling contacts listed at the above TTN/SCRAM web site.

Comment: The EPA should carefully consider the resources that will be needed to perform the requisite modeling for multiple areas in many States.

Response: States/Tribes are encouraged to share and leverage resources currently being used in regional model applications that affect multiple areas. There is much opportunity for common use of data and methodologies among the modeling requirements for the regional haze program, the $PM_{2.5}$ attainment demonstrations and the ozone attainment demonstrations that should make the overall exercise less onerous. States and Tribes are encouraged to model multiple precursor strategies for multiple areas and review their efficacy for all three programs.

Comment: Any photochemical grid model utilized must either be in the public domain or licensed for unlimited use by any person for purposes of modeling within the area.

Response: The EPA modeling guidance supports this comment which is addressed in section 10 of the modeling guidance. ''Applicable models'' may be used, if they are non-proprietary. A ''non-proprietary'' model is one whose source code is available for free or for a reasonable cost. Further, the user must be free to revise the code to perform diagnostic analyses and/or to improve the model's ability to describe observations in a credible manner.

Comment: One commenter recommended that EPA update its guidance in 40 CFR 51, appendix W to include a discussion of the role of weight-of-evidence as part of a modeling demonstration, and to make any updates in appendix W subject to public review.

Response: In regard to the role of weight of evidence, EPA does not plan to revise appendix W. Use of weight of evidence is dependent on local information only available when the technical analysis for a specific model application is under development. Therefore, use of weight of evidence is considered on a case-by-case basis as the appropriate Regional Office works with the State as it develops its SIP and during the State adoption process and during EPA's SIP approval process. Any weight of evidence analysis is available for public review.

5. Mid-Course Review (MCR)

a. Background

The proposal noted that a MCR provides an opportunity to assess whether a nonattainment area is or is not making sufficient progress toward attainment of the 8-hour ozone standard, as predicted in its attainment demonstration. We noted that a

[24] U.S. EPA, (2005), Guidance on the Use of Models and Other Related Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS, EPA–454/R–05–002, *http://www.epa.gov/ttn/scram,* (Modeling Guidance, File name: ozone-final.pdf).

commitment to perform a MCR is a critical element of an attainment demonstration that employs a long-term projection period and relies on weight of evidence. Because of the uncertainty in long-term projections, we said we believed such attainment demonstrations need to contain provisions for periodic review of monitoring, emissions, and modeling data to assess the extent to which refinements to emission control measures are needed.

A number of States participated in a consultative process with EPA, which resulted in the development of the 1-hour MCR guidance.[25] We noted that we would update the 1-hour MCR policy and technical guidance to include 8-hour metrics and that we were soliciting comment on appropriate revisions. We proposed that the final MCR guidance incorporating 8-hour metrics would be available at the time we issue our final implementation rule.

The proposal briefly described the procedure for performing a MCR. The proposal noted that States would not have to commit in advance to adopt new control measures as a result of the MCR process. Based on the MCR, if we determine sufficient progress has not been made, we would determine whether additional emissions reductions are necessary from the State(s) in which the nonattainment area is located or upwind States or both. We would then require the appropriate State(s) to adopt and submit new measures to bring about the necessary emissions reductions within a specified period. We anticipated that these findings would be made as calls for SIP revisions under section 110(k)(5) and, therefore, the period for submission of the measures would be no longer than 18 months after the EPA finding. Thus, we proposed that States complete the MCR 3 or more years before the applicable attainment date to ensure that any additional controls that may be needed can be adopted in sufficient time to reduce emissions by the start of the ozone season in the attainment year.

b. Summary of Final Rule

The final regulatory text does not contain a requirement for the MCR. In reviewing attainment demonstrations from individual States, however EPA will assess the need for a MCR for areas with an attainment date beyond 6 years after the effective date of the area's designation in the context of whether the attainment demonstration and any weight of evidence analysis is supportable without a commitment by the State to perform a MCR.

The 8-hour ozone modeling guidance[26] is expected to identify measurements and activities to support subsequent reviews of an attainment demonstration SIP (i.e., MCR), such as improvements in air quality monitoring, meteorology and emission measurements. Even though the proposal noted that we expected to revise the existing 1-hour MCR guidance, EPA now believes the 1-hour MCR guidance coupled with the 8-hour modeling guidance provides sufficient guidance. States should consult with EPA prior to using a methodology other than the one developed through the public consultative process.

Guidance for performing a MCR for the 1-hour ozone NAAQS identifies several methods for reviewing whether the existing SIP is sufficient for the area to attain by its attainment date.[27] These guidance documents should provide adequate information for developing protocols for performing MCRs for the 8-hour ozone NAAQS. States/Tribes should prepare protocols which identify analyses and data bases to be used to support a MCR and discuss these with the appropriate EPA Regional Office prior to performing a MCR. If we determine that additional guidance is needed, we will issue updated guidance in a timeframe suitable to support the timely completion of MCRs.

c. Comments and Responses

Comment: Requiring the MCR 3 or more years prior to the attainment date is not reasonable or feasible for some areas. The EPA needs to recognize that for moderate and lower classifications the MCR would be due at the time of the SIP submittal. Mid-course review should be required only for areas with nonattainment classifications of serious or greater, as at least 3 years of monitored data are required for a MCR, after the implementation of controls. One commenter recommended that EPA make the MCR process part of the requirements for RFP and ROP.

Response: The final regulatory text does not require a MCR; as noted above, EPA will assess on a case-by-case basis whether a MCR would be needed in the context of a particular attainment demonstration.

Comment: The EPA should develop proper analysis techniques so that meteorological conditions do not affect a nonattainment area's perceived progress towards attainment. A MCR should also include an evaluation of ozone transport into the nonattainment area and control implementation in upwind areas.

Response: Assessments of transport are covered in the MCR guidance. The EPA is improving methods for determining the ozone trends and how they are affected by meteorology. The latest information will be made available.

Comment: The EPA needs to release the revised MCR guidance before the final rule is issued in order for it to be reviewed and commented on during the public comment period.

Response: The final rule does not incorporate any MCR guidance by reference. The 8-hour ozone modeling guidance[28] is expected to identify measurements and activities to support subsequent reviews of an attainment demonstration SIP (i.e., MCR), such as improvements in air quality monitoring, meteorology and emission measurements. Guidance for performing a MCR for the 1-hour ozone NAAQS identifies several methods for reviewing whether a SIP is on track to attain within prescribed time limits.[29] These guidance documents should provide adequate information for developing protocols for performing MCRs for the 8-hour ozone NAAQS. States/Tribes should prepare protocols which identify analyses and data bases to be used to support a MCR and discuss these with the appropriate EPA Regional Office prior to performing a MCR. If we determine that additional guidance is needed, we will issue updated guidance in a timeframe suitable to support completion of MCR's within established deadlines.

[25] Memorandum of March 28, 2002, from Lydia N. Wegman and J. David Mobley, re: ''Mid-Course Review Guidance for the 1-Hour Ozone Nonattainment Areas that Rely on Weight-of-Evidence for Attainment Demonstration.'' Located at URL: *http://www.epa.gov/scram001/guidance/guide/policymem33d.pdf.*

[26] U.S. EPA, (2005), Guidance on the Use of Models and Other Related Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS, EPA–454/R–05–002, *http://www.epa.gov/ttn/scram*, (Modeling Guidance, File name: ozone-final.pdf).

[27] Memorandum of March 28, 2002, from Lydia N. Wegman and J. David Mobley, re: ''Mid-Course Review Guidance for the 1-Hour Ozone Nonattainment Areas that Rely on Weight-of-Evidence for Attainment Demonstration.'' Located at URL: *http://www.epa.gov/scram001/guidance/guide/policymem33d.pdf.*

[28] U.S. EPA, (2005), Guidance on the Use of Models and Other Related Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS, EPA–454/R–05–002, *http://www.epa.gov/ttn/scram*, (Modeling Guidance, File name: ozone-final.pdf).

[29] Memorandum of March 28, 2002, from Lydia N. Wegman and J. David Mobley, re: ''Mid-Course Review Guidance for the 1-Hour Ozone Nonattainment Areas that Rely on Weight-of-Evidence for Attainment Demonstration.'' Located at URL: *http://www.epa.gov/scram001/guidance/guide/policymem33d.pdf.*

6. Multi-Pollutant Assessments (One-Atmosphere Modeling) [30]

a. Background

The proposal noted that many factors affecting formation and transport of secondary fine particles (i.e., $PM_{2.5}$ components) are the same as those affecting formation and transport of ozone. The proposal, therefore, noted that models and data analysis intended to address visibility impairment need to be capable of simulating transport and formation of both secondary fine particles and ozone. At a minimum, modeling should include previously implemented or planned measures to reduce ozone, secondary fine particles, and visibility impairment. An integrated assessment of the impact controls have on ozone, secondary fine particles, and regional haze provides safeguards to ensure ozone controls will not preclude optimal controls for secondary fine particles and visibility impairment.

The concept of modeling control impacts on all three programs is further strengthened by the alignment of the implementation process for ozone and secondary fine particles. As the dates for attainment demonstration and planning SIPs for the three programs are anticipated to be fairly close, the practicality of using common data bases and analysis tools for all three programs is viable and encourages use of shared resources.

The proposal noted that States that undertake multi-pollutant assessments as part of their attainment demonstration would assess the impact of their ozone attainment strategies on secondary fine particles and visibility or perform a consistent analysis for ozone, secondary fine particles, and visibility. To facilitate such an effort, we encouraged States to work closely with established regional haze Regional Planning Organizations (RPOs) and the jurisdictions responsible for developing $PM_{2.5}$ implementation plans. We encouraged States to perform similar multi-pollutant assessments as part of their ozone attainment demonstrations, considering the control programs that are in place at the time of the assessment. Multi-pollutant assessments are discussed elsewhere in this proposed rulemaking.

[30] Use of models that are capable of simulating transport and formation of multiple pollutants simultaneously. For example, for ozone and fine particles, it is critical that the model simulate photochemistry, which includes interactions among the pollutants and their precursors.

b. Summary of Final Rule

There is no regulatory text on the issue of multi-pollutant assessments, but we recommend the following:

- Attainment demonstration modeling should include previously implemented or planned measures to reduce ozone, secondary fine particles, and visibility impairment.
- An integrated assessment of the impact controls have on ozone, secondary fine particles, and regional haze is encouraged to promote efficiencies in strategies for achieving all three goals.
- States are also encouraged to use common data bases and analysis tools for all three programs and work closely with established regional haze RPOs and the jurisdictions responsible for developing $PM_{2.5}$ implementation plans.
- States are encouraged to follow EPA's lead and perform similar multi-pollutant assessments as part of their ozone attainment demonstrations, considering the control programs that are in place at the time of the assessment.

c. Comments and Responses

Comments: The EPA received several comments on the recommendation that States perform multi-pollutant assessments as part of their ozone attainment demonstrations. Almost all of the comments agreed with the basic rationale behind encouraging an analysis of the expected ozone, $PM_{2.5}$, and visibility impacts of a given set of air quality control measures associated with an 8-hour ozone attainment demonstration. The comments differed on whether multi-pollutant assessments should be required or only encouraged. The commenters who urged EPA to encourage rather than require a multi-pollutant assessment provided reasons for why they believe a multi-pollutant assessment is not possible at this time. One commenter indicated that the proposal was unclear as to whether the multi-pollutant assessments were required.

One commenter recommended that EPA require, in certain unspecified cases, nonattainment areas to perform an integrated control strategy assessment to ensure that ozone controls will not preclude optimal controls for secondary fine particles and visibility impairment. Conversely, several other commenters expressed the opinion that the multi-pollutant assessment should not be a requirement of an ozone attainment demonstration. Several reasons were offered for why the assessment should remain optional: (1) That the state of the science for assessing $PM_{2.5}$ and visibility is not yet sufficient for providing meaningful input to the regulatory process, (2) that the additional resources necessary to model the atmosphere as a single system would result in an undue burden on the States, and (3) that requiring a $PM_{2.5}$ and visibility assessment would result in delayed attainment due to the additional time necessary to complete such an analysis.

Response: The EPA continues to believe that encouraging, but not requiring, multi-pollutant assessments is the most sound approach for total air quality management given the schedule by which ozone attainment demonstrations are legally required. Much progress has been made on improving the available $PM_{2.5}$ models and inputs to these models over the past 3 years. As a result, EPA believes that the available tools are able to support air quality planning. Further improvements are likely over the next several years; much of which will be driven by the RPO's. By working closely with the appropriate RPO's, States can reduce the burden associated with one-atmosphere modeling analyses. However, EPA recognizes that many States have already invested resources in an ozone-only modeling platform analysis which is typically conducted over a finite number of episode days and for geographic regions that are typically less than (in time) and smaller than (in space) what might be required in a multi-pollutant assessment. By encouraging States to consider such assessments, EPA hopes to speed the process of the transition to more integrated air quality planning tools while yielding sound multi-pollutant control strategies. It is prudent for areas to perform these multi-pollutant assessments earlier as it will lessen the planning burden in the long-term since later planning activities for $PM_{2.5}$ and regional haze will need to consider the effects of emission control measures adopted for the ozone attainment plan.

7. What baseline emission inventory should be used for the attainment demonstration?

[Not addressed in the June 2, 2003 proposal; § 51.909 of the draft regulatory text.]

The June 2, 2003 proposal did not discuss baselines for purposes of the attainment demonstration. (It did, however, discuss baselines for RFP demonstrations.) Section 51.909 of the draft regulatory text provided that 2002 should be used as the baseline emission inventory year for purposes of both RFP and the attainment demonstration for areas with an effective date of

designation of June 15, 2004. We recognize, however, that some areas have already begun to perform modeling for their attainment demonstrations using baseline year inventories earlier than the 2002 inventory, and because the 2002 inventory may not be in a format to readily be used for photochemical grid modeling.[31] Therefore, the final rule does not specify a baseline for purposes of the attainment demonstration and modeling. As discussed more fully in the section of the preamble regarding RFP, the specification of 2002 as a baseline year for RFP purposes (for areas with an effective date of designation of June 15, 2004) appears in the RFP provisions of 40 CFR 51.910. Section 51.909 remains reserved.

8. Voluntary Reclassifications (''Bump-Ups'')

Although we believe most 8-hour nonattainment areas will attain the standard by their statutory attainment date, we recognize that some areas classified under subpart 2 may need additional time beyond the statutory attainment date for their area to attain as expeditiously as practicable. As discussed in the Phase 1 Rule (69 FR at 23959, col. 3), in the event an area cannot practicably attain by the maximum date for its classification, the Clean Air Act provides the opportunity for more time. An area regulated under subpart 2 can receive a later maximum attainment date through a State request to bump-up to a higher classification (e.g. from moderate to serious). The Act requires EPA to grant a State request to reclassify an area to a higher classification; the State plan still must provide for attainment as expeditiously as practicable. Although bump-up means that certain additional specified requirements apply, an area may already be meeting most or all of these specified requirements due to controls previously adopted to implement the 1-hour ozone standard. This is because some areas had 1-hour classifications that were higher (and more restrictive) than the areas' 8-hour classification,[32] and because the Phase 1 final implementation rule for the 8-hour O3 NAAQS contains anti-backsliding provisions generally requiring areas to continue implementing measures required for the 1-hour classification. Although there may not be additional mandatory control measures required because the areas may already have such measures in place, an area that needs more time to attain may need additional emission reductions to reach attainment.

E. What requirements for RFP should apply under the 8-hour ozone standard?

[Section VI.I. of June 2, 2003 proposed rule (68 FR 32832); § 51.909 and § 51.910 in draft; § 51.910(d) in final regulatory text.]

1. General Discussion

a. Background

As noted in the June 2, 2003 proposal, section 172(c)(2), which is located in subpart 1, requires State plans for nonattainment areas to require RFP. Section 171(1) of the CAA defines RFP to mean ''such annual incremental reductions in emissions of the relevant air pollutant as are required by this part [part D of title I] or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable [NAAQS] by the applicable date.''

Subpart 2 provides more specific RFP requirements for ozone areas classified under section 181.[33] In particular, subpart 2 specifies the base year emissions inventory upon which RFP is to be planned for and implemented, the increments of emissions reductions required over specified time periods, and the process for determining whether the RFP milestones were achieved.

Subpart 2 does not specify RFP requirements for marginal areas. Section 182(b)(1)(A) mandates a 15 percent VOC emission reduction, accounting for growth, between 1990 and 1996 for moderate and above ozone nonattainment areas. Furthermore, section 182(c)(2)(B) of the CAA requires each serious and above ozone nonattainment area to submit a SIP revision providing for an actual VOC emission reduction of at least 3 percent per year averaged over each consecutive 3-year period beginning in 1996 until the area's attainment date (referred to as the post-1996 ROP plan for the 1-hour standard). Section 182(c)(2)(C) of the CAA allows for substitution of NO_X for VOC emissions reductions for reductions required under section 182(c)(2)(B). The EPA's policy, NO_X Substitution Guidance (December 15, 1993; available at *http://www.epa.gov/ttn/oarpg/t1pgm.html*), addresses the substitution of NO_X emissions reductions for VOC emissions reductions. The baseline emissions inventory for determining the required ROP reductions for the 1-hour standard is specified in section 182 as 1990.

The requirements for RFP under subparts 1 and 2, as described above, are the minimum required for an area. More reductions may be necessary for attainment within the nonattainment area. Moreover, an upwind area that contributes to nonattainment in a downwind area in the same State may need reductions in order for the downwind area to reach attainment by its required attainment date. As we noted above in section IV.D.8., we recognize that some areas classified under subpart 2 may need additional time beyond the statutory attainment date for their current classification to attain the 8-hour standard as expeditiously as practicable. In the event an area cannot practicably attain by the maximum date for its classification, the CAA provides the opportunity for more time. An area regulated under subpart 2 can receive a later maximum attainment date through a State request to bump-up to a higher classification (e.g. from moderate to serious). Although a higher classification would mandate additional control measures, in fact there may not be additional mandatory control measures required because the area may already have such measures because of its classification for the 1-hour standard and the anti-backsliding provisions. However, an area that needs more time to attain may also need additional emissions reductions to reach attainment. These reductions may be achieved through implementation of measures that are necessary to demonstrate RFP requirements or additional reductions beyond RFP may be needed. Preliminary analyses indicate that already required control measures (e.g., motor vehicle and

[31] The EPA guidance on baseline years is found in the memorandum of November 18, 2002, from Lydia Wegman and Peter Tsirigotis, ''2002 Base Year Emission Inventory SIP Planning: 8-hr Ozone, $PM_{2.5}$ and Regional Haze Programs.'' This document is available at the following Web site: *http://www.epa.gov/ttn/oarpg/meta.442.1.202baseinv.pdf.* That document noted, ''The EPA is aware that some areas have already begun on a voluntary basis to model for purposes of the 8-hour ozone standard. These areas may continue to use modeling from previous base years for each set of meteorological episode conditions for use in their SIP submittals if these studies are still applicable for an attainment demonstration.''

[32] Although some 8-hour ozone nonattainment areas have additional areas beyond the boundary of the former 1-hour nonattainment area and thus would be faced with new requirements for the higher classification.

[33] Note that § 51.900 provides the following definitions:

(p) *Reasonable further progress (RFP)* means for the purposes of the 8-hour NAAQS, the progress reductions required under section 172(c)(2) and section 182(b)(1) and (c)(2)(B) and (c)(2)(C) of the CAA.

(q) *Rate of progress (ROP)* means for purposes of the 1-hour NAAQS, the progress reductions required under section 172(c)(2) and section 182(b)(1) and (c)(2)(B) and (c)(2)(C) of the CAA.

nonroad-engine rules, CAIR, etc.) may largely or fully fulfill RFP requirements for many areas and that they will provide substantial progress toward attainment for most areas.

Many areas may have significant creditable reductions as a result of Federal motor vehicle and nonroad rules, the NO_X SIP Call, and the CAIR. With the statutory exceptions enumerated above, assured emissions reductions that will occur in an area after the base year can be credited toward meeting an RFP emission reduction milestone.

To reduce interstate ozone transport, the CAIR (described above in section IV.B.) established statewide ozone-season NO_X budgets for 25 States and the District of Columbia (i.e., the eastern part of the U.S. where all 8-hour nonattainment areas are classified as moderate or below). As noted above, the first phase of NO_X reductions under CAIR starts in 2009 (covering 2009–2014); the second phase of NO_X reductions begins in 2015 (covering 2015 and thereafter).

With respect to timing of reductions, the following table shows how summertime NO_X reductions from local CAIR sources that will be achieved by May 1, 2009, or earlier can assist in demonstrating RFP.

Type of 8-hour nonattainment area	RFP requirement *	Relationship of CAIR and RFP
—Subpart 1 areas with attainment dates within 5 years of designation; —Subpart 2 moderate areas for which of expeditious attainment is no later than 5 years after designation.	Meet RFP through showing of expeditious attainment.	CAIR reductions not required prior to ozone season preceding latest attainment date.
Subpart 1 areas with attainment dates 6–10 years from designation.	Must demonstrate RFP through their attainment date.	CAIR reductions in 2009 can help fulfill RFP requirement.
Subpart 2 marginal areas	No subpart 2 RFP requirement for marginal areas.	Not applicable.
Subpart 2 moderate areas with an attainment date later than 5 years after designation.	Subject to RFP similar to subpart 1 areas; must demonstrate RFP through their attainment date.	CAIR NO_X reductions in 2009 can help fulfill RFP requirement.
Subpart 2 moderate-and-above areas that did not implement 15% VOC reductions for 1-hour ozone standard.	15% VOC reduction required between 2002 and 2008; continued progress required through attainment date.	CAIR 2009 NO_X reductions can help demonstrate continued progress after 2008 attainment date.

* RFP requirement descriptions in table are abbreviated; RFP requirements are more precisely described elsewhere in preamble and rule text.

The CAIR provisions do not require States to require emissions reductions prior to January 1, 2009. However, States may choose to require or some sources may elect to apply CAIR-level NO_X controls earlier than that date. If such controls are made enforceable in the SIP (e.g., through a specific rule), the State may take RFP credit for such emissions reductions for the RFP period (i.e., an RFP period ending earlier than December 31, 2008) during which the reductions occur.

The RFP provisions in the CAA for both subpart 1 and subpart 2 areas require that actual emissions be reduced from the baseline by the milestone year. Only emissions reductions required to be achieved during an RFP period may be credited toward the State's RFP obligation for that period. In developing their RFP plans, States will have to provide their best estimate of the CAIR-affected sources that are expected to actually reduce emissions to meet the CAIR requirements and those that are expected to meet CAIR through holding allowances and not actually reducing emissions.

Local CAIR NO_X reductions that States must require by May 1, 2015, could assist in meeting RFP for an area that is bumped up to severe and demonstrates attainment cannot be achieved before the end of the 2015 ozone season.

b. Summary of Final RFP Features

We are adopting nearly all the approaches set forth in our proposed rule for the various 8-hour RFP issues. We are making exceptions where convincing arguments were presented by commenters for a suitable alternative or where, through reassessment of the issue, EPA was able to develop a better option that still reflects the concepts in the original proposal. The issues for which we have adopted approaches that vary from the proposal are: (a) The timing of the submission of the RFP plan; (b) the structuring of RFP requirements in subpart 1 areas; (c) the implementation of RFP in areas designated for the 8-hour ozone standard that entirely or in part encompass an area that was designated nonattainment for the 1-hour ozone standard; and (d) the substitution of controls from outside the nonattainment area within 100 kilometers (km) for VOC and 200 km for NO_X. These changes are discussed in the sections below.

In developing an approach for addressing the RFP requirements for the 8-hour ozone standard, we are adopting the following:

- The same baseline year would be used both to address growth (in emissions, vehicle miles traveled (VMT) or otherwise) and to calculate the RFP target level. The baseline year of 2002 applies for areas with an 8-hour ozone nonattainment designation effective in June 2004.
- Emissions reductions from outside the nonattainment area up to 100 km for VOC and 200 km for NO_X (and statewide for areas that are part of a regional strategy) would be allowed consistent with (a) the concepts in EPA's existing December 1997 interim implementation policy for 1-hour ozone NAAQS [34], and (b) with the constraint that in all cases the distances in the policy provide only a general policy presumption that, if used, would need data in the record showing that reductions from sources in the specific locations outside the nonattainment area benefit the nonattainment area. This is discussed further below in section IV.E.12. of this preamble.
- For all 8-hour nonattainment areas classified under subpart 2 as moderate

[34] Memorandum of December 29, 1997 from Richard D. Wilson to Regional Administrators, Regions I–X re ''Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM10 NAAQS.'' Located at URL: *http://www.epa.gov/ttn/oarpg/t1/memoranda/iig.pdf.* This policy recognized that VOC emissions up to 100 km and NO_X emissions up to 200 km from the nonattainment area could be relied on for RFP. Those distances resulted from Federal Advisory Committee Act discussions cited earlier and generally represent transport of 1 to 2 days. We still believe it is appropriate to allow this credit. However, as noted below, because we received concerns about this policy outside the rulemaking process, we are in the process of subjecting this policy to a technical review and may revise it in light of that review.

and above that had not met the 15 percent VOC emission reduction requirement for the 1-hour standard, the RFP requirements specified in subpart 2 would apply, namely a 15 percent VOC emission reduction, accounting for growth, in the first 6 years after the baseline year for moderate and above ozone nonattainment areas. In addition, for all 8-hour nonattainment areas classified as serious and above, the RFP provisions in subpart 2 require a VOC or NO_X emission reduction of at least three percent per year averaged over each consecutive 3-year period beginning 6 years after the baseline year. (See section 182(c)(2)(B)).

• Areas classified under subpart 2 as moderate that had met the 15 percent VOC emission reduction requirement for the 1-hour standard are treated in the final rule like areas covered under subpart 1.

• Areas classified under subpart 2 as serious and above that had met the 15 percent VOC emission reduction requirement for the 1-hour standard would be subject to the RFP requirement in section 172(e) and the final rule would require them to obtain an average of 3 percent annual reductions of VOC and/or NO_X emissions reductions for the first 6 years after the baseline year and every subsequent 3 years out to their attainment date.

• The periods for RFP under subpart 2 for the 8-hour ozone NAAQS run from the date of the baseline year, and would be equivalent to the periods Congress established in subpart 2, which applied for the 1-hour NAAQS. Thus, the first 15 percent reduction would be required for the 6-year period starting after the end of the last day of the baseline year (e.g., January 1, 2003–December 31, 2008). The first 3-year period for the subsequent (average of) three percent per year emission reduction requirement in serious and higher areas would begin 6 years after the end of the last day of the baseline year (e.g., January 1, 2009–December 31, 2011). However, the last period for any area would end on the attainment date for the area.

• Subpart 1 areas with attainment dates 5 years or less after designation can meet the RFP requirement by achieving the emission reductions necessary to attain as expeditiously as practicable. These emissions reductions must be implemented by the beginning of the full ozone season prior to the attainment date (See 40 CFR § 1.908).[35] For subpart 1 areas with attainment dates beyond 5 years after designation, the RFP SIP must provide for a 15 percent emission reduction (either NO_X and/or VOC) from the baseline year within 6 years after the baseline year. For each subsequent 3-year period out to the attainment date, the RFP SIP would have to provide for an additional increment of progress. The increment for each 3-year period would be a portion of the remaining emission reductions needed for attainment beyond those reductions achieved for the first increment of progress (e.g., beyond 2008 for areas designated nonattainment in June 2004). Specifically, the amount of reductions needed for attainment should be divided by the number of years needed for attainment after the first increment of progress in order to establish an ''annual increment.'' For each 3-year period out to the attainment date, the area must achieve roughly the portion of reductions equivalent to three annual increments.[36]

• Subpart 2 moderate or higher areas that had not met the 15 percent VOC reduction requirement under the 1-hour standard would be subject to section 182(b)(1) for the 8-hour standard and would need to obtain the emissions reductions within 6 years after the baseline year (e.g., for areas designated in June 2004, the reductions would need to occur by the end of 2008, based on a baseline year 2002).

• Reductions from any Federal and regional measures promulgated after 1990 (except those measures that were not creditable under the CAAs creditability provisions (section 182(b)(1)(D)) and achieved after the baseline year are creditable for the RFP requirement.

• Allow use of the ''Clean Data Policy.''

c. Comments and Responses

This set of comments and responses on our proposal on RFP are of a general nature. Comments and responses on specific topics appear with the sections below on those topics.

Comment: One commenter stated that EPA's proposed 8-hour ozone rule would sharply slow momentum to implement health protective emission reduction strategies in areas with unhealthful air quality. It would curtail the effectiveness of transportation conformity in areas with inadequate air quality, including both old and new ozone nonattainment areas. It would do this by proposing to eliminate any further RFP requirements for pollution reduction in existing 1-hour ozone areas.

Response: The EPA has developed anti-backsliding provisions to ensure continuing progress toward attainment of the ozone NAAQS. Under these provisions, areas that are nonattainment for the 8-hour standard must continue to meet most obligations for the 1-hour standard, including RFP requirements. Those provisions (adopted as part of the Phase 1 Rule published April 30, 2004) will ensure areas maintain progress in achieving emissions reductions in areas with unhealthful air quality. Additionally, 8-hour ozone nonattainment areas with attainment dates later than 5 years after designation must meet specified increments of reductions as provided in more detail below.

Comment: Another commenter recommends that EPA not strictly interpret the CAA requirement of a 15 percent reduction in VOC in the first 6 years. If reductions in VOC would not assist the area in progress toward attainment and if an area can provide an analysis that it is at least as sensitive to NO_X controls, then the area should be able to reduce NO_X emissions for RFP requirements.

Response: We addressed in general those comments that recommended alternatives to the mandatory measures of subpart 2 (which includes the RFP requirement) in the response to comments above under the topic, ''Should prescribed requirements of subpart 2 apply in all 8-hour nonattainment areas classified under subpart 2, or is there flexibility in application in certain narrowly-defined circumstances?'' We conclude in that section that EPA has no discretion to broadly waive mandatory requirements. However, we noted that case law may provide support for case-by-case waivers where implementation of a measure would produce an absurd result.

Comment: One commenter stated that EPA should consider highly reactive VOC reductions that achieve ozone reductions equivalent to an average of 3 percent per year reduction of VOC and/or NO_X as meeting RFP requirements.

Response: The CAA's RFP provisions do not appear to provide for variations

[35] With today's rulemaking, this provision is now codified as 40 CFR 51.908(d).

[36] For example, if the area's attainment date is 2014, and a total of 30 percent reduction is needed between the end of 2008 and the attainment date (a 6-year period) to reach attainment, the ''annual increment'' would be 5 percent (i.e., ⅙ of 30 percent). Thus, the area must achieve roughly the portion of reductions equivalent to three annual increments or 15 percent during the first 3 years (2009, 2010, 2011), and the remaining amount over the next 3 years (2012, 2013, 2014). Additional discussion of what is meant by ''roughly proportional'' appears in he full discussion of RFP for subpart 1 areas in section IV.E.7. of this preamble.

in the required percent reduction in VOC based on differences of reactivity of the various VOC compounds. However, EPA is participating with a group called the Reactivity Research Working Group, along with representatives from States, industry and universities, to study the scientific aspects of reactivity and to try to determine if more cost-effective and greater ozone reductions can be achieved through use of the concept. The requirement to obtain the required percent reduction of total VOCs remains, and if EPA decides to propose a change, it would be undertaken in a separate rulemaking action.

2. What is the content and timing of the plan for addressing the RFP requirements under section 182(b)(1) and 182(c)(2)(B) for areas covered under subpart 2?

[Section VI.I.3 of June 2, 2003 proposed rule (68 FR 32833); § 51.910(a)(1)(ii) of the draft and final regulatory text.]

a. Background

Section 182(b)(1) requires areas classified as moderate and above to submit a plan to achieve a 15 percent reduction in VOC emissions over a 6-year period following the baseline year. Section 182(c)(2)(B) requires serious and above areas to achieve an average of nine percent additional emissions reductions for each subsequent 3-year period. We proposed two options regarding how this requirement might apply for purposes of implementing the 8-hour NAAQS.

(i) *Option 1.* Require 15 percent VOC reductions within 6 years after the baseline year for all areas designated moderate and above for the 8-hour ozone NAAQS. After 6 years, all serious and above areas would be required to achieve a nine percent reduction in VOC and/or NO_X emissions every 3 years, i.e., an average of three percent per year, until attainment.

(ii) *Option 2.* For those areas that have an approved 15 percent plan for their 1-hour ozone SIPs, an additional 15 percent VOC reduction is not necessary. Subpart 2 areas that have approved 15 percent plans for the 1-hour ozone standard would be considered to have met the statutory 15 percent requirement. Instead, such an area that is classified as moderate for the 8-hour standard would be subject to the general RFP requirements of subpart 1 in the same manner as subpart 1 areas. Such an area that is classified as serious and above for the 8-hour standard would be subject to the RFP requirement in section 182(c)(2)(B) and would have to include in their SIPs an RFP plan that would achieve an average of three percent per year of VOC and/or NO_X over each 3-year period starting at the end of the baseline year out to their attainment year.

We recognized in the proposal that for serious and above areas it would be difficult to adopt and implement emission controls that would provide for the first nine percent emission reduction within 3 years after nonattainment designation. Therefore, consistent with what Congress did under section 182(b)(1), we proposed to allow the first RFP increment to be averaged over 6 years. We proposed that an area classified serious or above submit its RFP plan within 2 years after designation such that it provides for 18 percent emissions reductions (VOC and/or NO_X) over the first 6 years from the baseline year (e.g., January 1, 2003 to December 31, 2008 using the proposed 2002 baseline year). Then, within 3 years after designation, submit a plan that provides 9 percent emissions reductions (VOC and/or NO_X) over each of the next 3-year periods until the area's attainment date (e.g., from January 1, 2009 to the attainment date).

The proposal noted that this option recognizes previous efforts by areas that submitted 15 percent plans as required under the 1-hour ozone NAAQS and provides flexibility to States to use a mix of NO_X and VOC reductions as appropriate to meet the additional ROP/RFP requirements. For many areas of the country, particularly in the Eastern U.S. outside major metropolitan areas, there is a greater need for NO_X reductions rather than VOC reductions to bring about reduced ambient ozone levels. Areas do not have the flexibility to control NO_X under the 15 percent requirement—NO_X substitution is only allowed under section 182 for the post-1996 RFP requirement (three percent per year averaged over 3 years). We believe that the statute can be interpreted to require the mandatory 15 percent VOC reduction only once for a given area.

Once the 15 percent VOC reduction requirements have been met, an area would instead be subject to the other RFP requirements of the CAA. In some cases, such as for serious and above areas, this might result in an obligation to achieve greater emissions reductions, i.e., 18 percent rather than 15 percent for the 6-year period, but the area would have the flexibility to choose either VOC or NO_X reductions as appropriate. We indicated in the proposal that we preferred this second option because it provides more flexibility for the RFP plan to be consistent with the area's needs in attaining the standard. The draft regulatory text incorporated this option.

The proposal did not specifically address an 8-hour area that is partially comprised of one or more 1-hour ozone nonattainment areas with approved 15 percent plans and one or more areas that were not previously subject to the 15 percent requirement.

b. Summary of Final Rule

We are adopting the second option described in the Background above, as adjusted in response to comment.

1. Final rule for 8-hour areas comprised in total of one or more 1-hour nonattainment areas with approved 15 percent plans for the 1-hour standard.

Those 8-hour areas that are composed entirely of one or more 1-hour areas that have approved 15 percent plans for their 1-hour ozone SIPs, will be considered to have met the 15 percent VOC requirement in section 182(b)(1). Such areas that are classified as moderate would instead be subject to the more general RFP requirements of subpart 1. As discussed below, the subpart 1 requirement would depend on the moderate area's attainment date as follows:

- Moderate areas that have an attainment date of 5 years or less after their 8-hour designation, for which all portions of the area have previously met their 15 percent requirements under the 1-hour standard, will be subject to subpart 1 RFP requirements, which will be satisfied with measures that demonstrate attainment as expeditiously as practicable.
- Moderate areas that have an attainment date beyond 5 years after their 8-hour designation, for which all portions of the area have previously met their 15 percent requirements under the 1-hour standard, will be subject to subpart 1 RFP requirements, which will be satisfied with a plan to demonstrate 15 percent emissions reductions (which may be either VOC or NO_X or a combination of both) from 2002 to 2008, and any additional emission reductions needed for attainment beyond 2008.

Such areas that are classified as serious or above would be subject to the RFP requirements of section 182(c)(2)(B) and would need to submit a plan achieving an average of 3 percent reductions per year over the 6 years following the baseline year and then an average of 3 percent per year for each subsequent 3-year period out to the attainment year.[37]

[37] As discussed below in section 5 (the discussion of the timing of submission of the RFP plan) the RFP plan would have to be submitted within 3 years after designation (not 2 years as proposed).

2. Final rule for 8-hour areas comprised in part of one or more 1-hour attainment areas with an approved 15 percent plan for the 1-hour standard and in part of one or more areas without approved 15 percent plans for the 1-hour standard.

For 8-hour moderate areas that include all or part of one or more 1-hour areas with an approved 1-hour 15 percent plan, but also include areas that were not subject to the 1-hour 15 percent plan, the final rule would allow the area to choose between two alternative approaches that are consistent with the proposed rule.

• *Approach 1.* Develop a new baseline and new 8-hour 15 percent VOC ROP emission reduction target for the entire 8-hour area. Emissions reductions that occur after the 2002 baseline emissions inventory year are creditable except as limited by section 182, as described elsewhere in this final rule. The reductions must be of VOC only.

• *Approach 2.*

• Treat the 8-hour nonattainment area as divided between portions of the area that are subject to an approved 15 percent VOC-only plan for the 1-hour standard and the portions of the area that are not subject to a 15 percent plan for the 1-hour standard.

• For those areas not subject to an approved 15 percent plan for the 1-hour standard, States must establish a separate 15 percent VOC target under subpart 2. VOC emissions reductions to meet the 15 percent requirement may, however, come from across the entire 8-hour nonattainment area.

• For the portion of the area with an approved 15 percent plan for the 1-hour standard, the subpart 1 RFP requirements will apply if the area is classified as moderate for the 8-hour standard and the section 182(c)(2)(B) RFP requirement will apply if the area is classified as serious or above for the 8-hour standard. These requirements would apply as described above for areas comprised entirely of areas with approved 15 percent plans for the 1-hour standard.

c. Comments and Responses

Comment: One commenter expressed concern that for a number of subpart 2 areas that were nonattainment for the 1-hour standard, especially those dominated by mobile source emissions and/or those with existing stringent stationary source controls, it may be difficult to achieve another 18 percent precursor emission reduction within 6 years from the baseline year and then an additional 3 percent per year precursor reduction after that until the area's attainment date. Specific areas were mentioned such as the South Coast District of California and the Houston-Galveston Area, which the commenter indicated will be well beyond best available control technology (BACT) controls and in some cases at or near lowest achievable emission rate (LAER) NO_X controls on stationary sources making them dependent on mobile source fleet turnover for SIP RFP emissions reductions. The commenter further suggested that EPA should have available approved policy options that allow areas in such predicaments to maintain approved SIPs if additional emissions reductions are not available to meet RFP requirements and/or if available emission reduction techniques might be counterproductive to other local and regional air quality goals.

Response: We addressed in general those comments that recommended alternatives to the mandatory measures of subpart 2 (which includes the RFP requirement) in the response to comments above under the topic, ''Should prescribed requirements of subpart 2 apply in all 8-hour nonattainment areas classified under subpart 2, or is there flexibility in application in certain narrowly-defined circumstances?'' We concluded in that section that EPA has no discretion to broadly waive mandatory requirements. However, we noted that case law may provide support for case-by-case waivers where implementation of a measure would produce an absurd result. Additionally, we note that section 182(b)(1)(A)(ii) specifically addresses the situation where an area demonstrates that it cannot achieve the required 15 percent reduction. It provides that an area may achieve less than the 15 percent VOC reduction required where the State demonstrates (1) NSR requirements apply as they would in an area classified as extreme except that the terms ''major source'' and ''major stationary source'' shall include any source with the potential to emit at least 5 tpy of VOCs; (2) RACT is required for all major sources (i.e., a source with the potential to emit at least 5 tons per year of VOCs; and (3) the plan includes all measures that can feasibly be implemented in light of technological achievability.[38]

Comment: Another commenter supported EPA in recognizing the previous efforts of areas to meet ROP requirements under the 1-hour standard. The commenter concurred with EPA's preferred option, which allows States the flexibility to choose a combination of NO_X and VOC strategies to meet ROP/RFP requirements consistent with an area's need to meet the standard.

Response: We agree with the commenter that if an area has already met the 15 percent VOC emission reduction requirement for the 1-hour standard, the area should not be required to meet that requirement a second time for the 8-hour standard but instead will be subject to the other applicable RFP provisions of the CAA.

Comment: One commenter preferred Option 1 as more protective of air quality and more consistent with the requirements of the CAA. Option 1 would require States to develop RFP plans based on severity and local situation. Option 2 has some attractive features by recognizing progress that States have already made. This commenter believed that Option 2 is problematic, however, because it relies on plans developed based on 1990 to 1996 emissions. This time period has passed.

One commenter believed EPA to be completely without authority to waive the 15 percent RFP plan requirement, which is an explicit mandate of subpart 2. A 15 percent ROP plan under the 1-hour standard cannot possibly satisfy the 15 percent RFP plan obligation for the 8-hour standard, because the new RFP requirement is designed to implement a revised NAAQS and is measured from a different baseline year. They further believe that EPA offers no plausible legal rationale for waiving the 15 percent ROP requirement, and, indeed, none exists. Moreover, although the agency proposed to require RFP demonstrations for the first 6 years for serious and severe areas, there is no lawful or rational basis for exempting moderate areas from this statutory requirement. Allowing States to rely on their 1-hour 15 percent ROP demonstrations is further unsupportable because those demonstrations are almost certainly no longer valid.

Response: The EPA acknowledges that under subpart 2 we must require 15 percent VOC reductions for all moderate and above areas, but we maintain that if an area has met this requirement while subject to section 182(b)(1)(A) for the 1-hour standard, they will not have to meet it again for the 8-hour standard. The EPA believes that the CAA is quite clear that the SIP must provide for a 15 percent reduction in baseline VOC emissions for some period after 1990 in an area subject to section 182(b)(1)(A), and, consequently, the SIP for any area newly subject to section 182(b)(1)(A) must provide for a 15 percent reduction

[38] Section 182(c)(2)(B)(ii) also contains a similar RFP provision for serious and higher classified areas that allows less than 3 percent of baseline emissions each year after the initial 15 percent reduction after designation and classification.

in VOC baseline emissions. But, EPA disagrees that the CAA plainly requires that the SIP for an area must require a *second* 15 percent reduction in VOC baseline emissions under a revised ozone standard. The EPA believes that section 182(b)(1)(A) limits our discretion only to the extent that we cannot let the SIP for any area classified as moderate or worse for the 8-hour standard avoid a demonstration that the SIP contains sufficient measures to achieve a 15 percent reduction in VOC baseline emissions and further limits our discretion to allow NO_X substitution for the 15 percent RFP demonstration requirement under section 182(b)(1)(A).

If serious and above areas have already met the 15 percent requirement under the 1-hour standard, they must meet the next RFP requirement, namely, the section 182(c)(2)(B) RFP requirement, which will actually achieve greater reductions, i.e., 3 percent per year over 6 years for a total of 18 percent, but they can meet it with either VOC or NO_X reductions. For moderate areas that have already met the 15 percent VOC emission reduction requirement for the 1-hour standard, EPA believes appropriate RFP under subpart 1 should be achieved. For purposes of RFP under subpart 1, there is nothing that limits such reductions to VOC. This provision simply requires reasonable annual incremental reductions towards attainment by the applicable attainment date, and this could be achieved by either VOC or NO_X emissions reductions or a combination of both.

Section 182(b)(1)(A) is the only statutory provision that limits State discretion to substitute NO_X reductions for VOC reductions. This applies only for purposes of the initial 15 percent reduction requirement for the 6-year period after the baseline year.

Comment: Another commenter believed the subpart 2 provisions of the CAA do not allow for NO_X for VOC substitutions for the initial 15 percent RFP requirements.

Response: We agree that the 15 percent requirement in section 182(b)(1) does not allow the substitution of NO_X for VOC. However, the RFP requirements in section 172(c)(2) and 182(c)(2)(B) are not constrained by that limitation and either VOC or NO_X emissions reductions may be counted toward meeting RFP under those two provisions.

Comment: Some commenters believed an additional 15 percent VOC reduction should not be necessary for 8-hour areas that encompass in whole or in part a 1-hour nonattainment area with an approved 15 percent plan. Such areas should simply be required to achieve whatever NO_X or VOC emissions reductions are needed for attainment.

One commenter noted that the proposed § 51.910(a)(ii) did not address all boundary change scenarios consistent with our proposed approach found in section VI.I.9. of the June 2, 2003 proposed rule (68 FR 32835).

Response: We agree with the commenter that an area with an approved 15 percent plan for the 1-hour standard is not required to adopt a second 15 percent plan under section 182(b)(1) for purposes of the 8-hour standard. However, if a portion of the 8-hour area was not subject to an approved 15 percent plan for the 1-hour standard, section 182(b)(1) applies to that portion of the 8-hour area and may be met by one of two approaches described above and in the regulatory text. We agree with the second commenter who noted that the proposed rule did not explicitly address all possible boundary scenarios; we believe we have fully addressed these different boundary scenarios in the final rule in a manner consistent with the proposal.

Comment: A commenter indicated that they preferred to work with EPA in the development of an alternative that will eliminate or minimize the planning burdens associated with development of a 15 percent RFP plan for one town. One alternative might be the development of a ''comparability demonstration,'' showing that the town had implemented the same controls that had been previously responsible for achieving a 15 percent reduction in VOCs in the l-hour ozone nonattainment area associated with the 8-hour nonattainment area including this town.

Response: We are willing to work with individual areas as they develop their 8-hour 15 percent plans and to help them avoid unnecessary planning burdens. We believe that the portion of an 8-hour area not subject to an approved 1-hour 15 percent plan may be able to meet the 15 percent obligation for the 8-hour standard if the area adopts the same VOC control measures (for example, VOC RACT at the same source thresholds, I/M, etc. * * *) as in the portion of the 8-hour nonattainment area subject to a 15 percent plan for the 1-hour standard and if the area has the same mix of emissions sources as in the area subject to the 15 percent plan for the 1-hour standard. We anticipate we could propose approval of a SIP on this basis where supported by the record.

Comments on Draft Regulatory Text

Comment: Another commenter generally supported the RFP provisions but suggested that in section 51.910(a)(1)(ii)(A) of the draft regulatory text, we insert the language shown in bold:

''An area classified as moderate or higher that has the same boundaries as an area for which EPA fully approved a 15 percent plan for the 1-hour NAAQS is not subject to section 182(b)(1) of the CAA for the 8-hour NAAQS, but instead—(A) If classified as moderate, is subject to RFP under section 172(c)(2) of the CAA and shall meet that obligation by submitting 3 years after the effective date of its designation a SIP revision that provides for implementation of all emission reductions of **VOCs and/or NO_X** needed for attainment by the beginning of the ozone season in the area's attainment year.'' The commenter claimed this language is consistent with the approach EPA has taken in other provisions of this draft.

Response: The commenter's concern is noted. Section 51.910 has been restructured for reasons noted elsewhere in this preamble and it addresses the commenter's concern.

Comment: One commenter suggested that § 51.910(a)(3) of the draft regulatory text be revised to allow (even if conditional) NO_X reductions to be substituted for VOC reductions (for any ROP or RFP requirement) whenever such reductions would ''result in a reduction in ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions required.''

Response: As noted above we do not believe the CAA allows substitution of NO_X for VOC to meet the 15 percent requirement of section 182(b)(1).

Comment: One commenter stated that draft § 51.910(a)(1)(ii) eliminates the 15 percent requirement for areas that have already achieved this requirement under the 8-hour standard and supported that change. However, they further state that the strict criteria of ''same boundaries'' should be revisited because there may be limited changes in the nonattainment areas ''boundaries'' when areas are designated for the 8-hour standard. Such changes should not negate this provision. A broader definition needs to apply to this section to allow for changes to boundaries in nonattainment areas between 1-hour and 8-hour designations where such changes do not substantially alter the geographical or population characteristics for the area.

Another commenter supports an exemption for 8-hour nonattainment areas that have met the 15 percent ROP requirement for the 1-hour NAAQS. The commenter requests that EPA clarify the criteria that the area must have the same geographic boundaries to qualify for the

exemption. This means that in the geographic areas for which a State has an approved 15 percent plan, the 15 percent requirement will not apply, and the 15 percent requirement is only intended to apply to the new geographic areas of the 8-hour nonattainment area, and that the 15 percent reduction of emissions from the new areas could come from the entire nonattainment area to satisfy this requirement.

Response: As we explain in our summary of the final rule, we have recognized that there are a variety of boundary scenarios for 8-hour nonattainment areas in relation to the boundaries of areas for the 1-hour standard. We have modified the draft regulatory text such that the final rule speaks in terms of 8-hour areas that include all or part of an area with an approved 15 percent plan for the 1-hour standard. For those portions of the 8-hour area with an approved 1-hour 15 percent plan, the 8-hour area is not required to develop a second 15 percent plan under section 182(b)(1) for purposes of the 8-hour standard, but instead will be subject to section 172(c)(2) if it is an 8-hour moderate area or subject to section 182(c)(2)(B) if it is classified as serious or above for the 8-hour standard. If the 8-hour area includes both areas that were subject to an approved 15 percent plan for the 1-hour standard and areas that were not, then the 8-hour area can choose whether to develop a section 182(b)(1) 15 percent plan for the entire 8-hour area or to develop a 182(b)(1) plan only for the area not previously subject to such a plan and to treat the remaining portions of the area under section 172(c)(2) or 182(c)(2)(B), as described above.

As noted, EPA does not believe the statute allows it to relieve any area that has not already met the 15 percent requirement for the 1-hour standard from the obligation to meet that requirement except as provided in section 182(b)(1)(A)(ii).

3. What baseline year should be required for the emissions inventory for the RFP requirement?

[Section VI.I.4. of June 2, 2003 proposed rule (68 FR 32833); § 51.909 of the draft regulatory text; § 51.910(d) of the final regulatory text.]

a. Background

The baseline inventory for RFP (under subpart 2) is used as the starting point for the determination of a target level of emissions for the future year RFP and as the baseline from which creditable reductions are determined. We designated ozone nonattainment areas in April 2004. Under the ''Consolidated Emissions Reporting Rule'' (67 FR 39602; June 10, 2002) revised emissions inventories are required for the years 2002 and 2005; therefore, we proposed to require use of the 2002 inventory as the baseline inventory for the RFP requirement. This would be the most recent inventory available at the time of designation. We issued a memorandum identifying 2002 as the anticipated emissions inventory base year for the SIP planning process to address the 8-hour ozone and the $PM_{2.5}$ standards.[39]

b. Summary of Final Rule

As set forth in our proposed rule, for areas designated nonattainment for the 8-hour ozone NAAQS with an effective date of June 15, 2004, we are requiring States to use the 2002 inventory as the baseline inventory for the RFP requirement. As noted in the proposal, the inventory for the 2002 calendar year would be the most recently available inventory at the time of designation in 2004. However, in response to several comments, we are allowing States the option of justifying the use of an alternative baseline inventory year for RFP. To justify an alternative, the State would have to demonstrate how the alternative year meets the CAA's provisions for RFP and provide a rationale for why it is appropriate to use the alternative baseline year rather than 2002 to comply with the CAA's RFP provisions. We believe that for multi-State nonattainment areas, several States must agree on a single baseline. Even if a State chooses an alternative baseline inventory year for RFP, 2002 remains the valid baseline year for transportation conformity purposes as described in 40 CFR 93.119. The baseline year test is used only in conformity determinations prior to the submission of a SIP that establishes motor vehicle emissions budgets (e.g., an RFP SIP). Therefore, areas using the baseline year test would continue to use 2002 as the baseline year for conformity purposes because an area's baseline year would not be changed until an RFP SIP is submitted. Once an RFP SIP is submitted and the motor vehicle emissions budgets in that SIP are found adequate or are approved the area would no longer use the baseline year test. Instead the area would use the adequate or approved budgets in the RFP SIP in conformity determinations.

The baseline emissions inventory is calculated as of the effective date of an area's nonattainment designation using the most recent calendar year for which a complete inventory is required to be submitted to EPA under subpart A of 40 CFR part 51, subpart A. Under 40 CFR part 51, subpart A, States are required to submit a comprehensive inventory on 3-year cycles within 17 months after the close of the reporting period. Thus, the 2002 inventory was due 17 months after the December 31, 2002 close of the reporting period, i.e., was due by June 1, 2004. For those areas designated nonattainment for the 8-hour ozone NAAQS effective June 15, 2004 (69 FR 23858; April 30, 2004), the baseline emissions inventory should be based on the calendar year 2002 because the 2002 inventory was due under 40 CFR part 51, subpart A, prior to the time of designation. For areas with an effective nonattainment designation in the future, the baseline inventory will be for the calendar year of the most recent triennial inventory as of the date of designation.[40] As provided above, the State may use an alternative baseline only if it is demonstrated that it is consistent with the CAA and the State demonstrates why it is appropriate.

c. Comments and Responses

Comment: Some commenters agreed there is a reasonable basis to select 2002 as the date of emissions inventories for the purpose of establishing creditable reductions from the inventory. States are not required by the CAA to adopt the year of the nonattainment designation for the 8-hour standard as the basis for their planning, even though that was the case under the 1990 CAA Amendments. The commenter claims there are a variety of measures that would be implemented after 2002 that local jurisdictions would like to be able to account for as new emissions reductions in their modeling demonstrations. The commenter thus believes that reductions between these years ''should count.'' In addition, this was the most recent quality assured/quality controlled inventory used to support the States' recommendations for proposed nonattainment designations on July 15, 2003.

Several commenters recommended that the baseline year (starting the 6-year period for RFP) be set for the year in which designations were made (i.e., 2004).

[39] Memorandum of November 18, 2002, from Lydia Wegman and Peter Tsirigotis, ''2002 Base Year Emission Inventory SIP Planning: 8-hr Ozone, $PM_{2.5}$ and Regional Haze Programs.'' This document is available at the following Web site: *http://www.epa.gov/ttn/oarpg/meta.442.1.2002baseinv.pdf.*

[40] For example, where the effective date of designation to nonattainment for an area for the 8-hour ozone NAAQS is after June 1, 2007 but before June 1, 2010, the baseline inventory will be for calendar year 2005.

Response: The EPA has decided to establish 2002 as the baseline year for RFP SIPs in conformity with both the language of the CAA and the inventory year cycle. Of reasonable importance is the need to maintain consistency with the periodic inventory for use in various milestone considerations such as RFP, milestone compliance demonstration, attainment, and contingency plans. In addition, while there would be a difference in the RFP requirement based on the choice of the RFP baseline, there should be little if any difference in terms of emissions reductions needed to demonstrate timely attainment. If we use 2002, the baseline may be higher but areas can take credit for any 2002–2004 emissions reductions from federally enforceable control measures. If we use 2004, the baseline may be lower but areas can't take credit for measures that produce emissions reductions between 2002–2004. Depending on the area, the difference should be minimal in terms of the difference in the amount of reductions needed to reach attainment and what new measures are necessary to get there. We believe it is reasonable to select an inventory year for which States were already required to produce an inventory rather than requiring States to produce an additional inventory (e.g., for 2004) that is not otherwise required. Moreover, requiring the use of an inventory for the designation year would cause delay, as it would take the States 1–2 years after the end of 2004 to produce the inventory which would be the basis for selecting controls to achieve the necessary reductions for RFP and for modeling attainment. However, we are allowing States the option of justifying the use of an alternative baseline emission inventory, provided it meets the requirement of the CAA's RFP provisions. As noted above, the use of an alternative year for the baseline inventory for RFP does not change the requirement to use 2002 as the baseline year for transportation conformity as described in 40 CFR 93.119.

Comment: Another commenter referred to EPA's proposal language regarding the RFP SIP that would have required submission of the RFP plan within 2 years after designation. They stated that EPA is missing the point in that the attainment and RFP submission dates established in subpart 2 are to allow States a sufficient amount of time to achieve the mandated goals.

That commenter referred to another alternative that would amend the proposal to require a 1990, rather than 2002 baseline for those areas not having a previously-approved 15 percent RFP plan. They further commented that although a 1990 baseline would not eliminate the planning burden associated with this requirement, it would go far towards minimizing the necessary additional work.

Response: We disagree with the commenters who urged use of the 1990 inventories as the baseline for planning for the 8-hour NAAQS. Use of the 1990 baseline would be unreasonable now since it would have to be substantially recalculated due to changes in emission calculating methodologies. Furthermore, a 1990 inventory was only required for nonattainment areas as of enactment of the 1990 CAA Amendments and therefore may not exist for a number of areas that are currently designated nonattainment for the 8-hour standard. Finally, we believe that reliance on emissions reductions that may have occurred well before 8-hour designations and classifications should not be counted as making progress toward attainment.

Comment: Another commenter noted that the 18 percent reduction for serious areas would have to be achieved by 2008. This is 6 years after the base year. The commenter noted that the 2 years that would remain after SIP submission (from the proposed SIP due date of 2006 until 2008) would be totally inadequate to achieve either the 15 percent reduction in VOCs or the 18 percent reduction in VOCs and/or NO_X. The commenter noted the CAA provides for submission of RFP plans within 3 years (from 1990) in section 182(b)(1)(A) and 4 years in section 182(c)(2).

Response: The final rule reflects a change from the proposal to allow submission of the RFP plan up to 3 years from the date of designation. We do not believe the RFP provisions of subpart 2 of the Act provides relief from the requirement to obtain the specified percent reductions from the RFP baseline within the time constraints specified in those provisions.

Comment: A comment on draft regulatory text § 51.909 noted that EPA specified various program milestone dates, which were derived from the relationship of these dates to the expected date of initial designation. The commenter recommends deleting all such specific date references from the regulation, to avoid the need for revising regulations if the initial designations are not concluded as expected. This should be replaced by a generic approach, for example by requiring the most recent year's data to be used as the baseline in the second sentence of § 51.909. Deleting the calendar-specific dates would not change the result if the designations occur as planned, yet would allow for more recent data to be used if factors beyond the agency's control create a delay in designations. This approach also will allow the regulation to apply to future area designation changes, such as areas that are redesignated nonattainment at some point in the future. Such specific dates are more appropriately included as examples in agency guidance or within the preamble of a final rule with a discussion of how they are derived. The regulation itself should retain only the generic relationship between the milestone and the effective date of designation, which is the approach taken elsewhere in the rule.

Response: Because the designations have already taken effect at this point, we believe it is appropriate to specify 2002 as the presumptive baseline year. The final version of the rule (now § 51.910(d)) provides general language regarding the appropriate baseline year for areas that have an effective date of a nonattainment designation in the future.[41]

4. Should moderate and higher classified areas be subject to prescribed additional RFP requirements prior to their attainment date?

[Section VI.I.5 of June 2, 2003 proposed rule (68 FR 32834); no draft regulatory text; section 51.910(a)(1)(i) of final regulatory text.]

a. Background

As noted in the proposal, for areas initially classified moderate and higher for the 1-hour ozone standard, the baseline inventory was defined as 1990 in the CAA Amendments. Therefore, the 6-year period for the initial 15 percent RFP requirement ended in the same year as the attainment date for moderate areas, viz., 1996. For areas classified moderate and higher under the 8-hour ozone standard, however, we proposed that the 15 percent RFP target level of emissions would be calculated for the 6-year period after the 2002 baseline year, i.e., 2003–2008. Moderate areas would be required to meet an attainment date no later than 6 years after the area is designated nonattainment for the 8-hour standard. Since the effective date of designation of nonattainment areas is June 15, 2004, the outside statutory attainment date would be June 15, 2010. This leaves approximately a 1½ year gap between the end of the 6-year period for the 15 percent RFP requirement (i.e., December 31, 2008) and the maximum statutory attainment

[41] We note that even though the draft regulatory text was structured to place the specification of the baseline year for RFP (as well as for attainment demonstrations) in § 51.909, the final rule places the RFP baseline year requirement in § 51.910.

date. If we were to also require moderate areas to obtain an additional three percent per year emission reduction beyond 2008 for the 1½ additional years out to 2010, the RFP requirement could be more than what we believe Congress intended for moderate areas under subpart 2. Additional three percent per year reductions were only required for serious and higher classified ozone nonattainment areas. We proposed that the only specific RFP requirement applicable for moderate areas is the 15 percent VOC requirement between the end of 2002 and the end of 2008. However, section 172(c)(2), which requires areas to meet RFP generally, would apply for any period for which RFP is not addressed in subpart 2. For purposes of section 172(c)(2), RFP means annual incremental reductions as may be required by the Administrator for purposes of ensuring attainment [CAA Section 171(1)]. Therefore, we proposed a moderate area would need to provide any additional emissions reductions—VOC and/or NO_X—needed to provide for attainment by the area's attainment date. In proposing this approach for this circumstance, we interpreted the subpart 1 RFP requirement to mean that the area must achieve whatever further reduction is needed for attainment in the remaining period prior to the attainment date (2009 through June 15, 2010).

We proposed that serious and higher classified areas would need to provide in their SIPs an additional average of three percent per year emission reduction over each subsequent 3-year period beyond the initial 6-year period through the attainment year, consistent with what Congress specified in section 182(c)(2)(B) of the CAA.

b. Summary of Final Rule

In the final rule, we are taking the approach we proposed. We are not prescribing additional increments of reductions for the 1½ years before the maximum attainment date for moderate areas. Such areas must provide for any additional emissions reductions (VOC/NO_X) needed to provide for attainment by the beginning of the ozone season prior to the area's attainment date.[42] Serious and higher classified areas would need to provide in their SIPs an additional average of three percent per year emission reduction over each subsequent 3-year period beyond the initial 6-year period through the attainment year.

c. Comments and Responses

Comment: One commenter suggested that following the statutory timetable rather than the one proposed by EPA would eliminate the problem of how to handle the ''1½ year gap between the end of the 6-year period for the 15 percent RFP requirement (i.e., December 31, 2008, as proposed by EPA) and the attainment date.'' The commenter continued by saying that no such gap is contemplated by subpart 2, which provides in section 18l(b)(l) that moderate area's attainment dates and their 15-percent VOC RFP date are to be the same: 6 years after their designation and classification.

Response: As provided in an earlier response, we do not believe the CAA requires the end of the 15 percent RFP period and the attainment date to be the same.

Comment: Another commenter noted the proposal states that the only specific RFP requirement applicable for moderate areas is the 15 percent VOC requirement between the end of 2002 and the end of 2008. However, section 172(c)(2) also applies, requiring areas to meet RFP generally. Therefore, a moderate area would still also have to provide any additional emissions reductions—VOC and/or NO_X, i.e., whatever is needed to provide for attainment by the beginning of the ozone season prior to the area's attainment date. The commenter agrees that any additional emissions reductions needed to achieve attainment are the only reductions that should be required of moderate areas.

Response: We agree with the commenter, and our rule requires that for purposes of meeting RFP beyond 2008 until the area's attainment date, moderate areas must reduce VOC and NO_X emissions as necessary to attain by the area's attainment date.

5. What is the timing of the submission of the RFP plan?

[Section VI.I.6 of June 2, 2003 proposed rule (68 FR 32834); § 51.910 of the draft and final regulatory text (several locations).]

a. Background

As noted in the proposal, section 182(b)(1) requires that moderate and higher classified areas submit their 15 percent RFP plans within 3 years after 1990. Obviously, applying the statute as written is absurd, since we are well past that date. The CAA uses identical language for identifying area's attainment dates under subpart 2. In our Phase 1 Rule, for purposes of attainment dates for the 8-hour NAAQS, we interpreted the CAA's language referring to the date of enactment of the 1990 CAA Amendments to mean the date of designations for the 8-hour standard. We noted in the proposal that if we applied the same interpretation for RFP plans, i.e., that they should be submitted within 3 years after the area's nonattainment designation date (i.e., in 2007 if the area has an effective designation in 2004), the plans would have to be implemented within 1 year after submission to ensure the 15 percent emissions reductions are achieved by the end of the relevant 6-year period (i.e., December 2008). We indicated concern that this might not provide sources with sufficient time to achieve the reductions by the required deadline. Therefore, we proposed that the RFP SIP be submitted within 2 years after nonattainment designation—namely by 2006 for areas designated in 2004. This would provide for 2 years for the State to develop and submit its RFP plan, and another 2 years for the control measures to be implemented.

We also proposed that an area classified serious or above submit within 2 years after designation its RFP plan that provides for 18 percent emissions reductions (VOC and/or NO_X) over the first 6 years from the baseline year and then submit within 3 years after designation a RFP plan that provides nine percent emissions reductions (VOC and/or NO_X) over each of the next 3-year periods until the area's attainment date.

b. Summary of Final Rule

In the final rule, we are taking a different approach than proposed in light of concerns raised by States in public comments. These commenters stated that they would need more than 2 years for development, adoption and submission of RFP plans for the increment of progress over the first 6 years after the baseline year. The EPA agrees with the several commenters who urged that 3 years was more consistent with the CAA. Additionally, 3 years is a more reasonable time period for submission because it allows States the necessary time to move regulatory actions through their legislative processes and allows States to consider RFP in conjunction with their attainment demonstrations. Therefore, for moderate and higher classified areas, the first RFP SIP must be submitted within 3 years after the area's nonattainment designation. For areas with a June 15, 2004 effective date for the 8-hour designations, the SIP would be due by June 15, 2007. This would

[42] We note that areas must implement controls prior to the beginning of the last full ozone season preceding the attainment date. For moderate areas designated as of June 15, 2004, such reductions would be needed by the beginning of the 2009 ozone season.

provide up to 3 years for States to develop and submit RFP plans, and 1 additional year (until the end of 2008) for control measures to be implemented. The RFP SIP for any remaining 3-year periods out to the attainment date beyond the first 6 years also would be submitted with the attainment demonstration, i.e., within 3 years after designation. However, since States maintain the flexibility to submit plans early to provide more time for implementation of their SIP control measures, we recommend that States complete their RFP plans as soon as possible after designation to provide as much time as possible for sources to implement the emissions reductions. Furthermore, States may also begin implementing their control measures before submission to EPA as part of their SIPs, which would provide additional time sources may need to comply.

c. Comments and Responses

Comment: Several commenters opposed EPA's proposal to shorten to 2 years the statutory 3-year period for development and submittal of 15-percent VOC RFP plans. They claim this proposal violates the guarantee of 3 years for plan development to the State in section 182(b)(l)(A) and is contrary to EPA's basic proposed principle that [quoting from the proposal] ''subpart 2 SIP submittals will be due as a general matter by the same period of time after designation and classification under the 8-hour standard as provided in subpart 2 for areas designated and classified at the time of enactment of the 1990 CAA.'' The commenters contended that subpart 2 gives EPA no authority to shorten the statutory 3-year period. In contrast, Congress in subpart 1 authorized EPA to set a schedule for nonattainment SIP submissions. Congress, therefore, knew how to give EPA discretion to shorten SIP submission deadlines according to the commenters; it did not do so in subpart 2.

Concerning the timing of submission of the RFP plan, another commenter was concerned that the States may not have sufficient photochemical modeling and ambient air analyses to indicate the best mix of RFP SIP controls. Additionally, in areas dominated by mobile source emissions, it may not be feasible to implement control measures to achieve the RFP target within the 2 years after the proposed required RFP SIP submission date as EPA has suggested. The commenter suggested that EPA develop policy options that allow areas in such predicaments to maintain approved SIPs if emissions reductions are not available to meet RFP requirements and/or if available emission reduction techniques might be counterproductive to other local and regional air quality goals.

Another commenter stated revisions to State emission reduction measures cannot be adopted easily in a 2-year time period because they require administrative action and frequently State legislation to approve. This period can lengthen when proposed measures like enhanced vehicle I/M involve controversial actions affecting the public. Logistically, a State must establish a regulation by administrative action with public input before (though sometimes after) such a measure is approved by the state's legislature. A number of jurisdictions' legislatures are only in regular session to consider such measures several months or, in alternate years. Thus, it is unreasonable for States to have only 2 years from their nonattainment designations to adopt new measures.

Another commenter referenced the case *NRDC* v. *EPA*, 22 F. 3d 1125, 1135 (D.C. Cir., 1994), where the Court considered the propriety of EPA's extension of the deadlines by which States had to submit elements of their SIPs. The Court upheld EPA's decision to extend the deadline for submission of a SIP given EPA's failure to meet its own deadline for providing certain necessary guidance to the States. The Court allowed EPA to use the extraordinary remedy of a deadline extension in this instance because Congress would have intended that the deadline be extended to provide a party the full statutory time for acting on the agency guidance. The commenter referenced CAA section 126(c) where EPA may set a compliance deadline ''as expeditiously as possible, but in no case later than 3 years after the date of such finding.''

One commenter noted that CAA section 182(b)(1)(A) as modified by section 181(b)(1) requires for moderate areas that the RFP SIP be submitted 3 years after designation. The commenter disagreed with the RFP plan requirement to submit the plan 2 years after the effective date of the nonattainment designation as not being consistent with or supported by these CAA sections. The resources involved in developing, proposing and adopting any SIP revision are not insignificant. In order to ensure the most efficient use of resources, the commenter contended that EPA should not require this SIP revision sooner than the submission of the attainment demonstration, 3 years after the effective date of the designations. Allowing States 3 years to submit the RFP plan is consistent with existing CAA requirements.

Response: After consideration of the comments, we have changed the final rule to be consistent with the approach advocated by a number of commenters. In consideration of the 2004 designation and the need to achieve the 2008 RFP reductions by December 2008, it seems reasonable to EPA that States first be given sufficient time after designation to formulate RFP plans. Therefore, the final rule allows States up to 3 years after designation to submit their RFP SIPs. However, to the extent States are relying on newly developed rules to meet all or part of the RFP requirement, we recommend that States adopt those rules as soon as possible after designation to provide as much time as possible for sources to achieve the emissions reductions.

6. How should CAA restrictions on creditable measures be interpreted? Which national measures should count as generating emissions reductions credit toward RFP requirements?

[Section VI.I.7 of June 2, 2003 proposed rule (68 FR 32834); § 51.910(a)(4) of the draft regulatory text; § 51.910(a)(3) of the final regulatory text.]

a. Background

Section 182(b)(1) contains provisions that limit creditability toward meeting RFP for certain limited emission reduction measures required prior to the enactment of the CAA Amendments of 1990. We noted in the proposal that we believe these specific restrictions should continue to apply for purposes of the 8-hour NAAQS. The proposal noted that Congress intended to prevent areas from taking credit for RFP only for those specific measures that were already adopted and in place (or required to be in place) prior to the date of enactment of the CAA Amendments of 1990 (November 15, 1990). We said that this same holds true for the RFP requirement as it applies to the 8-hour ozone standard, namely preventing credit toward the mandatory RFP percent reductions for continuing reductions from those specific measures cited in the CAA that were already adopted and in place (or required to be adopted and in place) prior to the date of enactment of the CAA Amendments of 1990. There is no indication in the CAA that this exclusion should be changed. Congress mandated many emissions reductions in the 1990 CAA Amendments with no indication that they should not be credited to meeting RFP or attainment of any existing or revised NAAQS. Therefore, we proposed that all

emissions reductions that occur from all Federal and any other measures not otherwise identified in section 182(b)(1)(C) and (D) and that occur after the baseline emissions inventory year would be creditable for the RFP requirement. A number of examples demonstrating emissions reductions that would be creditable toward the RFP requirement were set forth in our proposal.

b. Summary of Final Rule

We are taking the approach we proposed, under which all emissions reductions that occur after the baseline emissions inventory year are creditable for purposes of the RFP requirements in this section except as specifically provided in section 182(b)(1)(C) and (D) and section 182(c)(2)(B) of the CAA. The restriction imposed by section 182(b)(1)(D) limits crediting reductions from the following four categories:

- Corrections to or additions of RACT rules as required by CAA section 182(a)(2)(A).
- Corrections to I/M programs for areas where the SIP included or was required to include a schedule for I/M implementation under the CAA in effect immediately before November 15, 1990.
- Regulations concerning Reid Vapor Pressure (RVP) promulgated by EPA before November 15, 1990 or required to be promulgated under CAA section 211(h).
- Motor vehicle exhaust or evaporative emissions measures promulgated by EPA by January 1, 1990.

c. Comments and Responses

Comment: One commenter supported EPA's proposal to allow credit towards RFP requirements of all emissions reductions, which occur after the baseline emissions inventory year (2002) from all Federal, and any other measures not otherwise identified under section 182(b)(1)(D). This would include reductions from cleaner fuels and engines, reductions from ongoing 1-hour SIP controls and VOC reductions from implementation of MACT standards after the baseline year. The commenter stated that this proposed approach would be critical in a number of areas that already have stringent stationary source controls and/or in areas dominated by mobile source emissions.

Response: The EPA acknowledges this comment of support for our final action.

Comment: Another commenter believed that early voluntary emissions reductions prior to 2003, and not required under the CAA, should also be creditable toward RFP requirements. The commenter recommended that EPA's final rule clarify that States be allowed credit for RFP for early voluntary emissions reductions occurring prior to 2003. As a company that has proactively taken measures to reduce NO_X emissions through innovative Combustion Initiative (an enhanced efficiency technology), the commenter believed that EPA's regulations should take these efforts into account as they have resulted in real improvements to air quality. Another commenter stated that companies who made voluntary reductions prior to 2003 would be penalized for having undertaken such voluntary measures and, thus disallowing credit for these reductions provides disincentives for voluntary reductions.

Response: Voluntary reductions that occur prior to January 1, 2003 will be reflected in the area's baseline inventory. This lower baseline means that fewer reductions will be needed to achieve RFP.[43] Allowing an area to take credit for reducing emissions that are not included in the inventory would result in ''double counting'' of those emissions reductions.

Comment: One commenter suggested that areas should be able to take credit for MACT standards that may reduce VOC for which compliance is required after the 2002 baseline year. The commenter said it would be helpful to States if EPA produced a document detailing the expected VOC reductions after implementation of MACT standards. States could claim these reductions toward any reductions required to meet their target. The commenter suggested that the most useful way to express the reduction would be as a percent of the 2002 emissions.

Response: The EPA agrees that areas can take credit in RFP plans for post-2002 VOC reductions from MACT standards. We are considering whether to develop the recommended guidance.

Comment: One commenter objected to EPA's proposal to allow States to claim RFP credit from any reductions achieved through post-1990 adoption of the types of measures listed in section 182(b)(1)(D). The commenter further stated that section 182(b)(1)(D) prohibits granting RFP credit for any measures contained on the list. Congress wanted the RFP reductions to be new reductions rather than emission cuts that would have occurred anyway. In the case of 8-hour nonattainment areas, the baseline year will be 2002. Therefore, according to the commenter, to be consistent with subpart 2, EPA must disallow RFP credit for measures listed in section 182(b)(1)(D) adopted any time prior to 2002.

Another commenter urged EPA to consider a hybrid approach that gives States credit for approved RFP plans that go beyond 2002, provided that the Plan is evaluated on a 2002 baseline. This approach would give States credit for ongoing emissions reductions, recognize the need to address the 8-hour standard as the ozone standard (rather than rely on plans developed to meet the 1-hour standard), and potentially avoid some unneeded controls.

Another commenter recommended that EPA not allow emissions reductions credit for all emissions reductions occurring after the baseline year. Emissions reductions to satisfy the RFP requirements of CAA section 182(b)(1) and 182(c)(2)(B) are required to be achieved by submitting ''a revision to the applicable implementation plan to provide for * * * emissions reductions.'' The commenter argued that emissions reductions already required by, or accounted for in, the applicable implementation plan may not be credited toward the new RFP requirements. For example, reductions that were required to be achieved by SIP or other requirements, but which were not achieved in practice prior to the baseline year, should not be credited toward meeting the new RFP reductions required after the baseline year. Only new measures submitted with the new SIP revision may be credited for this purpose.

Response: The EPA believes that, with certain exceptions (see CAA section 182(b)(1)(C) and (D)), any reductions that occur after 2002 are creditable towards RFP and attainment and that it should not matter when the State initially adopted or EPA promulgated the measures that produce those reductions. The CAA does not mandate the approaches advocated in the comments. While the comments cite phrases in the CAA that might be read to support the approach advocated in the comments, EPA believes such an interpretation is at odds with other provisions of the CAA. In addition to the restriction imposed by section 182(b)(1)(D) on crediting certain measures, section 182(b)(1)(C) places only two restrictions on creditability of reductions towards RFP: first, reductions are creditable if they result from measures in the applicable implementation plan, i.e., the approved

[43] For example, if an area had VOC emissions in 2001 of 100 tons per day, and a source reduces emissions by 10 tons per day in 2002, the baseline emissions will be 90 tons per day. Thus, the area will need to achieve 13.5 tons per day reduction to meet its 15 percent requirement, rather than 15 tons per day. However, the area cannot take credit in the 15 percent plan for the 10 tons per day of emissions that are not part of the baseline inventory.

SIP or from rules promulgated by EPA, or from the applicable requirements [44] that are incorporated into a title V permit; and secondly, only those reductions that have actually occurred after the baseline year and before the milestone date may be credited towards a RFP milestone. The requirement that the reductions result from measures in the applicable implementation plan or EPA regulations, or applicable requirements contained in a title V operating permit imposes no restriction that such measures must be enacted after the date of designation or after the baseline year. This restriction only requires that the measure approved into the SIP be a rule promulgated by EPA or be an applicable requirement included in a title V permit issued before or concurrently with approval of the RFP SIP revisions, and that the reductions occur after the baseline year and before the milestone date.

While this provision limits EPA's discretion to allow credit towards the RFP requirement from any reduction that does not fit into any of the three aforementioned classes of measures, EPA does not see anything in the statute that mandates the adoption of the approach advocated in the comments. In fact, EPA believes the opposite is the case.

The same argument (i.e., that creditable RFP measures must be measures adopted/promulgated after designation or after the baseline year) could have been made for the various programs mandated by the 1990 CAA Amendments. These mandated measures included RACT requirements under section 182(b)(2), Stage II vapor recovery under section 182(b)(3), motor vehicle I/M under sections 182(b)(4) and 182(c)(3), RFG under section 211(k), and the Tier 1 motor vehicle standards under title II. The EPA believes the statute is plain that Congress envisioned that all of these would be adopted after 1990 and in most cases implemented before 1996 because the statute contains enforceable deadlines for submission of the requisite SIP revisions or promulgation of the EPA rules. In many cases, they contain required implementation dates before 1996. Congress clearly did not limit credit for RFP for any of these measures. In our proposed rulemaking, EPA specifically proposed allowing use of reductions resulting from any measure as long as the reductions meet the creditability criteria of section 182(b)(1)(C) for the very reason EPA concluded Congress did not intend to impose the sort of limit on creditability advocated in the comments for the 1-hour standard and for any revised standard.

In summary, the statute says that only four specific categories of emissions reductions are restricted. It does not refer to or include any post-1990 rules' emissions reductions as restricted and only speaks to creditability in terms of when the reductions occurred, not when the rules or measures were adopted. As explained in the proposal and the preceding paragraphs, Congress had reason to limit creditability of pre-1990 rules, mandated many post-90 rules and allowed these rules to be credited towards post-90 RFP, and nothing in the statute leads us to believe that Congress would not have wanted them to also be creditable to post-2002 RFP. The EPA believes it is appropriate to allow credit toward RFP for emissions reductions other than reductions from the four categories specified in the CAA pursuant to section 182(b)(1)(D). Language that was once pertinent to the schedule of the 1990 CAA Amendments should be reinterpreted now to mean emissions reductions are creditable toward emissions reductions requirements to the extent they actually occur during the relevant ROP period and after the baseline year.

7. For areas covered only by subpart 1, how should the RFP requirement be structured?

[Section VI.I.8. of June 2, 2003 proposed rule (68 FR 32834); § 51.910(b) of the draft and final regulatory text.]

a. Background

The proposal noted that the RFP requirement under subpart 1 is more general than that under subpart 2, and EPA thus has more flexibility in determining what RFP means under subpart 1. For instance, the State may rely on emissions reductions of VOC or NO_X, or a combination of both to meet its RFP requirement whereas subpart 2 limits the initial 15 percent to VOC emissions reductions. However, we acknowledged the concern about treating in a similar manner areas under subpart 1 that have an ozone problem similar to areas covered under subpart 2.

We proposed scenarios for three types of subpart 1 areas: (a) Areas with attainment dates 3 years or less after designation, (b) Areas with attainment dates between 3 to 6 years after designation, and (c) Areas with attainment dates beyond 6 years after attainment.

- *Areas with attainment dates 3 years or less after designation.*

We proposed these areas would be treated similar to areas under subpart 2 that are classified as marginal, which do not have an RFP requirement. We proposed such an area would not be subject to a separate RFP requirement, but RFP would be met by demonstrating the area could attain the standard by its attainment date.

- *Areas with attainment dates between 3 to 6 years after designation.*

These areas would have attainment dates similar to subpart 2 areas classified as moderate. We proposed two options for these areas:

- *Option 1.* This option would require the RFP plan to be submitted with the attainment demonstration within 3 years after designation of the nonattainment area and RFP would be met by a SIP that provides for attainment as expeditiously as practicable. Where areas have only 3 years after SIP submission before attainment, this option recognizes that there may be only a short amount of time available to achieve any specified emissions reductions to meet RFP. The draft regulatory text incorporated this option.
- *Option 2.* This option would require these areas to be treated in a manner similar to subpart 2 areas classified as moderate. The RFP SIP would have to provide for a 15 percent emission reduction from the baseline year within 6 years after the baseline year. The RFP SIP would have to be submitted within 2 years after designation. However, since the area is subject only to subpart 1, VOC or NO_X emissions reductions could be relied on to meet the 15 percent reduction requirement, consistent with EPA's NO_X substitution policy.[45] Also, we solicited comment on whether a percentage other than 15 percent should be required as the minimum. Additional measures that would provide the remaining portion of the emissions reductions needed for attainment would have to be submitted with the area's attainment demonstration within 3 years after designation.

- *Areas with attainment dates beyond 6 years after designation.*

These areas would have attainment dates similar to areas classified under subpart 2 as serious or higher. We proposed that the RFP plan show increments of progress from the baseline emissions inventory year out to the attainment date. The RFP SIP would

[44] Applicable requirements are federally-enforceable requirements under the CAA that are created elsewhere but incorporated into a title V permit. See the definition of ''Applicable requirement'' in 40 CFR 70.2 and 71.2.

[45] NO_X Substitution Guidance. December 15, 1993 (available at *http://www.epa.gov/ttn/oarpg/t1pgm.html).*

first have to provide for a 15 percent emission reduction from the baseline year within 6 years after the baseline year. The 15 percent RFP SIP would have to be submitted within 2 years after designation. However, since the area is subject only to subpart 1, NO_X emissions reductions could be substituted for some or all of the 15 percent reduction requirement, consistent with EPA's NO_X substitution policy. Also, we solicited comment on whether a percentage other than 15 percent would be more appropriate. For each subsequent 3-year period out to the attainment date, another RFP SIP would have to provide for an additional increment of progress no less than the amount of emissions reductions that would be proportional to the time between the end of the first increment to the attainment date. This second RFP SIP would have to be submitted at the same time as the attainment demonstration, namely within 3 years after designation.

b. Summary of Final Rule

We are finalizing rules for two, rather than three, categories of areas based on the CAA's division of attainment dates for subpart 1 areas under section 172(a)(2). This provision requires that subpart 1 areas must attain as expeditiously as practicable but no later than 5 years after designation as a nonattainment area. It also allows the Administrator to extend the attainment date beyond that 5 year period ''* * * for a period no greater than 10 years from the date of designation as nonattainment, considering the severity of nonattainment and the availability and feasibility of pollution control measures.'' The two scenarios for RFP for subpart 1 areas are based on whether the area does or does not receive an extended attainment date. The following are the two scenarios and the RFP requirements for each:

Scenario A: Areas with attainment dates 5 years or less after designation (i.e., on or before June 15, 2009 for areas designated June 15, 2004).

As noted elsewhere in this preamble, for areas classified under subpart 1, emissions reductions needed for attainment must occur by the beginning of the ozone season preceding the attainment date. Thus, to enable a SIP to demonstrate attainment by June 15, 2009, the area must achieve all necessary reductions by the beginning of the 2008 ozone season. The final rule provides that RFP for these areas would be met by ensuring emissions reductions needed for attainment are implemented as noted above by the beginning of the ozone season prior to the attainment date.

Scenario B: Areas with attainment dates more than 5 years after designation (i.e., beyond June 15, 2009 for those areas designated June 15, 2004). For these areas:

- The RFP plan must show increments of progress from the baseline emissions inventory year out to the attainment date.
- The RFP SIP would first have to provide for a 15 percent emission reduction from the baseline year through the 6th year after the baseline year (e.g., from January 1, 2003 through December 31, 2008).
- The 15 percent RFP SIP must be submitted within 3 years after designation (e.g., by June 15, 2007).
- However, since the area is subject only to subpart 1, NO_X or VOC emissions reductions (or both) could be used to achieve the 15 percent emission reduction requirement.
- For each subsequent 3-year period out to the attainment date, the RFP SIP would have to provide for an additional increment of progress. The increment for each 3-year period would be a portion of the remaining emission reductions needed for attainment beyond those reductions achieved for the first increment of progress (e.g., beyond 2008 for areas designated nonattainment in June 2004). Specifically, the amount of reductions needed for attainment should be divided by the number of years needed for attainment after the first increment of progress in order to establish an ''annual increment.'' For each 3-year period out to the attainment date, the area must achieve roughly the portion of reductions equivalent to three annual increments.[46] This second RFP SIP must also be submitted within 3 years after the effective date of designation (i.e., by June 15, 2007).

While the adopted rule is not identical to any of the proposed options, we believe it is a logical outgrowth of our three proposed scenarios. The adopted approach is more stringent than certain of the proposed options and less stringent than others. Since this final decision incorporates elements of the three proposed scenarios, we believe it is similar in result to the three scenarios proposed.

c. Comments and Responses

Comment: One commenter stated that EPA has no authority to adopt ''Option 1'' for areas with attainment dates between 3 and 6 years after designation, because that option would waive any showing of RFP.

Response: The EPA acknowledges that Congress prescribed specific RFP requirements under subpart 2, but for subpart 1 provided more flexibility.

Our rule does not eliminate RFP obligations for subpart 1 areas. We are not requiring any specific percent reduction for subpart 1 areas with near-term attainment dates. The measures that bring about near-term attainment represent all the reductions that are reasonable to require as annual incremental progress towards attainment. The EPA is not compelled to require a 15 percent emission reduction for all subpart 1 areas, especially in those cases where a full 15 percent is not needed in order to reach attainment. However, we believe that it is generally appropriate to require the full 15 percent for areas with long-term attainment dates to ensure interim progress towards attainment.

Comment: Some commenters supported the proposal that ties the required RFP showing to the attainment date. Specifically, these commenters supported the proposal that areas with attainment dates of 3 years or less should have no separate RFP requirement, consistent with the requirement applicable to marginal areas under subpart 2. In addition, support was shown for Option 1 for subpart 1 areas with an attainment date between 3 and 6 years following designations. Under Option 1, areas

[46] For example, if the area's attainment date is 2014, and a total of 30 percent reduction is needed between the end of 2008 and the attainment date (a 6-year period) to reach attainment, the ''annual increment'' would be 5 percent (i.e., 1/6 of 30 percent). Thus, the area must achieve roughly the portion of reductions equivalent to 15 percent (3 × 5 percent) during the first 3 years (2009, 2010, 2011), and the remaining amount over the next 3 years (2012, 2013, 2014). By using the word ''roughly'' in the regulatory text, EPA does not intend that States would be able to delay substantial emission reductions from one 3-year period to the next. Rather, EPA intends this modifier to allow small deviations from the amount of emission reductions that would be needed to meet a 3-year RFP requirement. For example, assume that the ''annual increment'' of reductions needed for an area to reach attainment (after the initial 6-year RFP obligation) is 5 tons per day and that the area has 6 additional years until attainment. Thus, for each of the two 3-year periods until attainment, the area would need ''roughly'' 15 tons per day, so long as the total for both periods is equivalent to or greater than 30 tons per day (i.e., the total reductions needed for attainment). Assuming the area could achieve 14 tons per day during the first 3-year period, and achieve the remaining 16 tons per day during the second 3-year period, we believe this would be consistent with achieving ''roughly the portion of reductions equivalent to three annual increments.'' We do not believe, however, that use of the word roughly allows States to delay substantial emission reductions. Thus, in the example above, it would not be appropriate for the State to delay reductions of several tons per day until the second 3-year period.

would have to show an adequate rate of reduction in order to achieve attainment by the deadline, but there would be no specific percentage reduction required.

Response: We acknowledge the support of these comments.

Comment: Another commenter believed that a 15 percent emissions reductions requirement should only be required where such reductions would meaningfully advance the date of attainment. The RFP requirement in subpart 1 requires that the SIP provide for ''reasonable further progress,'' and where emissions reductions would not create ''reasonable further progress'' either in the area itself or in downwind areas, there is no basis under subpart 1 to require such specific emissions reductions. They further said that requiring a potentially expensive reduction in emissions in those cases where that reduction would not improve air quality was not justified based on a notion of ''equity'' with similar areas classified under subpart 2 and noted that such an interpretation was not required by the statute or sensible. That some subpart 2 areas might have to reduce emissions by a specified percentage even where such reductions would yield no positive environmental benefits is an unfortunate result of the Congress' decision to limit EPA's discretion under subpart 2—which in turn is a result of a far less sophisticated understanding of the dynamics of ozone creation in 1990 than exists now—and where EPA has the discretion not to dictate an ineffective and inefficient result, it must exercise that discretion.

Response: We addressed in general those comments that recommended alternatives to the mandatory measures of subpart 2 (which includes the RFP requirement) in the response to comments above under the topic, ''Should prescribed requirements of subpart 2 apply in all 8-hour nonattainment areas classified under subpart 2, or is there flexibility in application in certain narrowly-defined circumstances?'' We conclude in that section that EPA has no discretion to broadly waive mandatory requirements. However, we noted that case law may provide support for case-by-case waivers where implementation of a measure would produce an absurd result.

8. Where Part of an 8-hour Nonattainment Area Was a 1-hour Nonattainment Area With a ROP Obligation Extending Past 2002, Can Emissions Reductions From the Area's 1-hour ROP Plan Be Used as Credit Toward Meeting the Area's 8-hour RFP Plan?

[Section VI.I.9. of June 2, 2003 proposed rule (68 FR 32835); no draft or final regulatory text.]

a. Background

We proposed the following approach to address this issue. Where an area has both 1-hour and 8-hour RFP obligations for the post-2002 period, the State may rely on emissions reductions from the 1-hour plan in achieving RFP for the 8-hour standard. The State could develop a new baseline and new RFP emission reduction targets for the entire 8-hour standard nonattainment area (i.e., the old 1-hour standard nonattainment area and any newly added portion of the 8-hour standard nonattainment area). Emissions reductions from measures in the 1-hour ozone SIP that are achieved after the 8-hour ozone NAAQS baseline year could count (subject to creditability restrictions as discussed above) toward meeting the RFP requirement for the entire 8-hour area.

This approach would set a RFP target for the entire 8-hour ozone nonattainment area. Under this approach, the new RFP target for the 8-hour standard would replace the previous 1-hour ROP target (while ensuring that, at a minimum, the emissions reductions required to meet the old target are met; see 40 CFR 51.905(a)(1)(iii)).

b. Summary of Final Rule

We are adopting the approach from the proposal.

c. Comments and Responses

Comment: One commenter agreed with the approach outlined in the proposal but cautioned that the States would have to ensure that the target is at least as stringent as the 1-hour ROP target, thus ensuring no backsliding on the 1-hour NAAQS requirements. Under this approach, the State would have to develop a new baseline and new RFP emission reduction targets for the entire 8-hour standard nonattainment area. Emissions reductions from measures in the 1-hour ozone SIP that are achieved after the 8-hour ozone NAAQS baseline year could count (subject to credibility restrictions as discussed in the proposed rulemaking) toward meeting the RFP requirement for the entire 8-hour area. The new RFP target for the 8-hour standard would replace the previous 1-hour ozone target (while ensuring that, at a minimum, the emissions reductions required to meet the old target are met).

Response: We agree with the commenter that the emission reduction targets under the 8-hour standard must be at least as stringent as the 1-hour targets. Section IV.E.3. of this preamble discusses the requirements for RFP for several situations relative to the area's former obligations under the 1-hour standard and the current obligations under the 8-hour standard. The obligations of an area under the anti-backsliding provisions of 40 CFR 51.905(a)(1)(iii) would still apply, meaning that emissions reductions under the 1-hour ROP requirements would still be required as if the 1-hour standard had never been revoked. Therefore, the new 8-hour emission target for the 8-hour area would be logically at least as stringent as under the 1-hour area for a given time period.

9. Will EPA's ''Clean Data Policy'' Apply for Purposes of 8-hour RFP, Attainment Demonstrations and Other Related Requirements?

[Section VI.I.10 of June 2, 2003 proposed rule (68 FR 32835); no draft regulatory text; section 51.918 of final rule.]

a. Background

As noted in the proposal, we issued a policy on May 10, 1995, which allows EPA to determine that an area has attained the standard and that certain planning requirements (e.g., RFP and attainment demonstrations) will not apply so long as the area remains in attainment.[47] This is referred to as the ''Clean Data Policy.'' We proposed that this policy would remain effective for purposes of areas that EPA determines have attained the 8-hour ozone NAAQS.

b. Summary of Final Rule

In the proposed rule, we indicated that the Clean Data Policy, which we had applied under the 1-hour standard, should apply for purposes of the 8-hour standard. We are adopting this approach. In this action EPA is finalizing the statutory interpretation that is embodied in the policy. The text of the final rule encapsulates the statutory interpretation set forth in the policy. Determinations as to whether individual areas have attained the 8-

[47] Memorandum of May 10, 1995, ''RFP, Attainment Demonstration, and Related Requirements for Ozone Nonattainment Areas Meeting the Ozone National Ambient Air Quality Standard,'' from John S. Seitz, Director, Office of Air Quality Planning and Standards. Available at: *http://www.epa.gov/ttn/oarpg/t1/memoranda/clean15.pdf.*

hour standard and thus qualify for application of the policy will be made in the context of rulemakings for those individual areas.

The EPA has applied the Clean Data Policy in rulemakings under the 1-hour ozone standard to both subpart 1 areas, e.g., San Francisco Bay Area (69 FR 21717; April 22, 2004) and subpart 2 areas, e.g., St. Louis, Missouri (68 FR 25418; May 12, 2003). The EPA will also apply the policy to both subpart 1 and subpart 2 areas under the 8-hour standard.

c. Comments and Responses

Comment: One commenter stated that EPA's ''Clean Data Policy'' is unlawful with respect to both the 1-hour and 8-hour NAAQS. A commenter argued that EPA also has no authority to waive the attainment demonstration and RFP plans mandated by subpart 2 on the pretext that an area has clean data. The CAA unambiguously requires these plans for any area designated nonattainment for the pollutant ozone, and gives EPA no power whatsoever to waive such plan requirements.

Several other commenters supported the continued use of the ''Clean Data Policy.''

Response: The EPA believes that the Clean Data Policy comports with the provisions of the CAA in regard to attainment demonstrations, ROP plans, RACM, contingency measures and other related requirements. The Clean Data Policy, issued on May 10, 1995, sets forth EPA's interpretation that where EPA has determined that an area has attained the standard, certain SIP requirements are suspended (e.g., RFP) for so long as the area remains in attainment.

As set forth in its May 10, 1995 policy, EPA believes it is reasonable to interpret the provisions regarding RFP and attainment demonstrations, along with certain other related provisions, as not requiring further submissions to achieve attainment for so long as the area is in fact attaining the standard. Under the policy, EPA is not granting an exemption from any applicable requirements under part D. Rather, EPA has interpreted these requirements of subparts 1 and 2 as not applying for so long as the area remains in attainment with the standard. This is not a waiver of requirements that by their terms apply; it is a determination that certain requirements are written so as to be operative only if the area is not attaining the standard.

The EPA has explained in other rulemaking actions on the 1-hour ozone standard its rationale for the reasonableness of this interpretation of the CAA and incorporates these explanations by reference. See, for example, 67 FR 49600 (July 31, 2002); 65 FR 37879 (June 19, 2000) (Cincinnati-Hamilton, Ohio-Kentucky); 61 FR 20458 (May 7, 1996) (Cleveland-Akron-Lorain, Ohio); 66 FR 53094 (October 19, 2001) (Pittsburgh-Beaver Valley, Pennsylvania); 60 FR 37366 (July 20, 1995); 61 FR 31832–33 (June 21, 1996) (Grand Rapids, MI); 60 FR 36723 (July 18, 1995) (Salt Lake and Davis Counties, Utah); 68 FR 25418 (May 12, 2003) (St. Louis, Missouri); 69 FR 21717 (April 22, 2004) (San Francisco Bay Area). The EPA has also set forth its legal rationale for the Clean Data Policy in briefs filed in the 10th, 7th, and 9th Circuits, and hereby incorporates those briefs insofar as relevant here. See *Sierra Club* v. *EPA,* No. 95–9541 (10th Cir.), *Sierra Club* v. *EPA,* No. 03–2839, 03–3329 (7th Cir.), *Our Children's Earth Foundation* v. *EPA,* No. 04–73032 (9th Circuit).

As stated in the policy, the attainment demonstration, RFP requirements and contingency measure requirement are designed to bring an area into attainment. Once this goal has been achieved, it is appropriate to suspend the obligation that States submit plans to meet these goals, so long as the area continues to attain the relevant standard.

The Tenth, Seventh and Ninth Circuits have upheld EPA rulemakings applying the Clean Data Policy. See *Sierra Club* v. *EPA,* 99 F. 3d 1551 (10th Circuit, 1996), *Sierra Club* v. *EPA,* 375 F. 3d 537 (7th Circuit, 2004) and *Our Children's Earth Foundation* v. *EPA,* No. 04–73032 (9th Circuit, June 28, 2005) memorandum opinion.

Comment: A commenter said that although subpart 2 contains some narrowly crafted exceptions [e.g., CAA 182(b)(1)(A)(ii)], there are no exceptions based on clean data. In the past, EPA has cited a Tenth Circuit decision, *Sierra Club* v. *EPA,* 99 F. 3d 1551 (10th Circuit, 1996), as supporting the Clean Data Policy. The commenter contended that case was wrongly decided and has been superseded by the Supreme Court decision in *Whitman* v. *American Trucking Assoc., Inc.,* 531 U.S. 457 (2001). There, the Court held that subpart 2 eliminates regulatory discretion previously allowed to EPA under subpart 1, and noted that subpart 2 prescribes large parts of nonattainment programs, for example, section 182. The requirements for RFP and attainment demonstrations are among those subpart 2 nonattainment programs that Congress prescribed by law, thereby eliminating EPA discretion to accept something less. See also *Sierra Club* v. *EPA,* 293 F. 3d 155 (D.C. Circuit, 2002) (holding that EPA is without authority to infer exceptions to attainment deadlines and to explicit subpart 2 requirements for RFP plans).

Response: The EPA believes that the Tenth Circuit correctly decided *Sierra Club* v. *EPA* and that the comments misconstrue both *Whitman* and *Sierra Club* v. *EPA,* 293 F. 3d 155 (D.C. Circuit, 2002) (Sierra Club 2002). The *Sierra Club 2002* case addressed the statutory requirements applicable to an area not attaining the standard. The issue of the requirements of part D of title I of the CAA that must continue to be met by areas that EPA has determined are monitoring attainment of the standard was not before the court. As discussed below, the *Sierra Club 2002* decision upheld EPA's determination that the RACM provision under section 172(c)(1) requires only additional measures that could contribute to RFP or attainment, which is an element of EPA's application of the Clean Data Policy. To this limited extent, *Sierra Club 2002* is relevant to EPA's interpretation that the policy will apply for the 8-hour ozone standard, and the decision supports EPA's interpretation. However, the other issues addressed in the decision (extension of the statutory attainment date for areas affected by ozone transport, the content of a demonstration of RFP toward attainment, and whether contingency measures must be submitted as part of an attainment demonstration or plan for RFP) did not relate to the Clean Data Policy or how the subpart 2 requirements apply to areas attaining the standard.

The issue addressed by the Clean Data Policy is whether an area that has attained the standard (as evinced by air quality monitoring data) still needs to submit a demonstration of how the area will achieve enough reductions to demonstrate that it will ''attain the NAAQS,'' a plan to obtain reasonable periodic reductions towards the goal of attainment and other related requirements.

The EPA continues to believe that the statutory requirement for an attainment demonstration—a SIP revision which identifies the level of future reductions needed to achieve the NAAQS and any additional adopted measures needed to achieve these future reductions—is written so as to be inapplicable once the NAAQS is attained.

In addition, EPA believes that the RACM requirements are a ''component'' of an area's attainment demonstration under section 172(c)(1). General Preamble 57 FR 13560; April 16, 1992. Thus, since for the same reason the attainment demonstration no longer

applies by its own terms, RACM also no longer applies. The EPA has consistently interpreted this provision to require only implementation of potential RACM measures that could contribute to reasonable further progress or to attainment. General Preamble 57 FR 13498; April 16, 1992. Thus, where an area is already attaining the standard, no additional RACM measures are required.[48]

Likewise, EPA concludes that the provision for RFP—a plan for annual incremental reductions leading to attainment—is also expressed in terms that show that RFP is unnecessary in areas attaining the standard. For areas in attainment, there is no longer a need to plan for measures to meet that goal. Similarly, EPA continues to believe that the contingency measure requirements of section 172(c)(9) no longer apply in an area that is attaining the standard since those ''contingency measures are directed at ensuring RFP and attainment by the applicable date.'' (See 57 FR 13564; April 16, 1992). The section 182(c)(9) contingency measure requirement also no longer applies once an area has attained the standard.

Section 172(c)(2) of the CAA and the related provisions of subpart 2 provide that RFP is required only where an area continues to violate the standard. By definition, the ''reasonable further progress'' provision requires only such reductions in emissions as are necessary to attain the NAAQS by the attainment date. If an area has attained the standard, the stated purpose of the RFP provision has been fulfilled. Also, section 172(c)(1) and the related provisions of subpart 2 require SIPS to provide for attainment of the NAAQS. (See also section 182(b)(1)(A)(i) which requires that SIPS for moderate ozone nonattainment areas must ''provide for such specific annual reductions in emissions of [VOCs] and [NO_X] as necessary to attain the [ozone NAAQS]'' by the applicable attainment date). When an area has attained the NAAQS, there is no need for a plan demonstrating how it will reach attainment, and thus the attainment demonstration provision no longer applies. Similarly section 172(c)(9) and the related provisions of subpart 2 provide that SIPs in nonattainment areas shall provide for contingency measures to be undertaken if the area fails to make RFP or to attain the NAAQS by the applicable attainment date. Since contingency measures are required only if RFP or attainment is not achieved, there is no need for them where the area has attained the standard. The language of these statutory provisions indicates that when an area has attained the standard these requirements no longer apply as the purpose of these provisions—attainment—has been accomplished.

The EPA believes that *Whitman* does not provide a basis to reconsider our position on the Clean Data Policy. In *Whitman,* the Court was addressing EPA's stated approach that subpart 2 did not apply for purposes of implementing the 8-hour NAAQS. In the Phase 1 rule, EPA addressed the Court's decision and concluded that subpart 2 does apply. The issue here is not whether it applies, but how those requirements apply under a specific situation where an area has attained the NAAQS. That issue was not addressed by the Court in *Whitman.* The decision in *Whitman* has no bearing on the question of whether an area that has demonstrated attainment must nonetheless submit an attainment demonstration plan and related requirements. Thus, *Whitman* does not undermine the Tenth Circuit's reasoning in *Sierra Club* v. *EPA,* 99 F. 3d 1551 (10th Circuit, 1996). See also the post-*Whitman* decisions in *Sierra Club* v. *EPA,* 375 F. 3d 537 (7th Circuit, 2004), and *Our Children's Earth Foundation* v. *EPA,* No. 04–73032, memorandum opinion (9th Circuit, June 28, 2005) rejecting challenges to the Clean Data Policy and upholding redesignation actions based on the policy.

10. How will RFP be addressed in Tribal areas?

[Section VI.I.11. of June 2, 2003 proposed rule (68 FR 32835); no draft or final regulatory text.]

a. Background

The TAR provides flexibility for Tribes in the preparation of a TIP to address the NAAQS. As mentioned in the proposed rulemaking, the TAR provides the Tribes with the ability to develop TIPs to address and implement the NAAQS in Indian country. It further provides the Tribes with flexibility to develop these plans in a modular way, as long as the elements of their TIPs are reasonably ''severable.'' For example, each TIP submission must include a demonstration that the Tribe has authority to develop and run its program, the ability to enforce its rules, and the capacity and resources to implement the program it adopts. Therefore, it may include one or two source-specific requirements but may not include provisions for RFP and other SIP requirements. The proposal noted that these TIPs can be an important step in addressing an overall air quality plan to achieve health and environmental goals on Tribal lands. Where a Tribe chooses not to address a specific planning element, EPA may be obligated to step in. Such action would not preclude a Tribe from addressing those elements at a later time.

b. Summary of Policy

We intend to take the approach noted in the proposal. There is no regulatory text for this intention.

c. Comments and Responses

No comments were received on this portion of the proposal.

11. How will RFP targets be calculated?

[Section VI.I.12. of June 2, 2003 proposed rule (68 FR 32836); § 51.910(c) of the draft and final regulatory text.]

a. Background

We proposed a methodology for the calculation of RFP target levels of emissions that is based on the method we developed for the 1-hour standard, while taking into account our interpretation of CAA restrictions on creditable emissions and our proposal to use the 2002 inventory as the baseline inventory for the RFP requirement. The CAA specifies four types of measures that were not creditable toward the 15 percent RFP requirement. These are:

(1) Any measure relating to motor vehicle exhaust or evaporative emissions promulgated by the Administrator by January 1, 1990.

(2) Regulations concerning Reid Vapor Pressure (RVP) promulgated after 1990 or required under section 211(h).

(3) Measures required under section 182(a)(2)(A) to correct deficiencies in SIPs regarding VOC RACT regulations required prior to enactment of the CAA Amendments of 1990.

(4) State regulations submitted to correct deficiencies in I/M existing or required programs.

These four types of measures were all expected to result in a decrease in emissions between 1990 and 1996. Of these four types of measures, RACT and I/M program corrections and the 1992 RVP requirements were completely in place by 1996 and therefore are already accounted for in the 2002 baseline. As a result, they would produce no additional reductions between 2002 and 2008 or later milestone years.

[48] [The EPA's interpretation that the statute requires only implementation of RACM measures that would advance attainment was upheld by the United States Court of Appeals for the Fifth Circuit (*Sierra Club* v. *EPA,* 314 F. 3d 735, 743–745, 5th Cir. 2002) and by the United States Court of Appeals for the D.C. Circuit (*Sierra Club* v. *EPA,* 294 F. 3d 155, 162–163, D.C. Cir. 2002). See also the final rulemakings for Pittsburgh-Beaver Valley, Pennsylvania, 66 FR 53096 (October 19, 2001) and St. Louis, 68 FR 25418 (May 12, 2003).]

However, the pre-1990 Federal Motor Vehicle Control Program (FMVCP) will continue to provide additional benefits during the first two decades of the 21st century as remaining vehicles meeting pre-1990 standards are removed from the vehicle fleet. Because these benefits are not creditable for RFP purposes, in order to calculate the target level of emissions for future RFP milestone years (i.e., 2008, 2011, etc.), States must first calculate the reductions that would occur over these future years as a result of the pre-1990 FMVCP. We proposed three methods to properly account for the non-creditable reductions when calculating RFP targets for the 2008 and later RFP milestone years.

b. Summary of Final Rule

The calculation methods have been revised slightly from those in the proposal. The revisions now account for NO_X reductions and take account of other mobile emissions models other than the MOBILE model. The methods appear as appendix A to this preamble. These methods are consistent with the requirements of sections 182(b)(1)(C) and (D) and 182(c)(2)(B) of the CAA.

c. Comments and Responses

Comment: One commenter agreed that the base emission level should be decreased by reductions that occur from the pre-1990 FMVCP standards (1990 I/M program and fuel RVP of 9.0 or 7.8 psi). However, the commenter further recommended that the reductions from pre-1990 FMVCP standards be calculated using the I/M program and fuel properties in effect during the new baseline year of 2002.

The commenter claimed an advantage of the recommended change is that it removes from the non-creditable reductions from the pre-1990 FMVCP standards, creditable reductions from controls implemented prior to 2003 (such as improvements to the I/M program or cleaner gasoline).

The commenter claimed that the EPA proposal specifies using the MOBILE6 command NO CAA in the calculation of the non-creditable emissions reductions. The commenter concurred that this command could be used, but recognized that some of the controls in effect during 2002 cannot be modeled with this command. (Refer to technical specifics of this comment in the response to comment document).

Response: The EPA does not agree with the commenter that the non-creditable pre-1990 FMVCP reductions should be calculated using the I/M program and fuel properties in effect during the new baseline year of 2002. Including the I/M program and fuel properties in effect in 2002 in the calculation of non-creditable reductions would not accurately account for reductions that are the result of pre-1990 Federal motor vehicle control measures. The EPA believes that the methods provided in the final rule accurately identify the non-creditable reductions from pre-1990 motor vehicle standards and provide appropriate credit for all post-1990 control measures.

12. Should EPA continue the policy of allowing substitution of controls from outside the nonattainment area within 100 kilometers for VOC and 200 kilometers for NO_X?

[Section VI.I.2. of June 2, 2003 proposed rule (68 FR 32833); no draft or final regulatory text.]

a. Background

The proposal noted [68 FR 32833] that EPA currently has a policy that allows States to take credit for RFP for NO_X and VOC controls that occur outside the nonattainment areas [''Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM_{10} NAAQS, December 29, 1997'']. Specifically, the guidance allows credit for VOC reductions occurring up to 100 km outside the area and for NO_X reductions occurring up to 200 km outside the area (statewide where a regional NO_X control strategy is being implemented). The policy indicates that credit may be taken only for emissions reductions from measures not otherwise mandated by the CAA. As explained in the policy, EPA believes that this additional flexibility for crediting reductions outside nonattainment areas is consistent with the CAA. We noted in the proposed policy that reductions from outside a nonattainment area within the geographic limits contribute to progress toward attainment within the area (61 FR 65758).

Under this approach, the geographic area for substitution of VOC emissions reductions is 100 km from the nonattainment area and the geographic area for substitution of NO_X reductions is 200 km from the nonattainment area with the possibility for additional expansion of the NO_X substitution area as follows. Nitrogen oxides emissions reductions from anywhere within the State may be credited for those States that participate in a regional NO_X control strategy such as the NO_X SIP Call. All other States implementing a NO_X substitution strategy for RFP would be restricted to a distance of 200 km from the nonattainment area, unless a substitution for a greater distance is accompanied by adequate technical justification. Substitutions are restricted to intrastate areas unless two or more States involved reach mutual agreement. The EPA notes that in all cases the distances in the policy provide only a general policy presumption that, if used, would need data resources in the record showing that reductions from sources in the specific locations in attainment areas benefit the nonattainment area. *See LEAN* v. *EPA,* 382 F. 3d 575 5th Circuit, 2004.

b. Summary of Final Rule

States may continue to rely on emissions reductions from outside the nonattainment area for credit toward their RFP obligations.[49] In doing so, States should ensure that the reductions meet the standard tests of creditability (permanent, enforceable, surplus, and quantifiable) and are shown to be beneficial toward reducing ozone in the nonattainment area.

c. Comments and Responses

Comment: Several commenters supported this feature of EPA's proposal regarding RFP because it allows the States flexibility to tailor control strategies to address the issues specific to a particular nonattainment area.

The commenters supported codification (68 FR 32833, column 1) in the final rule of the December 29, 1997 guidance memo (''Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM_{10} NAAQS'') that allows emissions reductions from outside the nonattainment area to be creditable toward RFP. One commenter agreed that States ought to be able to account for regional emissions in their attainment demonstrations. On the other hand, the commenter was concerned that the Agency might allow jurisdictions to ''credit'' emissions reductions from sources up to 100 km for VOC and 200 km for NO_X toward 15 percent RFP plans, and this in turn could encourage jurisdictions in need of these tonnage

[49] Last September, the EPA Office of Inspector General submitted a report (outside the rulemaking process) outlining concerns and recommendations with respect to the potential for double counting of emissions reductions and problematic equity issues. U.S. EPA Office of the Inspector General. In responding to that report, we indicated that we would consider the various recommendations as we assess existing policies and guidance in parallel to the rulemaking for implementing the 8-hour ozone standard. [*Evaluation Report: EPA and States Not Making Sufficient Progress in Reducing Ozone Precursor Emissions In Some Major Metropolitan Areas.* Report No. 2004–P–00033. September 29, 2004.] [Memorandum from Jeffrey R. Holmstead to J. Rick Beusse, ''Response to the Office of the Inspector General (OIG) Evaluation Report, *EPA and States Not Making Sufficient Progress in Reducing Ozone Precursor Emissions in Some Major Metropolitan Areas,*'' Report No. 2004–P–00033. December 29, 2004. March 25, 2005.]

reductions to regulate without a sound basis. The commenter contended that while ozone is known to be a ''regional pollutant,'' EPA has failed to establish in this rulemaking any technical basis for allowing States to impose regulations on sources outside the nonattainment area boundaries without independent justification of the impact of such sources on an area's failure to attain the standard.

Response: We developed our 1997 policy as a result of the modeling results relating to the NO_X SIP Call (*see,* for example, 63 FR 57355, October 27, 1998, and 69 FR 21604, April 21, 2004). These modeling analyses demonstrate that significant contribution to nonattainment resulted not only from source emissions within a nonattainment area but also from source emissions over a much broader area. Not only can these emissions from outside the nonattainment area affect air quality within the nonattainment area, in some cases it might be necessary to include and control emission sources located in the nearby areas in order to attain the standard. We believe it is appropriate to allow States to take credit for reductions from sources outside their nonattainment areas where data indicate that those emissions affect air quality in the nonattainment areas.

We note that section 182(c)(2)(C), which provides for the substitution of NO_X controls for VOC, speaks in terms of reductions of ozone concentrations rather than strictly reductions in emissions. This provision led us to conclude that Congress' intent for the ROP requirement is to lower ozone concentrations within the nonattainment area. It is consistent with that intent that emissions reductions from outside the nonattainment area that will reduce ozone concentrations in the nonattainment area should be creditable in RFP demonstrations. We also believe that the CAA is clear that both the 15 percent plan requirement of section 182(b)(1) and the 3 percent per year requirement of section 182(c)(2) are specific varieties of RFP requirements.[50] Section 171(1) of the CAA states that, for purposes of part D of title I, RFP ''means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable NAAQS by the applicable date.'' Thus, whether dealing with the general RFP requirement of section 172(c)(2), or the more specific RFP requirements of subpart 2 for classified ozone nonattainment areas (i.e., the 15 percent plan requirement of section 182(b)(1) and the 3 percent per year requirement of section 182(c)(2)), the purpose of RFP is to ensure attainment by the applicable attainment date. Emissions reductions strategies applied to sources outside the nonattainment area may help decrease ambient ozone levels within the designated area. Since RFP/ROP is progress towards attainment, specific, annual emissions reductions from geographic areas outside the nonattainment area boundaries that contribute to lower ambient ozone levels in the nonattainment area would fall within the scope of ''such annual incremental reductions in emissions of the relevant air pollutant as are required * * * for the purpose of ensuring attainment of the applicable NAAQS by the applicable date.''

Comment: One commenter requested clarification that if the 100 km/200 km area extends into adjacent States that reductions in those States should also be creditable, especially with regard to the implementation of Federal measures.

Response: We intend to look into this issue further in the future as part of the overall reassessment of the 100 km/200 km credit issue.

Comment: Another commenter expressed confusion by the provision to allow creditable reductions be made outside nonattainment areas. They asked if reductions made outside a nonattainment area actually bring that nonattainment area into compliance with the standard, then shouldn't those outside areas be designated nonattainment by definition? The commenter contended that this contradiction is unacceptable, and a fatal flaw of current designation efforts and this implementation proposal.

Response: The commenter appears to be commenting on the designation process as well as the implementation rule. To the extent that the commenter has concerns about the process EPA used for designating areas as nonattainment, those issues should have been raised prior to the time EPA promulgated designations in April 2004. The EPA is not taking any action in this rulemaking to establish the procedures for designating areas or to designate areas. In the designation process that was completed in April 2004, EPA provided guidance to areas regarding how to determine the boundaries of nonattainment areas in light of the statutory definition of ''nonattainment,'' which provides that an area will be designated nonattainment if it is either violating the NAAQS or is a ''nearby'' area that ''contributes to ambient air quality'' in an area that is violating the standard.[51] The CAA does not establish a hard-and-fast set of rules for determining ''nearby'' or ''contributes to,''—i.e., it does not specify a distance that is nearby or a specific level of emissions that is deemed to ''contribute to'' nonattainment. Nor did EPA establish a hard-and-fast set of rules; rather the guidance provided a broad set of factors for States and EPA to consider in determining the boundaries of each nonattainment area. Thus, it is not inconsistent with the statute that there are areas that were not designated nonattainment, but that have emissions that affect air quality in a nonattainment area.

Comments on Draft Regulatory Text

Comment: One commenter recommended that EPA state, either in the preamble to this rule or in the rule itself, that any VOC emissions reductions within 100 km and any NO_X emissions reductions within 200 km of the nonattainment boundary, including reductions in adjacent States, are creditable for RFP plan purposes. They also suggested that EPA provide that reductions from voluntary measures should be incorporated into the baseline emissions inventory calculation.

Another commenter stated that EPA does not specify in § 51.910(a)(4) that in areas where the 3 percent annual reduction is required, those reductions must be achieved within the statutorily defined baseline ''area.'' [CAA section 182(b)(1)(B)]. The commenter stated that we issued initial NO_X substitution guidance in 1993 that required RFP reductions to be achieved from sources within the designated nonattainment area. The commenter noted that subsequently, we attempted to unlawfully allow RFP reductions to be obtained from sources within the modeling domain. The commenter advocated that we clarify that the CAA requires creditable reductions to be obtained only from sources within the designated nonattainment areas.

Response: We believe that the policy does not need to be incorporated into a rule. Since areas must include record

[50] The EPA notes that paragraph (1) of subsection 182(b) is entitled ''Plan Provisions for Reasonable Further Progress'' and that subparagraph (B) of paragraph 182(c)(2) is entitled ''Reasonable Further Progress Demonstration,'' thereby making it clear that both the 15 percent plan requirement of section 182(b)(1) and the 3 percent per year requirement of section 182(c)(2) are specific varieties of RFP requirements.

[51] Memorandum from John Seitz, ''Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards (NAAQS or Standard).'' March 28, 2000. Found at: *http://www.epa.gov/ozonedesignations/guidance.htm.*

support for application of the policy in an area demonstrating that emissions from regulated sources affect ambient air quality in the specific nonattainment area, individual rulemaking in the context of an area's SIP must be conducted in any event to implement the policy. The EPA believes that any reductions that in fact result in improved air quality within the nonattainment area can be credited to RFP demonstrations. Voluntary emissions reductions that are used to satisfy RFP requirements—or any requirements under the CAA—must meet EPA's criteria for creditability of such reductions, particularly the inclusion in the baseline of the emissions from the sources that would be producing the voluntary reductions. As explained elsewhere in response to another comment on the policy of allowing substitution of controls from outside the nonattainment area within 100 km for VOC and 200 km for NO_X, EPA disagrees with the comment that the CAA limits the scope of creditable emissions reductions to only those reductions in emissions emanating from within the nonattainment area boundaries. We also address elsewhere the comment relating to allowance of RFP credit from emissions reductions outside the State in which the nonattainment area is located.

13. When must RFP emissions reductions be achieved?

[Section VI.I. of June 2, 2003 proposed rule (several locations starting at 68 FR 32832); several locations including § 51.910(a)(1) of the draft and final regulatory text.]

a. Background

Section 51.910(a)(1) of the draft regulatory text provided that for areas initially designated nonattainment for the 8-hour NAAQS, the initial 6-year period for RFP shall run from January 1, 2003 to December 31, 2008. Section 182(c)(2)(B), applicable to serious and above areas, requires that RFP be continued out to the attainment date. Therefore, § 51.910(a)(2) of the draft regulatory text provided, ''For each area classified as serious or higher under § 51.903, the State must submit no later than 3 years after the effective date of the area's nonattainment designation a SIP revision consistent with section 182(c)(2)(B) of the CAA for each 3 year period following the initial 6-year period addressed under paragraph (a)(1)(ii)(B) of this section until the area's attainment date. For areas initially designated nonattainment for the 8-hour NAAQS the 3-year periods referenced in section 182(c)(2)(B) of the Act shall begin January 1, 2009.''

In applying the requirement of section 182(c)(2)(B), it is necessary to know the attainment date for the area. The attainment date is not necessarily the maximum allowed under part D of the CAA, but must be ''as expeditious as practicable'' but no later than the maximum statutory date (e.g., 9 years after designation for a serious area). Thus, for purposes of determining the period for which RFP is needed, the State must have completed an attainment demonstration and RACM analysis (discussed elsewhere in this preamble) to demonstrate that the attainment date selected is as expeditious as practicable.

There are several other provisions that bear on the issue of when emissions reductions must be achieved for purposes of the RFP requirements. The Phase 1 Rule, § 51.900(g) sets forth the following definition: ''Attainment year ozone season shall mean the ozone season immediately preceding a nonattainment area's attainment date.'' Also, § 51.908 [52] (What is the required time frame for obtaining emission reductions to ensure attainment by the attainment date?) provides: ''For each nonattainment area, the State must provide for implementation of all control measures needed for attainment no later than the beginning of the attainment year ozone season.'' Thus, if the latest attainment date allowed by the CAA for a serious area designated in 2004 is June 15, 2013, the (complete) ozone season preceding that date would occur in 2012. However, if all of the reductions necessary to achieve attainment are in place prior to that ozone season, then the most expeditious attainment date would in fact be just after the end of that ozone season in 2012 (assuming the RACM analysis did not compel a more expeditious attainment year). Thus, in light of the Phase 1 rule, the latest possible attainment date for all areas will be just after the end of the ozone season in the year prior to the outside attainment date identified in the statute for the area's classification.[53]

Consistent with the manner in which ROP plans under the 1-hour ozone standard were developed, the RFP baseline for 2002 will have a typical summer day tons/day basis. As such, the attainment year target will also be a typical summer day target. Thus, the target level of emissions must be met by the attainment date of the attainment year.[54]

As noted above, section 182(c)(2)(B) requires that RFP be continued out to the attainment date. Thus, to some extent, the RFP requirement may help determine the attainment date. In the example discussed above of a serious area, the first milestone year after 2008 by which an annual average of 3 percent emissions reductions would have to be achieved over each 3-year period (i.e., 9 percent over 3 years) would be 2011, with an additional annual average of 3 percent per year between the end of 2011 and the attainment year (if the attainment year is beyond 2011). The maximum statutory attainment year under the discussion above would be 2013, but, for the reasons explained above concerning the date by which emissions reductions must be achieved, the actual maximum attainment year would generally be the year prior, viz., 2012. If for example this area needs an additional 7 percent emission reduction for attainment purposes beyond 2008, however, RFP would require implementation of the entire 7 percent no later than the end of 2011. Since that is the amount needed for attainment, the area would actually achieve attainment by 2011, and the attainment date would then have to be no later than 2011. If the area did not achieve this 7 percent reduction until the end of 2011, the RFP requirement in this case could not require the full 9 percent reduction. Thus, since RFP is only needed up to the attainment date, should the area achieve the 7 percent earlier in the year it would have achieved attainment and no further ROP would be required. Therefore, in this example, RFP would not require more reductions than needed for attainment. Furthermore, the RFP requirement by itself would not force an attainment year earlier than 2011 for this case (e.g., 2010—2 years after 2008), since the 7 percent reduction over 2 years is greater than an annual average of 3 percent, which is beyond that required by the RFP requirement. In summary, RFP reductions end at the attainment date, and as shown the RFP requirement would not result in emissions reductions greater than needed for attainment.

b. Summary of Final Rule

For each area classified as moderate or higher, the State's 15 percent VOC

[52] With this rulemaking, this provision is codified as 40 CFR 51.908(d).

[53] With the exception of areas with year-round ozone seasons, in which case the latest attainment date may be earlier in the year of the outside attainment date identified in the statute.

[54] Note that 40 CFR 51.900(g) defines ''Attainment year ozone season'' as the ozone season immediately preceding a nonattainment area's attainment date.

emission reduction plan must provide for the emissions reductions to be achieved by the end of the 6-year period after the baseline year. The 6-year period referenced in section 182(b)(1) of the CAA shall begin January 1 of the year following the year used for the baseline emissions inventory. For areas initially designated nonattainment for the 8-hour NAAQS, the 6-year period runs from January 1, 2003 to December 31, 2008.

For each area classified as serious or higher, the State's RFP plan must provide a 3 percent annual emission reduction requirement averaged over every 3-year period after the initial 6-year period. For areas initially designated nonattainment for the 8-hour NAAQS, the first 3-year period would run from January 1, 2009 to December 31, 2011. The final increment of progress must be achieved no later than the attainment date for the area.

To summarize, for areas designated nonattainment for the 8-hour NAAQS with an effective date of June 15, 2004, the rule would establish the following:

- The 6-year period in section 51.910(a)(1)(i)(A) and (ii)(C)(1) would run from January 1, 2003 to December 31, 2008.
- The first 3-year period in section 51.910(a)(1)(i)(B) would run from January 1, 2009 to December 31, 2011.
- The baseline emissions inventory in section 51.910(d) would be for calendar year 2002.

c. Comments and Responses

No comments were received on the proposal concerning the timing of emissions reductions needed for RFP.

14. Banked Emission Reduction Credits (Including Shutdown Credits)

Can pre-baseline emission reduction credits be used to satisfy the RFP requirement? [No discussion in June 2, 2003 proposal; no draft or final regulatory text.]

a. Background

This topic was not discussed in the proposed rulemaking, but we believe that questions that have arisen on this topic bear some discussion here.

The CAA provides the following definition in section 182(b)(1)(D) regarding the 15 percent VOC RFP requirement:

> Baseline emissions. For purposes of subparagraph (A), the term ''baseline emissions'' means the total amount of *actual VOC* or NO_X emissions from all anthropogenic sources in the area during the calendar year of the enactment of the Clean Air Act Amendments of 1990, excluding * * * [emphasis added.]

The April 1992 General Preamble provides:

> The adjusted base year inventory (i.e., baseline emissions) must contain only actual emissions occurring in the base year, 1990, within the designated nonattainment area boundaries. *The baseline emissions should not include pre-enactment banked emission credits* since they were not actual emissions during the calendar year of enactment [57 FR 13507; April 16, 1992; emphasis added].

and

> Pre-enactment banked emissions reductions credits are not creditable toward the 15 percent progress requirement. However, for purposes of equity, EPA encourages States to allow sources to use such banked emissions credits for offsets and netting. When States use such banked credits for offsets and netting to the extent otherwise creditable under the Part D NSR regulations, these pre-enactment emissions credits must be treated as growth. Consequently, this ''growth'' must be accounted for, as is the case with all other anticipated growth, in order to ensure that it does not interfere with the 15 percent rate of progress requirement (which is ''net'' of growth). In addition, when such growth emissions are used as offsets, they must be applied in accordance with the offset ratio prescribed for the area of concern (e.g., 1.3 to 1 for severe areas, etc.). All pre-enactment banked credits must be included in the nonattainment area's attainment demonstration for ozone to the extent that the State expects that such credits will be used for offsets or netting prior to attainment of the ambient standards. Credits used after that date will need to be consistent with the area's plan for maintenance of the ambient standard [57 FR 13508].

The EPA's 1992 guidance on calculating the 15 percent emission target [55] contained the following:

> 4.3 Pre-enactment Banked Emissions Reduction Credits. If the State has an emissions credit bank that meets the EPA's requirements under an earlier policy statement [56], the State is allowed to use its pre-enactment banked emissions reduction credits to facilitate the location of new sources in nonattainment areas during the 1990–1996 period. However, because these reduction credits represent emissions that are not included in the 1990 base year inventory, any additional emissions that result from the use of banked credits must be treated as growth in order to ensure that the 15 percent VOC emissions reduction requirement is achieved. Also, it is important to note that the use of pre-enactment banked emissions credits must be in accordance with the offset ratios prescribed in the CAA Amendments (e.g., 1.3 to 1 in severe areas.)

The 1992 guidance document provides an example calculation of the above guidance.

b. Interpretation for 8-Hour Ozone NAAQS

The guidance provided above is still relevant for banked emission reduction credits in relation to the RFP requirement for the 8-hour ozone standard. However, because the rule for implementing the 8-hour ozone standard uses a 2002 baseline year, the above guidance should be read—for purposes of implementing the 8-hour ozone RFP requirement—by substituting ''pre-enactment banked emission credits'' with ''pre-2002 banked emission credits.'' A pre-2002 banked emission credit is one that was generated before January 1, 2002 and that is certified in a bank that EPA has approved for such purposes. For a discussion of the use of shutdown/curtailment credits for offsets and netting, see section V.B.1.a of this preamble. For a discussion of the use of emission reduction credits for offsets and netting, see section V.D.5 of this preamble.

F. Are contingency measures required in the event of failure to meet a milestone or attain the 8-hour ozone NAAQS?

[Section VI.J. of June 2, 2003 proposed rule (68 FR 32837); no draft or final regulatory text.]

1. Background

Under the CAA, 8-hour ozone nonattainment areas subject only to subpart 1, as well as those classified under subpart 2 as moderate, serious, severe, and extreme must include in their SIPs contingency measures consistent with sections 172(c)(9) and 182(c)(9), as applicable. Contingency measures are additional controls to be implemented in the event the area fails to meet a RFP milestone or fails to attain by its attainment date. These contingency measures must be fully adopted rules or measures which are ready for implementation quickly upon failure to meet milestones or attainment.

For additional background information, see the Proposal (68 FR 32802, June 2, 2003). Other related information can be found in the following applicable guidance documents:

- ''Contingency Measures for Ozone and Carbon Monoxide (CO)

[55] Guidance on the Adjusted Base Year Emissions Inventory and the 1996 Target for the 15 Percent Rate-of-Progress Plans. Ozone/Carbon Monoxide Programs Branch, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. EPA–452/R–92–005. October 1992.

[56] 51 FR 233 ''Emissions Trading Policy Statement; General Principles for Creation, Banking and Use of Emission Reduction Credits; Final Policy Statement and Technical Issues Document.'' December 4, 1986. This document has been replaced by *Improving Air Quality with Economic Incentive Programs*, January 2001, available at *http://www.epa.gov/region07/programs/artd/air/policy/search.htm.*

Redesignations,'' Memorandum from G.T. Helms, Chief, Ozone/Carbon Monoxide Programs Branch, June 1, 1992,

• ''Procedures for Processing Requests to Redesignate Areas to Attainment,'' Memorandum from John Calcagni, Director, Air Quality Management Division, September 4, 1992,

• ''Guidance for Growth Factor, Projections, and Control Strategies for the 15 percent Rate-of-Progress Plans,'' (EPA–452/R–93–002), March 1993,

• ''Early Implementation of Contingency Measures for Ozone and Carbon Monoxide (CO) Nonattainment Areas,'' Memorandum from G.T. Helms, Chief, Ozone/Carbon Monoxide Programs Branch, August 13, 1993,

• ''Guidance on Issues Related to the 15 Percent Rate-of-Progress Plans,'' Memorandum from Michael H. Shapiro, Acting Assistant Administrator for Air and Radiation to the Regional Division Directors, August 23, 1993,

• ''Clarification of Issues Regarding the Contingency Measures that are due on November 15, 1993 for Moderate and Above Ozone Nonattainment Areas,'' Memorandum from D. Kent Berry, Acting Director, Air Quality Management Division, November 8, 1993, and

• ''Guidance on the Post 1996 Rate-of-Progress Plan (ROP) and Attainment Demonstration,'' (EPA–452/R–93–015), January 1994.

2. Summary of Final Rule

We are adopting the approach taken in our proposal. All subpart 1 and subpart 2 areas other than marginal areas are required to adopt contingency measures to be implemented in the event of failure to meet a RFP milestone or to attain the 8-hour ozone NAAQS. The contingency measures SIP should accompany the attainment demonstration SIP required for submission by June 15, 2007.

It should be noted that the CAA requires States to identify contingency measures that will go into effect without further action on the part of the State or EPA. We believe this language means that contingency measures should be adopted regulations but also recognize that some additional State or local action may be necessary (such as notification of sources) before implementation.

Under subpart 2, areas that are nonattainment for the 8-hour ozone NAAQS that have unused adopted contingency measures for the 1-hour ozone NAAQS may use those measures as appropriate as contingency measures for the 8-hour NAAQS.

For subpart 1 areas, States should follow EPA's existing guidance for subpart 2 areas. We intend to provide additional guidance only if needed.

3. Comments and Responses

Comment: Two commenters raised concerns about the difficulty some areas may have in identifying what they referred to as ''reserve'' or ''unused'' measures for the 1-hour standard that could be used as contingency measures for the 8-hour standard for subpart 2 areas. These commenters requested protection for areas that have no ''leftover'' measures to be used in the event of failure to meet the milestone. The commenters contended that EPA needs to have policies that do not penalize areas that have implemented all feasible measures to attain the standard and may not have any identified contingency measures left.

Response: The commenters appear to be asking EPA to drop the requirement for a nonattainment area SIP to contain contingency measures. The commenters have not provided a legal rationale why they believe it is possible to do this. The purpose of contingency measures is to have a quickly implementable backup plan of action should primary measures fail to bring a nonattaining area to the requisite level (be it attainment of the NAAQS or meeting a RFP milestone). It is up to each State to determine what measures the State will commit to implement should failure occur. We note that States may rely on regional and national control measures as well as local control measures to meet the contingency measure obligation.

A list of example contingency measures has been provided. See section 9.5 of ''Guidance for Growth Factor, Projections, and Control Strategies for the 15 percent Rate-of-Progress Plans,'' (EPA–452/R–93–002), March 1993. The States have the responsibility of determining what contingency measures are most appropriate for their area(s). To allow nonattaining areas with seemingly few potential contingency measures to opt out of the contingency measure requirement is counter to the contingency measure provision in the CAA. The EPA does not see any way to interpret the clear language of the statute other than as requiring contingency measures in all nonattainment areas other than marginal subpart 2 areas. It should also be noted that the CAA's requirement for an area's SIP to demonstrate attainment by the attainment date is not limited to the adoption only of those measures that are ''feasible.''

Comment: One commenter alleged EPA's proposal to allow Federal measures that result in additional emissions reductions beyond RFP or attainment to qualify as contingency measures is legally invalid. The commenter further stated that contingency measures must consist of control requirements that will be taken off the shelf and undertaken if and when a RFP or attainment failure occurs. In other words, contingency measures must be new measures not Federal or local measures that already exist.

Response: The CAA states that contingency measures are to be ''specific measures to be undertaken if the area fails to make reasonable further progress, or to attain * * * by the attainment date.'' The April 16, 1992 General Preamble provided the following guidance: ''States must show that their contingency measures can be implemented with minimal further action on their part and with no additional rulemaking actions such as public hearings or legislative review. In general, EPA will expect all actions needed to affect full implementation of the measures to occur within 60 days after EPA notifies the State of its failure.'' (57 FR 13512). This could include Federal measures and local measures already scheduled for implementation.

The EPA has approved numerous SIPs under this interpretation—i.e., that use as contingency measures one or more Federal or local measures that are in place and provide reductions that are in excess to the attainment demonstration or RFP plan. (62 FR 15844, April 3, 1997; 62 FR 66279, December 18, 1997; 66 FR 30811, June 8, 2001; 66 FR 586 and 66 FR 634, January 3, 2001.) The key is that the statute requires extra reductions that are not relied on for RFP or attainment and that are in the demonstration to provide a cushion while the plan is revised to meet the missed milestone. In other words, contingency measures are intended to achieve reductions over and beyond those relied on in the attainment and RFP demonstrations. Nothing in the statute precludes a State from implementing such measures before they are triggered. In fact, a recent court ruling upheld contingency measures that were previously required and implemented where they were in excess of the attainment demonstration and RFP SIP. *See LEAN* v. *EPA*, 382 F. 3d 575 5th Circuit, 2004.

Comment: One commenter supported EPA's proposal to continue to observe existing policies regarding contingency measures for areas covered under

subpart 2 for the 8-hour standard. Additionally, the commenter anticipated that EPA's additional guidance on the contingency measure requirement for subpart 1 will be patterned after the subpart 2 requirement.

Response: The EPA acknowledges the commenter's support of our proposal that subpart 2 8-hour ozone nonattainment areas may rely on our existing contingency measure guidance. As provided above, both subpart 1 and subpart 2 areas should rely on that guidance for purposes of adopting contingency measures.

G. What requirements should apply for RACM and RACT for 8-hour ozone nonattainment areas?

[Section VI.K. of June 2, 2003 proposed rule (68 FR 32837); § 51.912 in draft and final regulatory text.]

The first subsection of this section covers RACT and the second subsection covers RACM.

1. Reasonably Available Control Technology (RACT)

a. Background

As described in more detail in the June 2 proposal, subpart 1 of part D includes a requirement that an attainment plan provide for the implementation of all RACM as expeditiously as practicable, including such reductions that may be obtained through RACT. Under subpart 2, marginal areas are required to correct pre-1990 RACT requirements and new RACT requirements are specified for moderate and above ozone nonattainment areas. Additionally, States must adopt RACT for all areas in an OTR. The RACT requirement applies to both ozone precursors—NO_X and VOC. Since 1990, we have issued guidance documents on the RACT requirements in subpart 2. Prior to enactment of the CAA Amendments of 1990, EPA also issued detailed guidance documents on RACT for ozone nonattainment area SIPs.[57]

Section 183(c) of the CAA requires EPA to ''revise and update such documents [i.e., Control Techniques Guidelines and Alternative Control Techniques] as the Administrator determines necessary.'' As new or updated information becomes available States should consider the new information in their RACT determinations. States should consider the new information in any RACT determinations or certifications that have not been issued by the State as of the time such an update becomes available.[58]

The June 2, 2003 proposal addressed several aspects of the RACT requirement. For subpart 1 areas, we proposed several options. We proposed in one option to interpret the CAA in a manner similar to that under subpart 2 by requiring areas covered under subpart 1 to face different RACT requirements based on the magnitude of the ozone problem in the area (i.e., the area's design value). In another option, we proposed that RACT would be met if the area were able to demonstrate attainment of the standard as expeditiously as practicable with emission control measures in the SIP. We also proposed as an early attainment incentive that RACT would be met in an area which demonstrates attainment within 3 years and submits the demonstration within 1 year. We proposed the RACT submittal dates for subpart 1 areas would be within 2 years after designation.

For subpart 2 areas, we proposed to apply RACT as specified in subpart 2. We proposed (in the draft regulatory text) to require that States submit their subpart 2 RACT SIPs within 2 years after the nonattainment designation. In addition, we proposed the date for affected sources to implement RACT in subpart 2 areas would be 30 months after the required submittal date. We also proposed that States may use current EPA guidance in making RACT determinations; consequently, in some cases, sources previously evaluated under the 1-hour ozone RACT requirement and sources subject to the NO_X SIP Call cap-and-trade program could be determined to meet the 8-hour ozone RACT requirement.

b. Summary of Final Rule

For subpart 1 areas that do not request an attainment date extension (i.e., an attainment date beyond 5 years after designation), RACT will be met with control requirements sufficient to demonstrate that the NAAQS is attained as expeditiously as practicable. The RACT submittal date for these areas is the same as the submittal date for the attainment plan. This submission date is no later than 3 years after designation.

For subpart 1 areas that request an attainment date extension (i.e., an attainment date beyond 5 years after designation), the State shall submit the RACT SIP with its attainment date extension request.[59] For subpart 2 moderate and above areas, and areas within an OTR, RACT is required with the RACT submittal and is due 27 months after designation. States must require sources to implement RACT no later than the first ozone season or portion thereof which occurs 30 months after the required submittal date.

Where a RACT SIP submission (separate from the attainment demonstration) is required (except certain subpart 1 areas, as described two paragraphs prior to this, and except certain sources subject to the NO_X SIP Call or CAIR, as described below), State SIPs implementing the 8-hour standard must assure that RACT is met, either through a certification that previously required RACT controls represent RACT for 8-hour implementation purposes or through a new RACT determination. States may use existing EPA guidance in making RACT determinations. Where a State has adopted and EPA has approved a control measure as RACT for a specific major stationary source or source category for the 1-hour ozone NAAQS, and absent data indicating that the previous RACT determination is no longer appropriate, the State may submit a certification that the source is subject to a SIP-approved RACT requirement. Such certification shall be accompanied by appropriate supporting information, such as consideration of information received from public commenters.

For purposes of meeting the NO_X RACT requirement, the State need not perform (or submit) a NO_X RACT analysis for sources subject to the state's emission cap-and-trade program where the cap-and-trade program has been adopted by the State that meets the NO_X SIP Call requirements or, in States achieving CAIR reductions solely from EGUs, the CAIR NO_X requirements. The EPA believes that the SIP provisions for

[57] The EPA defined RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility (44 FR 53762; September 17, 1979).

[58] In addition, EPA is considering related recommendations from the Air Quality Management Work Group to the Clean Air Act Advisory Committee (CAAAC) dated January 2005 [available at: *http://www.epa.gov/air/caaac/aqm.html#library*] in response to the recent National Research Council report on *Air Quality Management in the United States* (January 2004) [available for sale; individual pages available for viewing at *http://www.nap.edu/books/0309089328/html*]. One of the recommendations to the CAAAC is that ''for the SIPs States are required to submit over the next several years, EPA and States, locals, and Tribes should promote the consideration of multipollutant impacts, including the impacts of air toxics, and where there is discretion, select regulatory approaches that maximize benefits from controlling key air toxics, as well as ozone, $PM_{2.5}$ and regional haze.'' As part of this effort, EPA intends in the future to develop updated technology guidance with respect to source categories emitting multiple pollutants in large amounts. At this time, however, we think it is unlikely that updated technology guidance will be available in time for the RACT SIPs due in 2006.

[59] This is generally expected with the submission of the attainment demonstration.

those sources meet the ozone NO_X RACT requirement. A State that is relying on this conclusion for the affected sources should document this reliance in its RACT SIP.

Additionally, RACT is considered met for cement kilns and stationary internal combustion engines that are subject to a SIP approved as meeting the NO_X SIP Call obligation to install and operate controls that are expected to achieve at least a 30 percent and 82 percent reduction, respectively, from uncontrolled levels. A State that is relying on this conclusion for the affected sources should document this reliance in its RACT SIP.

A State may meet the NO_X RACT requirement by showing that the weighted average emission rate from a broad range of sources in the nonattainment area subject to RACT meet RACT requirements.

At their discretion, States are free to conduct a case-by-case RACT determination for any source—or RACT determinations or certifications for groups of sources.

As discussed below in greater detail, States may use information gathered from prior BACT or LAER analyses, to the extent it remains valid, to help complete a RACT determination. Similarly, emissions standards developed under 111(d) and NSR/PSD settlement agreements may be considered. This will allow States, in a number of cases, to rely on these prior determinations for purposes of showing that a source is meeting RACT requirements.

For VOC sources subject to MACT standards, States may streamline their RACT analysis by including a discussion of the MACT controls and considerations relevant to VOC RACT. We believe that this will allow States, in many cases, to rely on the MACT standards for purposes of showing that a source has met VOC RACT.

Consistent with the proposed regulatory text for this rule [section 51.912(b)(1)], the final rule provides that, for purposes of meeting the RACT obligations under section 182(b)(2)(C) of the CAA for major stationary sources of VOCs and under section 182(f) of the CAA for major stationary sources of NO_X, the definition of major stationary source in section 302 of the CAA, as modified by the major source definition in either section 182(b), (c), (d) or (e) of the CAA as applicable to the area's classification, applies.

Although we drafted more extensive regulatory language for several aspects of the RACT program in the proposal, we believe it is sufficient to describe EPA's views on the details of the RACT program in today's preamble and in other guidance [e.g., the NO_X Supplement to the General Preamble, November 25, 1992 (57 FR 55620)]. Thus, some detailed portions of the proposed regulatory text regarding RACT were not retained in the final rule (in particular paragraph (b)(2) ''Prior RACT Determinations'').

c. Comments and Responses

Comments: For subpart 2 ozone nonattainment areas, several States expressed agreement with the proposed approach for implementing RACT consistent with section 182 of the CAA.

Response: The EPA agrees with these comments.

Comments: For subpart 1 ozone nonattainment areas, EPA received several comments for and against the options proposed for addressing RACT.

Several State and industry commenters supported EPA's proposed approach that RACT would be met if the area is able to demonstrate attainment of the standard as expeditiously as practicable with emission control measures in the SIP. The reasons provided by these commenters were generally as follows: States should be able to use their discretion in determining which control strategies are the most effective in addressing a particular area's air quality problem; flexibility is needed as areas differ in sensitivity to NO_X and VOC reductions; EPA's regional modeling shows these requirements are unnecessary in many areas; and many of these areas violate the ozone standard primarily or entirely due to transport.

The EPA also received comments, primarily from several States and environmental groups, opposing the approach that RACT would be met by control measures that are part of a SIP demonstrating attainment of the standard as expeditiously as practicable. These commenters made the following points: since section 172(c)(1) of the CAA explicitly mandates RACT ''at a minimum'' in all nonattainment areas, Congress plainly intended to require RACT as a floor level of control technology in addition to any measures needed to demonstrate timely attainment; even where RACT does not advance attainment, it is needed in order to reduce the severity and number of violations; under this approach, the statutory RACT provisions add nothing to the statutory attainment mandate—which violates basic canons of statutory interpretation; RACT in nonattainment areas will substantially reduce transport of ozone and ozone precursors; for equity reasons, sources in similar areas should be subject to the same control; and RACT is a useful tool that should not be abandoned through flexibility mechanisms.

Response: The general RACT provision under subpart 1 in the statute, is found in section 172(c)(1). It is a portion of the RACM provision found in that same section. Our long-standing interpretation of the RACM provision is that areas need only submit such RACM as will contribute to timely attainment and meet RFP, and that measures which might be available but would not advance attainment or contribute to RFP need not be considered RACM. This interpretation has been upheld in several recent court cases. *See Sierra Club* v. *EPA*, 294 F.39 155, 162 (D.C. Circuit, 2002) (concerning the Metropolitan Washington, D.C., attainment demonstration) and *Sierra Club* v. *EPA*, No. 01–60537 (5th Circuit, 2002) (concerning the Beaumont attainment demonstration). Since subpart 1 RACT is a portion of RACM, these cases also support a conclusion that, where we are dealing only with section 172 RACT, it is reasonable to require only such RACT as will meet RFP and advance attainment. In view of these court cases, EPA disagrees with the comments listed above opposing the approach that, in subpart 1 areas, RACT would be met by control measures in a SIP demonstrating attainment of the standard as expeditiously as practicable and meeting RFP.

The EPA generally agrees with comments that States should have flexibility to determine which control strategies are the most effective in reaching attainment as expeditiously as practicable and providing for RFP, and the CAA gives primary authority to States and local governments to select the mix of controls necessary to meet the NAAQS. In addition, EPA believes that section 172(c) is not the appropriate section of the CAA to address the transport of ozone and ozone precursors; EPA has conducted and is conducting rulemaking pursuant to sections 110 and 126 for that purpose.

Finally, some commenters suggested, for equity reasons, that sources in similar areas should be subject to the same control. In the proposal, EPA suggested subpart 1 and 2 areas with the 8-hour ozone design values above 91 ppb should be subject to VOC and NO_X RACT requirements. The EPA also proposed that RACT would be met in an area which demonstrates attainment within 3 years and submits the demonstration within 1 year. In the final rule, EPA has addressed equity concerns by taking portions of these two proposals, such that subpart 1 and subpart 2 areas with attainment

deadlines longer than 5 years after designation must meet the same RACT requirements. We believe longer than 5 years is more appropriate than the 3 years proposed for this requirement since this approximates the maximum attainment date for subpart 2 (moderate) areas subject to RACT and since this approach is consistent with the manner in which ROP/RFP requirements are treated in the final rule.

Therefore, in subpart 1 areas that do not request an extension beyond the initial 5 years after designation, the final rule indicates that RACT would be met by the emission control measures in a SIP that demonstrates attainment of the standard as expeditiously as practicable and meets RFP. In addition, the final rule requires subpart 1 areas with maximum attainment deadlines longer than 5 years after designation to meet the same RACT requirements as subpart 2 areas. This approach minimizes the RACT inequity with subpart 2 areas and provides flexibility for subpart 1 areas demonstrating attainment within 5 years.

Comment: One commenter believes that new marginal nonattainment areas should be subject to RACT under the 8-hour standard just as they would have been subject to RACT immediately prior to the CAA Amendments of 1990.

Response: Section 182(a) provides that marginal and higher classified areas for the 1-hour standard with pre-1990 RACT obligations had to submit corrections to their RACT rules within 6 months after classification under the 1990 CAA Amendments. To the extent that any 8-hour ozone nonattainment areas did have this obligation, they already met it. See footnote 60 in the June 2, 2003 proposal. The CAA does not require RACT for marginal areas other than the obligation to ''correct'' pre-1990 RACT requirements.

Comment: The EPA received several comments for and against the proposal that States may use a prior RACT determination with respect to the 1-hour ozone standard for purposes of meeting the RACT requirements for the 8-hour ozone standard. Further, EPA received comments on the proposal that a new RACT determination is required in cases where the initial RACT analysis under the 1-hour standard for a specific source or source category concluded that no additional controls were necessary.

Several State and industry commenters supported EPA's proposed approach that a prior RACT analysis under the 1-hour ozone standard should meet RACT requirements under the 8-hour standard where major sources or source categories were previously reviewed and controls applied to meet RACT. These commenters stated that RACT is not specific to any particular ozone standard, such that once a source has met RACT, it has met RACT, whether or not the ozone standard is revised to become more (or less) stringent; just as with the 15 percent VOC requirement, the statute provides no basis for duplicative imposition of RACT; and there is no basis in the statute to read in a new requirement for RACT. In addition, some industry commenters stated that EGUs which meet title IV NO_X control requirements would also meet the NO_X RACT requirement.

The EPA also received comments from several States opposing EPA's proposed approach. These commenters believe the NO_X and VOC guidance is too old, needs updating and, in the case of NO_X controls, the improvement over the last 3 years has been dramatic with controls previously considered to be BACT (and therefore generally considered at the time to be more stringent than RACT) are now considered to be merely RACT. In addition, one State suggested the presumptive RACT level should be revised to at least 85 percent control or that NO_X RACT should be defined as up to $10,000/ton of pollutant removed.

Two States disagreed with EPA's proposal that a new RACT determination should be required in cases where the initial RACT analysis under the 1-hour NAAQS found that no additional controls were necessary for a specific source or source category. They indicated such re-analysis would be an unwise use of resources because it would not yield significant benefits. Further, they do not agree that a RACT determination is warranted for major VOC or NO_X sources not in existence during the previous RACT determination, because new sources in 1-hour nonattainment areas have been permitted pursuant to the requirements for NSR and, where applicable, have already been subject to more stringent control requirements.

Several State and industry commenters recommended that RACT requirements apply for major sources in any portion of the 8-hour nonattainment area not subject to a RACT program for the 1-hour standard.

Response: In 1992, EPA set presumptive NO_X RACT for boilers as combustion modification, consistent with title IV acid rain requirements. For all other NO_X stationary source categories, EPA guidance in 1994 indicated States should consider in their RACT determinations technologies that achieve 30–50 percent reduction within a cost range of $160–1300 per ton of NO_X removed. In the NO_X SIP Call Rule, we reviewed all major NO_X source categories and stated in the final rule that the NO_X SIP Call controls, at less than $2,000/ton, represent reductions beyond those required by RACT. The suggestion of one State that EPA's RACT guidance should be revised to reflect 85 percent control and $10,000/ton of pollutant removed is inconsistent with EPA's previous conclusions regarding what level of control represents RACT and because the comment lacked supporting documentation that the suggested values represent feasible control levels for the many source categories affected by the RACT program.

Many areas subject to the major source RACT requirement under the 8-hour ozone standard have previously addressed the RACT requirement with respect to the 1-hour ozone standard. For example, major sources located in States of the Ozone Transport Commission were subject to the NO_X RACT requirement in the mid-1990s. We believe that, in many cases, a new RACT determination under the 8-hour standard would result in the same or similar control technology as the initial RACT determination under the 1-hour standard because the fundamental control techniques, as described in the CTGs and ACTs, are still applicable. In cases where controls were applied due to the 1-hour ozone RACT requirement, we expect the incremental emissions reductions from application of a second round of controls would be small and, therefore, the cost for advancing that small additional increment of reduction would not be reasonable. In such cases, EPA believes the cost per ton of NO_X removed associated with installing a second round of RACT controls (and perhaps the removal of initial RACT controls) is likely to be beyond the costs assumed in our current guidance noted above ($160–$1300/ton). In contrast, a RACT analysis for uncontrolled sources would be much more likely to find that RACT level controls are economically and technically feasible.

The CTGs and ACTs for VOC were completed over a period from the late 1970s to mid-1990s and have not been updated. The CTGs are still used to presumptively define VOC RACT. The EPA issued NO_X ACT documents between 1992 and 1995. In September 2000, updates to the NO_X ACT documents were completed for stationary internal combustion engines and cement kilns. The NO_X and VOC ACTs describe available control techniques and their cost effectiveness, but do not define presumptive RACT levels as the CTGs do. Updating the

ACTs would not, by itself, change EPA's NO_X or VOC RACT guidance, but it could provide information that would lead to a new conclusion as to which control measures constitute RACT for a specific source or source category. Since RACT can change over time as new technology becomes available or the cost of existing technology decreases, EPA does not agree with comments that once a source has met RACT, it has met RACT whether or not the ozone standard is revised.

We agree that progress has been made in improving the cost effectiveness of some NO_X and VOC controls. States and other interested parties should consider available information that may supplement the CTG and ACT documents. In cases where additional information is presented, for example, as part of notice-and-comment rulemaking on a RACT SIP submittal, States (and EPA) would necessarily consider the additional data in reviewing what control obligation is consistent with RACT. Similarly, we encourage States to use the latest information available in making RACT determinations, whether that information is in CTGs, ACTs, or elsewhere.

The EPA agrees that it is more efficient for EPA to broadly assess what is RACT for a specific source category than for States to conduct source-by-source RACT determinations, especially considering that States need to initiate RACT programs in the near future (as discussed in a separate comment/response). The EPA's current RACT guidance may be used for purposes of the 8-hour standard. At the same time, we agree with comments that many of the CTGs/ACTs have not been revised since issued and thus may not provide the most accurate picture of current control options. Therefore, we believe States must consider new information that has become available and certify that a 1-hour ozone RACT determination, even where controls were required, still represents an appropriate RACT level of control for the 8-hour ozone program. In the alternative, the State should revise the SIP to reflect a modified RACT requirement for specific sources or source categories.

In summary, we believe the current NO_X and VOC RACT guidance, including CTGs and ACTs, may continue to be used by States in making RACT determinations with respect to the 8-hour ozone standard. States should ensure that their SIPs accurately reflect RACT based on the current availability of technically and economically feasible controls.

Therefore, in portions of 8-hour ozone nonattainment areas where major sources or source categories were previously reviewed and controls applied to meet the RACT requirement under the 1-hour standard, States should review and, if appropriate, accept the initial RACT analysis as meeting the RACT requirements for the 8-hour standard. Absent data indicating that the previous RACT determination is no longer appropriate, the State need not submit in its SIP a new RACT requirement for these sources. In such cases, the State should submit a certification as part of its SIP revision, with appropriate supporting information, such as consideration of new data, that these sources are already subject to SIP-approved requirements that still meet the RACT obligation. There are cases where the initial RACT analysis under the 1-hour standard for a specific source or source category concluded that no additional controls were necessary. In such cases, a new RACT determination is needed to consider whether more cost-effective control measures have become available for sources that were not previously regulated. A re-analysis may determine that controls are now economically and technically feasible and should be required to meet RACT. Furthermore, in this situation, we expect the incremental emissions reductions to be significant, compared to the uncontrolled emissions levels. Thus, the cost per ton of emissions controlled is more likely to make controls ''reasonably available'' than where a source had already installed controls to meet RACT for the 1-hour standard. In all cases where additional information is presented as part of notice-and-comment rulemaking, including a RACT SIP submittal for sources previously controlled, States (and EPA) must consider the additional information as part of that rulemaking.

We agree with several State and industry comments that RACT requirements apply for major sources in any portion of the 8-hour nonattainment area not subject to a RACT program for the 1-hour standard.

Some commenters objected to EPA's proposal that any major VOC or NO_X source that did not exist during a previous RACT determination must be subject to a RACT determination as part of the SIP for the 8-hour ozone standard. These commenters stated that the BACT or LAER provisions would assure at least RACT level controls on such sources. We agree this should be true in many cases, but not all. The BACT/LAER analyses do not automatically ensure compliance with RACT since the regulated pollutant or source applicability may differ and the analyses may be conducted many years apart. States may, however, rely on information gathered from prior BACT or LAER analyses for the purposes of showing that a source has met RACT to the extent the information remains valid. We believe that the same logic holds true for emissions standards for municipal waste incinerators under CAA section 111(d) and NSR/PSD settlement agreements. Where the State is relying on these standards to represent a RACT level of control, the State should present their analysis with their determination during the SIP adoption process.

For VOC sources subject to MACT standards, States may streamline their RACT analysis by including a discussion of the MACT controls and relevant factors such as whether VOCs are well controlled under the relevant MACT air toxics standard, which units at the facility have MACT controls, and whether any major new developments in technologies or costs have occurred subsequent to the MACT standards. We believe that there are many VOC sources that are well controlled (e.g., through add-on controls or through substitution of non-VOC non-HAP materials for VOC HAP materials) because they are regulated by the MACT standards, which EPA developed under CAA section 112. Any source subject to MACT standards must meet a level that is as stringent as the best-controlled 12 percent of sources in the industry. Examples of these HAP sources that may effectively control VOC emissions include organic chemical plants subject to the hazardous organic NESHAP (HON), pharmaceutical production facilities, and petroleum refineries.[60] We believe that, in many cases, it will be unlikely that States will identify emission controls more stringent than the MACT standards that are not prohibitively expensive and are thus unreasonable. We believe this will allow States, in many cases, to rely on the MACT standards for purposes of showing that a source has met VOC RACT.

Comments: Some commenters pointed out that many companies have employed averaging programs for NO_X SIP Call compliance and want this option preserved under the 8-hour ozone standard since requiring sources

[60] However, there are some MACT categories for which it may not be possible to determine the degree of VOC reductions from the MACT standard without additional analysis; for example, the miscellaneous metal parts and products (40 CFR part 60, subpart MMMM) due to the uncertainty of the compliance method that will be selected.

to individually meet NO_X RACT requirements would greatly increase the costs of compliance at sources already subject to the NO_X cap-and-trade program without achieving greater emissions reductions.

Response: In some cases, a facility or a group of sources in a nonattainment area might choose to meet NO_X RACT by adopting an emissions averaging concept within the area; e.g., over-controlling one or more large units and not controlling other units. We agree with comments that emission averaging and cap-and-trade programs such as the NO_X SIP Call Rule achieve emissions reductions at lower costs. The EPA's NO_X RACT guidance, published on November 25, 1992 (57 FR 55625), was, in part, for the purpose of ''enhancing the ability of States to adopt market-based trading systems for NO_X'' and to encourage States to ''structure their RACT requirements to inherently incorporate an emissions averaging concept (i.e., installing more stringent controls on some units in exchange for lesser control on others).'' EPA believes that such cap-and-trade programs are beneficial ways to achieve the greatest overall reductions in the most cost-effective manner. Consistent with previous guidance,[61] EPA continues to believe that RACT can be met on average by a group of sources within a nonattainment area rather than at each individual source. Therefore, states can show that SIP provisions for these sources meet the ozone RACT requirement using the averaging approach.

Finally, EPA believes that sources complying with the NO_X SIP call trading system meet their RACT obligation, for reasons explained later in this section.

Comments: Several State and industry commenters supported EPA's proposed approach concerning RACT and the NO_X SIP Call. These commenters stated that the level of emissions reductions required by the NO_X SIP Call is far greater than the level of reductions achieved by controls that have been determined to be NO_X RACT. One State encouraged EPA to provide this approach to other areas subject to approved cap-and-trade programs in addition to those areas affected by the NO_X SIP Call.

The EPA also received comments, primarily from several States and environmental groups, opposing the approach. These commenters stated that there are no exceptions to the RACT mandates in either subpart 1 or subpart 2 for sources subject to NO_X SIP Call cap-and-trade programs, and EPA is without authority to invent such an exception. Because the NO_X SIP Call's cap-and-trade program does not require emission control technologies to be installed at a particular source, some commenters conclude that RACT requirements are necessary and appropriate to ensure that all sources implement at least a minimum level of control. One State indicated there have been numerous cases where sources subject to the NO_X SIP Call have not had to install controls comparable to RACT. Commenters also suggested that RACT is intended to be a benchmark for control technology at individual stationary sources, not a level of regional reductions. In addition, some commenters noted that the NO_X SIP Call requirements are specific to the ozone season, where RACT requirements are year-round. Consequently, these commenters recommended that EPA should also consider non-ozone related nitrogen issues, including fine particles, visibility, nitrification and acidification of watersheds and eutrophication of coastal waters all of which would be reduced with year-round controls.

Response: In 2009, when sources in areas designated nonattainment for the 8-hour standard in June 2004 must comply with RACT, the NO_X SIP call trading program is subsumed by the CAIR trading program. As described below, EPA believes that sources meet ozone NO_X RACT requirements if they comply with the NO_X SIP Call trading program or, in States where all CAIR reductions are achieved by EGUs, rules implementing CAIR. Accordingly, a State need not perform a NO_X RACT analysis for non-EGU sources that after 2008 continue to be subject to a SIP that regulates those non-EGU sources equally or more stringently than the State's current rules meeting the NO_X SIP call. In a NO_X SIP Call State that ensures such reductions from non-EGUs, the State need not perform a NO_X RACT analysis for EGU sources if the State retains a summer season EGU budget under CAIR that is at least as restrictive as the EGU budget that was approved in the State's NO_X SIP call SIP. In addition, the State need not perform a NO_X RACT analysis for EGUs subject to a State cap-and-trade program that meets CAIR and achieves CAIR NO_X reductions solely from EGUs. As noted above, the SIP should document that the State is relying on EPA's conclusion in this preamble that these levels of control meet RACT for the covered sources.

The EPA believes the RACT mandate in subpart 1 and subpart 2 applies in specific geographic areas but does not necessarily require every major source to install controls. For example, as discussed in a separate comment/response, where we are dealing only with subpart 1 RACT, we only require such RACT as will advance attainment or meet RFP. Thus, EPA does not agree with commenters who conclude that RACT requirements are necessary and appropriate to ensure that all sources implement at least a minimum level of control or that RACT is intended to be a benchmark for control technology at all individual stationary sources.

Some commenters pointed out that the NO_X SIP Call requirements are specific to the ozone season, yet RACT requirements are year-round. Although there are some exceptions, EPA agrees that RACT usually is an application of controls year-round; thus, there would be non-ozone-related nitrogen benefits, including fine particles, visibility, nitrification and acidification of watersheds and eutrophication of coastal waters due to year-round controls. While the commenters are correct that the NO_X SIP call reductions must be achieved during the 5 months of the ozone season critical for high ozone concentrations for affected States, we believe that the RACT requirement will be satisfied for sources covered by the NO_X SIP Call. In addition to operating advanced controls at least in the ozone season, many sources have installed combustion controls that function all the time; emissions reductions from these controls will occur year round.

(i) *NO_X SIP Call*: All States submitting SIP revisions to meet the NO_X SIP Call (October 27, 1998; 63 FR 57356) elected to require large boilers and turbines to comply with an emissions cap-and-trade program consistent with EPA's model cap-and-trade rule. As a result, the covered sources are already subject to a stringent control program.[62] As described in the June 2, 2003 proposal, these sources collectively achieve more emissions reductions within the SIP

[61] The EPA's NO_X RACT guidance (NO_X General Preamble at 57 FR 55625) encourages States to develop RACT programs that are based on ''areawide average emission rates.'' Thus, EPA's existing policy provides for States to submit a demonstration as part of their RACT submittal showing that the weighted average emission rate from sources in the nonattainment area subject to RACT meet RACT requirements.

[62] The cost of purchasing allowances will often be higher than the cost for achieving a RACT level of control. In the 1998 NO_X SIP Call Rule, average costs of compliance were estimated at about $1500/ton and average RACT level costs are less than $1300/ton. Recent estimates of the projected cost of allowances are about $2000–4000/ton ($NO_X$ Budget Trading Program, 2003 Progress and Compliance Report, August 2004, EPA–430-R–04–010).

Call area than would be required by application of RACT requirements to each source in that area. At the time that EPA promulgated the NO_X SIP Call rule, EPA estimated that in the NO_X SIP Call control case, EGUs would achieve a 64 percent reduction beyond the base case requirements,[63] and that the non-EGUs subject to the States' cap-and-trade program would achieve a 60 percent reduction from uncontrolled levels.[64] These EGU and non-EGU reductions were clearly beyond the 30–50 percent expected from a RACT program.[65] We stated in the final NO_X SIP Call rule that the reductions achieved by that program ''. . . represent reductions beyond those required by Title IV or Title I RACT.'' In addition, because the cap-and-trade program covers units serving a 25 megawatt generator, it may achieve emission reductions from many units that are below the general NO_X RACT threshold of 100 tpy for sources in the East.

EPA generally has the discretion to determine whether a State submitted rule is consistent with the RACT requirements for a particular source in the context of approving individual RACT SIPs. The NO_X SIP Call is estimated to achieve a beyond-RACT degree of control regionally, and sources were required to install any controls needed for compliance no later than May 2004. Under these circumstances, EPA believes that the NO_X SIP call constitutes RACT for those sources covered by the NO_X SIP Call, regardless of the manner of compliance of individual sources (*e.g.*, control equipment installation or purchase of allowances from other sources). EPA is making this finding now for all areas in the NO_X SIP call region, such that States need not submit RACT analyses for sources subject to the NO_X SIP call that are in compliance with a SIP approved as meeting the NO_X SIP call. A State that is relying on this conclusion for affected sources should document this reliance in its RACT SIP.

Whether our judgment that non-EGU sources subject to the NO_X SIP Call trading system meet RACT will continue to apply in the future depends upon how the State chooses to make the transition from the NO_X SIP Call trading system to the CAIR trading system. After 2008, EPA will no longer administer the NO_X SIP Call trading system and will only administer the CAIR trading system. A State subject to the NO_X SIP Call has three choices for the transition. One, a State can bring its non-EGU sources that are subject to the NO_X SIP Call trading program into the CAIR trading program with the same emissions budget allowed by the State's current NO_X SIP Call rules. Two, a State can adopt a SIP that regulates those non-EGU sources at least as stringently as the State's current NO_X SIP Call rules, but does not move those sources into the CAIR trading program. Three, a State can adopt a new SIP that meets its NO_X SIP Call responsibilities, in whole or in part, by regulating sources other than the non-EGU sources regulated by the State's current NO_X SIP Call trading program rules. We believe it is unlikely that States will choose the third option, given that its non-EGU sources already would have complied with the NO_X SIP Call requirements. Under the first two options, we believe that these non-EGU sources would continue to satisfy RACT. Under the third option, the State would need to determine whether non-EGU sources that had participated in the NO_X SIP Call trading program continue to meet RACT (either individually, or through averaging among sources within the nonattainment area).

Finally, as proposed, in cases where States have adopted controls for cement kilns consistent with the NO_X SIP Call (i.e., 30 percent reduction), the State may choose to accept the NO_X SIP Call requirements as meeting the NO_X RACT requirements for the 8-hour standard and need not perform a new NO_X RACT analysis for those sources. In its RACT SIP submission, the State should identify the cement plants that are subject to NO_X SIP Call controls and that, therefore, are already subject to a SIP-approved requirement consistent with RACT. The EPA received comments from States supporting the proposal. Similarly, EPA believes a State may choose to accept the Phase II NO_X SIP Call control level for stationary internal combustion engines[66] as meeting the NO_X RACT requirements and identify these obligations as RACT level controls in its RACT SIP.

(ii) *CAIR:* The EPA has determined that EGU sources complying with CAIR requirements meet ozone NO_X RACT requirements in States where CAIR reductions are achieved from EGUs only.

As discussed more fully in the CAIR final rulemaking, EPA has set the 2009 CAIR NO_X cap at a level that, assuming the reductions are achieved from EGUs, would result in EGUs installing emission controls on the maximum total capacity on which it is feasible to install emission controls by those dates. The 2015 NO_X cap is specifically designed to eliminate all NO_X emissions from EGUs that are highly cost effective to control (the first cap represents an interim step toward that end).[67] In general, we expect that the largest-emitting sources will be the first to install NO_X control technology and that such control technology will gradually be installed on progressively smaller-emitting sources until the ultimate cap is reached.

We do not believe that requiring source-specific RACT controls on EGUs in nonattainment areas will reduce total NO_X emissions from sources covered by CAIR below the levels that would be achieved under CAIR alone. Furthermore, we believe that source-specific RACT could result in more costly emission reductions on a per ton basis. If States chose to require smaller-emitting sources in nonattainment areas to meet source-specific RACT requirements by 2009 (the required compliance timing for RACT), they would likely use labor and other resources that would otherwise be used for emission controls on larger sources. Because of economies of scale, more boiler-makers and other resources may be required per megawatt of power generation for smaller units than larger units. Thus, the cost of achieving such reductions would be greater on a per ton basis. In any event, the imposition of source-specific control requirements on a limited number of sources also covered by a cap-and-trade program would not reduce the total emissions from sources subject to the program. Under a cap-and-trade program such as CAIR, there is a given number of allowances that equals a given emission level. Source-specific control requirements may affect the temporal distribution of emissions (by reducing banking and thus delaying early reductions) or the spatial distribution of emissions (by moving them around from one place to another), but it does not affect total emissions. If source-specific requirements were targeted at the units that can be controlled most cost effectively, then the imposition of source-specific controls would achieve the same result as the projected CAIR cap-and-trade program. If not, however,

[63] The EPA's 1992 NO_X RACT guidance provides that the controls required under title IV of the CAA are RACT controls and specifies emission rates three times larger than the rates later used for coal-fired units in the NO_X SIP Call (0.45–0.50 lb/mmBtu versus 0.15). Base case refers to the situation absent NO_X SIP call controls.

[64] 63 FR 57434–5.

[65] Memorandum of March 16, 1994, from D. Kent Berry re: ''Cost-Effective Nitrogen Oxides (NO_X) Reasonably Available Control Technology (RACT).'' U.S. Environmental Protection Agency, Research Triangle Park, North Carolina.

[66] As described in the April 21, 2004 rule (69 FR 21608).

[67] CAIR achieves about 80% of its NO_X emission reductions in 2009 (remainder in 2015).

the imposition of source-specific requirements would make any given level of emission reduction more costly than it would be under the cap-and-trade program alone. Thus, the combination of source-specific RACT and CAIR would not reduce the collective total emissions from EGUs covered by CAIR, but would likely achieve the same total emissions reductions as CAIR alone, in a more costly way. As a result, we believe that EGUs subject to the CAIR NO_X controls meet the definition of RACT for NO_X (in States that require all CAIR NO_X reductions from EGUs). EPA is making this finding now for all areas in the CAIR region, such that States need not submit RACT analyses for sources subject to CAIR that are in compliance with a SIP approved as meeting CAIR.

Under CAIR, a State may elect to meet its State budget for NO_X emissions solely through requiring reductions from EGUs or through requiring reductions from a combination of sources, including non-EGUs. If the State requires reductions from sources other than EGUs, it is not eligible to participate in the EPA-administered CAIR trading program. Additionally, separate provisions of the CAIR rule allow States to choose to allow large NO_X sources that are not EGUs to opt-in to the program. If only part of the CAIR reductions are required from EGUs, and the balance of the reductions obtained from non-EGU sources, then the stringency of CAIR EGU control would be diminished to some extent (an amount that cannot be determined until a State submits a SIP indicating which sources are participating in the program). Therefore, in these cases, the above rationales for our judgment that CAIR satisfies RACT would not apply. However, even where a State allows opt-ins from other source categories to meet CAIR emission levels, if a State transitions from the NO_X SIP call level of control to CAIR by the first two transition options for non-EGUs discussed above, the NO_X RACT requirement would be met for EGUs (and the State would not need to conduct RACT analyses for these EGUs) if the State retains a summer season EGU budget under CAIR that is at least as restrictive as the EGU budget that was set in the state's NO_X SIP call SIP. Otherwise, the State would need to conduct RACT analyses for EGUs (either on an individual basis, or using the averaging approach within the nonattainment area).

For clarity, we would note that a State has discretion to require beyond-RACT NO_X reductions from any source (including CAIR or NO_X SIP Call sources), and has an obligation to demonstrate attainment as expeditiously as practicable. In certain areas, States may require NO_X controls based on more advanced control technologies to provide for attainment of the ozone standards.

Comments: Several States expressed support for the proposed RACT submittal date of 2 years after designation for subpart 1 and subpart 2 areas. Other commenters suggested the RACT submittal date for subpart 1 areas should be 3 years after designation in order to coincide with the attainment demonstration submittal deadline and to allow a more efficient use of resources. In addition, comments from industry suggested a 48–60 month period is needed for installation of controls, rather than the 30 month period proposed.

Response: As described in an earlier comment/response, in subpart 1 areas that do not request an extension of their attainment date, RACT is met with the control requirements associated with a demonstration that the NAAQS is attained as expeditiously as practicable. The EPA agrees with commenters that it would be more efficient, in these areas, if the date for submittal of the RACT rules were to coincide with submittal of the attainment demonstration since RACT is closely tied to the attainment demonstration. Therefore, in the final rule, the RACT submittal date for these areas is the same as the submittal date for the attainment plan, which is 3 years after designation (June 2007). Although EPA is not setting a specific RACT rule implementation deadline for these areas, as provided in the Phase 1 rule, all controls necessary for attainment must be implemented by the beginning of the attainment year ozone season. For example, States would need to require implementation no later than May 1, 2008 where the area has a June 15, 2009 attainment date.[68] In some cases, the time from State rule adoption to installation of controls by sources may be relatively short; in other cases, sources may need more time. Therefore, EPA encourages States to adopt rules expeditiously (prior to the June 2007 deadline, where possible) so that sources have more than sufficient time to install the controls prior to the start of the attainment year ozone season.

For subpart 2 moderate and above areas and areas within an OTR, the final rule is similar to provisions in section 182 of the CAA which require States to submit RACT rules for these areas within 24 months after the designation. Several commenters supported this approach. Since some States may rely on submittal of SIP revisions meeting CAIR to also satisfy RACT for some sources, the final rule extends the proposed RACT submittal date of 24 months to 27 months after designation (September 15, 2006), to be consistent with the date for submittal of the CAIR SIP (September 10, 2006).

For areas subject to the 27-month RACT submittal date, EPA believes the proposed 30-month period for installation of controls is reasonable, given that this is the statutorily-prescribed period[69] (for the areas covered under subpart 2) and based on our prior experience with States adopting and implementing RACT requirements. For instance, subsequent to submission of the NO_X RACT SIP revisions for the 1-hour standard subject to the 30-month CAA period, EPA approved NO_X RACT SIP submittals in some areas which had been exempt from the requirements, including the Dallas and Houston areas, which required implementation within 2 years from the State adoption date. Also, the EPA recently determined that a 24-month period is adequate for stationary internal combustion engines to install low emission combustion controls (April 21, 2004; 69 FR 21633).

The 48 to 60-month period (June 15, 2011) for installation of controls suggested by some commenters was not adequately supported with a justification that more time is necessary. In addition, as described in an earlier comment/response, EPA anticipates that many sources which applied controls due to RACT requirements with the 1-hour ozone standard will not need to install new controls for the 8-hour standard. Thus, because fewer sources will be subject to new requirements to meet RACT for the 8-hour standard than were subject to the 1-hour standard, there will be less demand for control equipment. States and many sources face a reduced burden compared to the same CAA requirement in the 1990s.

Since the ozone season (40 CFR part 58, appendix D) does not begin for many areas until May 1, however, for areas with an effective date of designation of June 15, 2004, the final rule allows sources until the beginning of the area's 2009 ozone season (generally May 1,

[68] This assumes the ozone season in this example begins May 1.

[69] In the 1990 CAA Amendments, Congress specifically added RACT requirements for major sources in section 182. Section 182 required the RACT rules to be implemented ''as expeditiously as practicable'' but no later than 30 months after the submittal deadline.

2009) rather than March 15, 2009[70] to install controls. Installation of controls before the 2009 ozone season is sufficient to provide the benefits for timely attainment of the ozone standard in areas with a 2010 or later attainment date.[71] And the short delay (generally between March 15, 2009 and May 1, 2009) will cause no harm since it is prior to the ozone season, which is when ozone levels are most likely to be at harmful levels. Sources meeting NO_X RACT through compliance with CAIR would be subject to the CAIR NO_X caps beginning January 1, 2009. Additionally, some areas have ozone seasons that begin earlier than March 15, 2009 and would need to ensure sources are complying by that earlier date.

For subpart 1 areas that request an attainment date extension (i.e., an attainment date beyond 5 years after designation), the final rule sets the RACT submittal and implementation dates the same as required for subpart 2 moderate and above areas, except subpart 1 areas are required to submit the RACT SIP with its attainment date extension request.

2. Reasonably Available Control Measures (RACM)

a. Background

As noted in the June 2, 2003 proposed rule, subpart 1 of part D includes general requirements for all designated nonattainment areas, including a requirement that a nonattainment plan provide for the implementation of all RACM as expeditiously as practicable, including such reductions that may be obtained through RACT. We have also issued guidance for implementing the RACM provisions of the CAA that interprets that provision to require a demonstration that the State has adopted all reasonable measures to meet RFP requirements and to demonstrate attainment as expeditiously as practicable and thus that no additional measures that are reasonably available will advance the attainment date or contribute to RFP for the area.[72] The RACM requirement, which is set forth in section 172(c)(1) of the CAA, applies to all nonattainment areas that are required to submit an attainment demonstration, whether covered under only subpart 1 or also subpart 2. The June 2, 2003 proposal noted that EPA had issued policies and procedures related to RACM. The draft regulatory text (section 51.912(d)) provided that for each nonattainment area required to submit an attainment demonstration under § 51.908, the State would have to submit with the attainment demonstration a SIP revision demonstrating that it has adopted all control measures necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements.

b. Summary of final rule

Section 51.912(d) of the final rule reflects our proposal and draft regulatory text. For each nonattainment area required to submit an attainment demonstration under § 51.908, the State must submit with the attainment demonstration a SIP revision demonstrating that it has adopted all control measures necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements.

In the CAIR rulemaking (May 12, 2005, 70 FR 25221 et seq.), EPA found that the control installations projected to result from the CAIR NO_X and SO_2 caps in 2009 and 2010 would be as much as feasible from EGUs across the CAIR region by those dates. EPA concluded that the CAIR compliance dates represent an aggressive schedule that reflects the limitations of the labor pool, and equipment/vendor availability, and need for electrical generation reliability for installation of NO_X emission controls. We believe that the CAIR rule appropriately reflects the constraints the EGU sector faces in achieving NO_X reductions (and the CAIR SO_2 reductions) in a way that is as expeditious as practicable. States should recognize these constraints in developing their own compliance schedules for NO_X emission controls in meeting their CAIR and RACM responsibilities. However, the CAIR rule did not specify which sources should install emissions control equipment or reduce emission rates to a specific level in order to meet the SO_2 and NO_X caps under CAIR.

Based on our experience developing the NO_X SIP Call, CAIR, and the proposed Clear Skies Legislation, we believe that many power companies will develop their strategies for complying with CAIR based, in part, on consultations with air quality officials in the areas in which their plants are located. Because power plants are generally major emission sources, the operators of those plants typically have ongoing relationships with State and local officials that will be involved in developing air quality plans. We are aware that, in the past, companies have worked with air quality officials to meet their emission control obligations under a cap-and-trade approach such as the NO_X SIP Call while also addressing the concerns of air quality officials about the air quality impacts of specific plants. This has led to controlling emissions from power plants located in or near specific ozone nonattainment areas. A number of companies have indicated that such collaboration will be even more important as the States in which they are located address multiple air quality goals (e.g., visibility, interstate air pollution, local attainment of standards for multiple pollutants).

The EPA expects similar consultations between States and power sector companies on which plants will be controlled under CAIR, considering local attainment needs in planning for CAIR compliance. This consultation might promote opportunities to provide improved air quality earlier for large numbers of people. Power companies may identify economic advantages in situating CAIR controls to help the local area attain; for example, it might need to control fewer facilities for the area to reach attainment. These benefits may outweigh any additional marginal costs

[70] 57 months from June 15, 2004 effective date of designation (27 months to submission plus 30 months to implementation).

[71] Note, since the CAA requires attainment as expeditiously as practicable, some moderate nonattainment areas may have an attainment date earlier than June 15, 2010.

[72] ''State Implementation Plans; General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas'' 44 FR 20372 at 20375. ''Provide for implementation of all reasonably available control measures (RACM) as expeditiously as practicable, insofar as necessary to assure reasonable further progress and attainment by the required date * * *''

''State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Proposed Rule.'' 57 FR 13498 at 13560 (April 16, 1992). In part this guidance said, ''The EPA * * * indicated that where measures that might in fact be available for implementation in the nonattainment area could not be implemented on a schedule that would advance the date for attainment in the area, EPA would not consider it reasonable to require implementation of such measures. The EPA continues to take this interpretation of the RACM requirement.'' As an example, with regard to one possible list of measures (TCMs under section 108(f) of the Act) that guidance said, ''* * * based on experience with implementing TCM's over the years, EPA now believes that local circumstances vary to such a degree from city-to-city that it is inappropriate to presume that all section 108(f) measures are reasonably available in all areas. It is more appropriate for States to consider TCM's on an area-specific, not national, basis and to consider groups of interacting measures, rather than individual measures.''

''Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas.'' John S. Seitz, Director, Office of Air Quality Planning and Standards. November 30, 1999. Web site: *www.epa.gov/ttn/oarpg/t1pgm.html.*

Memorandum of December 14, 2000, from John S. Seitz, Director, Office of Air Quality Planning and Standards, re: ''Additional Submission on RACM from States with Severe One-Hour Ozone Nonattainment Area SIPs.''

the company might incur by forgoing less costly controls on another more distant plant. In any event, the intent of these consultations would not be to upset market behavior or incentives. With respect to ozone, we anticipate that these consultations will affect individual control decisions for a few areas.

In this regard, EPA notes that CAIR SIPs will be due in 2006, while local 8-hour ozone attainment plans will be due in 2007. The EPA suggests that consultations on location of CAIR controls would be timely during State development of the CAIR SIP.

As States implement the RACM provisions in conjunction with their attainment demonstration, we recognize that for some moderate areas and some subpart 1 areas it may be difficult to demonstrate attainment in less than 5 years due to the time needed to adopt and implement controls, and the need to achieve significant emissions reductions to advance the attainment date. However, the State will need to assess RACM to determine whether the attainment date could be sooner than 5 years from designation for each nonattainment area.

EPA believes that while areas projected to attain within 5 years of designation as a result of existing national measures should still be required to conduct a RACM analysis, such areas may be able to conduct a limited RACM analysis that does not involve additional air quality modeling beyond that used for the attainment demonstration. A limited analysis of this type could involve the review of available reasonable measures, the estimation of potential emissions reductions, the evaluation of the time needed to implement these measures, and anticipated levels of regional controls affecting ozone in the nonattainment area. In lieu of conducting air quality modeling to assess the impact of potential RACM measures, existing modeling information could be considered in determining the magnitude of emissions reductions that could significantly affect air quality and potentially result in earlier attainment. If the State, in consultation with EPA, determines from this initial, more limited RACM analysis that the area may be able to advance its attainment date through implementation of reasonable measures, then the State must conduct a more detailed RACM analysis, involving air quality modeling analyses, to assess whether it can advance the attainment date.

c. Comments and Responses

Comment: One commenter asked that we clarify whether old SIP measures become RACM.

Response: Under EPA's policy concerning RACM, there are no measures that are automatically deemed RACM. The determination of whether a SIP contains all RACM requires an area-specific analysis that there are no additional economically and technologically feasible control measures (alone or in conjunction with others) that will advance the attainment date.[73] The April 16, 1992, ''General Preamble'' provides some guidance on measures that the State should consider in making its RACM determination, including ''any measure that a commenter indicates during a public comment period is reasonably available should be closely reviewed by the planning agency to determine if it is in fact reasonably available for implementation in the area in light of local circumstances.'' Such measures can be rejected as not being RACM if they will not advance attainment or provide for RFP or if they are not economically or technologically feasible.

Comment: One commenter recommended that EPA revise its policy permitting SIPs to exclude otherwise feasible and potentially RACM that achieve emissions reductions in increments less than the amount necessary to advance the attainment date by a full year. The commenter believed this was an onerous standard that has stymied development of new control measures, particularly transportation control measures. The commenter believed EPA's RACM standard is especially harmful to the ability to provide SIP credit for Smart Growth land use, due to the long timeframe over which land is developed and redeveloped. The commenter believes that ever-increasing suburbanization of our nation inflates the growth rate in VMT, thereby neutralizing improvements in vehicle emissions. The commenter claimed that a significant air quality improvement strategy for the 21st Century is compact mixed use pedestrian-friendly development near frequent transit and believed that changing land use plans in this direction will benefit air quality by reducing the rate of growth in VMT and emissions. The commenter recommended that EPA be aware of this and revise its RACM standard to encourage local governments to alter their land use plans by providing a mechanism to give credit for air quality beneficial land use changes.

Response: We do not believe our RACM policy has ''stymied'' development of new control technologies. New emission reduction technologies have surfaced and continue to surface to meet market demands resulting in part from CAA requirements, which include the requirements to demonstrate attainment as expeditiously as practicable and to make RFP toward attainment. In addition, control measures that produce emissions reductions can be approved into SIPs whether or not such measures meet the definition of RACM. Our RACM policy merely interprets the CAA as not mandating measures that do not contribute to expeditious attainment and timely RFP. The policy does not limit the potential for States to develop any control measures they wish, including land use measures. In fact, we have prepared a separate guidance document on how areas can develop and receive SIP credit for land use control measures.[74] We conclude, however, that to require areas to adopt and implement as RACM every control technology or measure that obtains a small amount of emissions reductions—even if such measure would not advance the attainment date or is not required to meet RFP requirements—is not justified. Such a policy would be extremely burdensome to planning agencies, would detract from the effort to develop more reasonable and effective controls to meet the NAAQS, and would not be necessary to meet the statutory goal of expediting attainment. For these reasons, and because such a requirement is not mandated by the statute, we are not adopting such a policy.

Comment: One commenter believed that the RACM requirements for subpart 1 areas should be designed so as to not require extensive and unneeded control due to the fact that in most or all cases these controls will not be needed for the area to attain.

Response: We believe the current RACM guidance, which applies to both subpart 1 and subpart 2 areas, works to avoid extensive and unneeded controls, while ensuring that areas meet the health-based NAAQS as expeditiously as practicable.

Comment: One commenter believed our RACM guidance provides only minimum requirements to ensure attainment as expeditiously as

[73] Ibid.

[74] Improving Air Quality Through Land Use Activities; Transportation and Regional Programs Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency. EPA420–R–01–001. January 2001.

practicable and believes that every nonattainment area must be required to consider adoption of measures that have been implemented in other areas, including the South Coast of California, so as to achieve progress and attainment as expeditiously as practicable. An area should be allowed to reject such measures only upon a showing that they are not practicable due to specified unique circumstances. The commenter urged that given the importance of this issue to fair, expeditious and lawful implementation of the 8-hour standard, EPA's final 8-hour standard implementation rule must explicitly require compliance with this guidance.

Response: To meet the RACM provision of the CAA, the State must determine as part of its attainment demonstration whether there are additional measures that are feasible that would expedite attainment. In addition, EPA's RACM policy indicates that areas should consider all candidate measures that are potentially available, including any that have been suggested for the particular nonattainment area.[75] Although areas should consider all available measures, including those being implemented in other areas such as California, areas need adopt measures only if they are both economically and technologically feasible and will advance the attainment date or are necessary for RFP. This interpretation of the section 172 requirements has recently been upheld by several courts. See, e.g., *Sierra Club* v. *EPA,* et al., 294 F. 3d 155 (D.C. Circuit, 2002).

Comment: Several commenters agreed with our proposal to require that the RACM analysis and measures be submitted within 3 years after the effective date of designation for the 8-hour NAAQS.

Response: We acknowledge the support of the comments on the submission timing of the RACM requirements.

H. How will the section 182(f) NO_X provisions be handled under the 8-hour ozone standard?

[Section VI.L. of June 2, 2003 proposed rule (68 FR 32840); § 51.913 in draft and final regulatory text.]

1. Background

While NO_X emissions are necessary for the formation of ozone in the lower atmosphere, a local decrease in NO_X emissions can, in some cases, increase local ozone concentrations. This potential ''NO_X disbenefit'' resulted in Congress including the NO_X exemption provisions in section 182(f) of the CAA for areas classified under subpart 2. Section 182(f) requires States to apply the same requirements to major stationary sources of NO_X as are applied to major stationary sources of VOC under subpart 2. The relevant requirements are RACT and nonattainment major NSR for major stationary sources of NO_X in certain ozone nonattainment areas and throughout States in the OTR.[76] In addition, section 182(f) specifies circumstances under which these NO_X requirements would be limited or would not apply (''NO_X exemption''). Further, areas granted a NO_X exemption under section 182(f) may be exempt from certain requirements of EPA's motor vehicle I/M regulations and from certain Federal requirements of general and transportation conformity.[77]

In the June 2, 2003 action, we indicated the NO_X requirements and exemption provisions in section 182(f) would apply for subpart 2 nonattainment areas and in OTRs.[78] In addition, we proposed to allow subpart 1 nonattainment areas to seek a NO_X exemption, where appropriate. Further, we proposed that areas previously granted a NO_X exemption under the 1-hour ozone standard would need to request an exemption for purposes of the 8-hour standard in order to account for any new information that may point to a different conclusion with respect to the 8-hour standard. Recently, we invited comment[79] on draft guidance intended to update the existing 1-hour ozone guidance[80] regarding section 182(f) for application to the 8-hour ozone program. We issued the updated final guidance regarding section 182(f) on January 14, 2005.[81]

2. Summary of Final Rule

As proposed, the final rule allows a person to petition the Administrator for a NO_X exemption under section 182(f) for an area classified under subpart 2 or located in an OTR or under our regulations for any other area designated nonattainment for the 8-hour ozone NAAQS. As with the 1-hour ozone standard, the NO_X exemption provision in section 182(f) applies to subpart 2 ozone nonattainment areas and in a section 184 OTR. In addition, the final rule extends to subpart 1 ozone nonattainment areas the opportunity to petition the Administrator for an exemption from nonattainment major NSR and/or RACT requirements in a manner consistent with section 182(f) provisions. The petition must contain adequate documentation that the provisions of section 182(f) and/or our regulations are met. We recently issued[82] updated guidance on appropriate documentation regarding section 182(f) for application to the 8-hour ozone program. In addition, the final rule states that a section 182(f) NO_X exemption granted under the 1-hour ozone standard does not relieve the area from any requirements under the 8-hour ozone standard. That is, a new petition with respect to 8-hour ozone must be submitted to EPA and must be approved by EPA before an area is exempt from any 8-hour ozone standard NO_X requirements.

3. Comments and Responses

Comments: Several commenters supported EPA's proposal to make NO_X waivers available to 8-hour nonattainment areas and all areas in an OTR under either subpart 1 or subpart 2, pursuant to the provisions of section 182(f) of the CAA. Some commenters stated that requiring a new NO_X waiver for the 8-hour standard amounts to rescinding the existing waivers. Another commenter asked what is needed to maintain an exemption. One commenter stated that EPA should make it clear that there is no presumption that a NO_X waiver granted under section 182(f) of the CAA for the 1-hour ozone standard

[75] In ''AState Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Proposed Rule,'' we noted in the discussion of the RACM requirement that ''In addition, any measure that a commenter indicates during the public commenter period is reasonably available for a given area should be closely reviewed by the planning agency to determine if it is in fact reasonably available for implementation in the area in light of local circumstances.'' The discussion of RACM in that document contains other relevant history concerning the RACM requirement.

[76] See 57 FR 55622 (''Nitrogen Oxides Supplement to the General Preamble,'' published November 25, 1992).

[77] As stated in EPA's I/M (November 5, 1992; 57 FR 52950) and conformity rules (60 FR 57179 for transportation rules and 58 FR 63214 for general rules), certain NO_X requirements in those rules do not apply where EPA grants an areawide exemption under section 182(f).

[78] 68 FR 32840.

[79] September 1, 2004 at 69 FR 53378.

[80] The EPA's primary guidance regarding section 182(f) is contained in the ''Guideline for Determining the Applicability of Nitrogen Oxide Requirements under Section 182(f),'' issued by John S. Seitz, Director, Office of Air Quality Planning and Standards, to the Regional Division Directors, December 16, 1993.

[81] Memorandum dated January 14, 2005, ''Guidance on Limiting Nitrogen Oxides (NO_X) Requirements Related to 8-Hour Ozone Implementation'' from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to Air Directors, Regions I–X.

[82] Memorandum dated January 14, 2005, ''Guidance on Limiting Nitrogen Oxides (NO_X) Requirements Related to 8-Hour Ozone Implementation'' from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to Air Directors, Regions I–X.

is continued for the 8-hour standard. Other commenters recommended that the NO_X waiver should automatically apply for the 8-hour ozone standard in areas where EPA previously granted a NO_X waiver under the 1-hour ozone standard. One commenter stated that the technical basis for granting waivers under the l-hour NAAQS remains valid.

Response: We agree with comments supporting the proposal to apply the section 182(f) exemption provisions to subpart 2 nonattainment areas and OTRs and to extend these protections to subpart 1 areas through regulation.

Since a NO_X exemption granted for the 1-hour ozone standard was completed through notice-and-comment rulemaking, the exemption remains effective for the 1-hour standard unless and until EPA completes rulemaking to remove or revise the waiver for a specific area. This rulemaking on the 8-hour ozone implementation program does not rescind any existing 1-hour NO_X waiver provision.

However, for areas previously granted a NO_X waiver under the 1-hour ozone standard, a petitioner would need to seek a new waiver for purposes of the 8-hour ozone standard. The EPA does not believe NO_X waivers—including those granted under the 1-hour ozone standard—should always be permanent. As sources are regulated and the mix of pollutants is altered, circumstances could show that NO_X reductions will begin to provide a benefit. In several cases, the 1-hour NO_X waiver has been removed in subsequent rulemaking actions.[83] Indeed, when EPA issued waivers under the 1-hour ozone standard, we stated that the NO_X waivers would be removed where new information became available and the rationale for the initial NO_X waiver no longer was supported. For example, the waiver may be removed through rulemaking if subsequent modeling data demonstrated an ozone attainment benefit from NO_X emission controls.

Given that many NO_X waiver actions were based on air quality and dispersion modeling analyses made in the mid-1990s for purposes of the 1-hour standard, EPA believes that newer data and analyses should be used to determine if a NO_X waiver under the 8-hour ozone standard is warranted. Many NO_X waivers were simply based on whether an area had ambient air quality showing attainment of the 1-hour ozone standard; this is not an appropriate basis for a waiver under the 8-hour ozone standard since areas may be attaining the 1-hour standard but exceeding the 8-hour standard. Some NO_X waivers were based on dispersion modeling. In some cases, the modeling later proved inadequate as attainment was not met in the forecast year. In other cases, those modeling analyses have been replaced with more recent analyses. The EPA believes that NO_X waivers under the 8-hour ozone standard should be supported by analyses specific to the 8-hour ozone standard and should consider relevant information developed after the 1-hour waivers were granted.

The EPA believes the NO_X waivers may not be granted except through notice-and-comment rulemaking action. That is, since EPA approval of a waiver request would change SIP requirements, EPA must conduct notice-and-comment rulemaking on that request. The EPA believes this requirement precludes automatic approval of 8-hour NO_X waiver requests based on previously issued 1-hour NO_X waivers.

Comment: Some commenters urged EPA to expand the section 182(f) waiver to VOC RACT as well as NO_X RACT. One commenter states that EPA has substantially more discretion under subpart 1 than it does under subpart 2, and to fail to exercise that discretion to avoid ineffective and inefficient requirements (through NO_X and VOC waivers) would be irresponsible, and an abuse of its discretion.

Response: The EPA disagrees with these comments. We do not see any provision in the CAA that would give us the authority to create such an exemption. While Congress could have created a VOC waiver at the same time the section 182(f) NO_X waiver provisions were enacted, Congress chose not to do so. The Congress further provided for additional review and study under section 185B ''to serve as the basis for the various findings contemplated in the NO_X provisions'' (H.R. Rep. 490 at 257). Under section 185B, EPA, in conjunction with the National Academy of Sciences (NAS), conducted a study on the role of ozone precursors in tropospheric ozone formation. The final section 185B report incorporates this NAS report along with an EPA report addressing the availability and extent of NO_X controls. With respect to VOC, the NAS report states that ''control of VOCs never leads to a significant increase in ozone.''[84] Thus, the section 185B report does not support a waiver provision for VOC. While dispersion modeling analyses show that NO_X emissions reductions can be counterproductive under certain circumstances (the reason for the NO_X waiver provision), we do not see a similar case for VOC.

Comment: One commenter stated that the draft guidance does not contain a discussion of the linkages between 182(f) NO_X exemptions and certain other regional NO_X reduction requirements such as the NO_X SIP Call and the proposed ''Clean Air Interstate Rule.'' The commenter believed EPA has an obligation to assess the impact of any section 182(f) exemption request under the provisions of section 110(a)(2)(D), including the potential for emissions exempted from controls to contribute to downwind nonattainment or to interfere with the maintenance of any NAAQS.

Response: As discussed in section 4.2 of the draft 8-hour exemption guidance, EPA encourages States/petitioners to include consideration of air quality effects that may extend beyond the designated nonattainment area. States should consider such impacts since they are ultimately responsible for achieving attainment in all portions of their State and for ensuring that emissions originating in their State do not contribute significantly to nonattainment in, or interfere with maintenance by, any other State. However, EPA believes NO_X exemptions under section 182(f) of the CAA and interstate transport of emissions under section 110(a)(2)(D) of the CAA can be considered independently. Section 110(a)(2)(D) requires States to reduce emissions from stationary and/or mobile sources where there is evidence showing that such emissions would contribute significantly to nonattainment or interfere with maintenance in other States. In some cases, then, EPA may grant an exemption from certain NO_X requirements and, in a separate action, require NO_X emission decreases under section 110(a)(2)(D). Thus, a NO_X exemption doesn't affect an obligation of a State to meet a NO_X budget established under a NO_X SIP Call or other transport rule.

I. Should EPA promulgate a NSR provision to encourage development patterns that reduce overall emissions?

[Section 0.9. of the June 2, 2003 proposed rule (68 FR 32849). No draft or final regulatory text.]

Note: Section V of this preamble below addresses rules for NSR for the 8-hour ozone standard. This section addresses only the June 2, 2003 proposal related to Clean Air Development Communities (CADC).

[83] E.g: Recision of NO_X waiver for the Dallas-Fort Worth area on April 20, 1999 (64 FR 19283). Also, the temporary waiver for Houston and Beaumont (originally granted April 19, 1995, expired December 31, 1997). (60 FR 19515).

[84] December 1991 NAS report, *Rethinking the Ozone Problem in Urban and Regional Air Pollution, page 377.*

1. Background

In the June 2, 2003 proposal, we considered two options designed to recognize the air quality benefits which can accrue when areas site new sources and plan development in a manner that results in overall reduced emissions. We proposed to define a community that changes its development patterns in such a way that air emissions within the nonattainment area are demonstrably reduced as a CADC. As a result of becoming a CADC, an area would obtain a certain amount of flexibility in its NSR program.

In the first option, we proposed that a CADC would have a more flexible NSR program by: (1) Being subject to subpart 1 NSR as opposed to subpart 2 NSR; (2) lowering NSR major source thresholds for these areas to make them similar to the thresholds for PSD areas; and (3) allowing areas that meet certain development criteria (development zones) to receive NSR offsets from State offset pools. In the second option, we proposed that a CADC would be able to receive a pool of NSR offset credits equal to the reduced emissions from new development patterns. Credits from the pool could be provided to any new or modified source in a ''development zone'' as offsets.

We also requested comments on the options and encouraged comments suggesting other ways of encouraging development patterns that would result in lower emissions.

2. Summary of Final Rule

The EPA is not at this time issuing any rule related to CADCs.

3. Comments and Responses

Comments: The EPA received numerous comments on the proposal, some supporting and others opposing the CADC provision. A number of the commenters noted that the proposal did not appear to have enough detail. A summary of the comments appears in the response to comment document.

Response: The EPA appreciates the many comments it has received on this section. The EPA agrees with a number of commenters that while the ideas in this section are interesting and designed to achieve useful goals, much more work is needed in a separate effort to work through the many issues involved. Therefore, EPA will not move forward with this particular effort at this time.

However, EPA does not plan to ignore the issue. The EPA will be looking to bring a group of stakeholders together to see if the group can come up with and support one or more ways that we can use existing programs and authorities to create positive incentives and tools for communities to reduce sprawl. The process will not be designed to work only through the specific issues in establishing a program to encourage CADCs as outlined in the proposal, but will be open to all ideas.

Issues related to community development, land use and ''sprawl'' will have transportation and air quality implications. Therefore, EPA will work closely with DOT in addressing these issues.

J. How will EPA ensure that the 8-hour ozone standard will be implemented in a way which allows an optimal mix of controls for ozone, $PM_{2.5}$, and regional haze?

[Section VI.P. of June 2, 2003 proposed rule (68 FR 32852); no draft or final regulatory text.]

1. Background

As noted in the proposal, in many cases, States will be developing strategies to attain both the 8-hour ozone and $PM_{2.5}$ NAAQS in the same nonattainment area or in nonattainment areas that have some area or areas in common. Additionally, requirements for regional haze apply to all areas. Certain ozone control measures may also be helpful as part of a $PM_{2.5}$ control strategy or a regional haze plan. Similarly, controls for $PM_{2.5}$ may lead to reductions in ozone or regional haze. Because the precursors for ozone and $PM_{2.5}$ may be transported hundreds of kilometers, regional scale impacts may also be relevant to consider. While EPA expects that strategies to decrease ozone concentrations will not adversely affect strategies to attain the $PM_{2.5}$ NAAQS, we also believe integration of ozone, $PM_{2.5}$, and regional haze planning will reduce overall costs of meeting multiple air quality goals.

2. Summary of final rule

We are encouraging each State with an ozone nonattainment area that overlaps or is nearby a $PM_{2.5}$ nonattainment area to take all reasonable steps to coordinate the SIP development processes for these nonattainment areas and to coordinate the development of these SIPs with the state's SIP to address the reasonable progress goals for regional haze. Specifically, EPA encourages States conducting modeling analyses for ozone to separately estimate effects of a strategy on the following: mass associated with sulfates, nitrates, organic carbon, elemental carbon, and all other species. However, while we believe such coordination may reduce the overall costs to States for implementing these programs, this final rule does not require the State to coordinate these three planning efforts.

3. Comments and Responses

Comments: Several commenters supported EPA's recommendation for States to integrate planning for 8-hour ozone, $PM_{2.5}$, and regional haze. These commenters agreed that the integration of ozone, $PM_{2.5}$ and regional haze controls will reduce the overall costs of meeting multiple air quality goals and that EPA should continue to synchronize the SIP planning requirements for these pollutants to aid in this integration. One commenter asked EPA to clarify that this analysis is not an approvability issue associated with an 8-hour attainment demonstration. Other commenters recommended that EPA require nonattainment areas to perform an integrated control strategy assessment to ensure ozone controls will not preclude optimal controls for secondary fine particles and visibility impairment.

Response: We recognize the importance of integrating planning for 8-hour ozone, $PM_{2.5}$, and regional haze as much as possible, given the overlap in technical work and likely control strategies. None of the commenters, however, has identified legal authority that allows EPA to require nonattainment areas to perform an integrated control strategy assessment to ensure ozone controls will not preclude optimal controls for secondary fine particles and visibility impairment. Therefore, we will continue to encourage States to coordinate their work, but it is not a requirement and, thus, not an approvability issue.

Comments: Other commenters encouraged EPA to identify flexibility so that areas may be provided more time if they are developing a multi-pollutant strategy. Commenters stated that it is imperative that SIP obligations and attainment dates with respect to these regulated air pollutants be harmonized and that regulatory requirements and deadlines be closely coordinated. One commenter stated this may require certain deadlines be extended and that they believe Congress would not be opposed to extending deadlines in the name of efficiency.

Response: To the extent our legal authority allows, we are working to harmonize SIP timelines for ozone, $PM_{2.5}$, and regional haze. This 8-hour ozone implementation rule is necessarily based on the existing CAA and does not assume any changes to the CAA that may occur in the future. Thus, we cannot extend the submission dates for 8-hour ozone SIPs so that they match

the later submission dates for $PM_{2.5}$ and regional haze SIPs. However, there is a substantial overlap in planning periods that will allow States to coordinate planning efforts among programs, without postponing implementation.

K. What emissions inventory requirements should apply under the 8-hour ozone NAAQS?

[Section VI.Q. of June 2, 2003 proposed rule (68 FR 32853); § 51.915 in draft and final regulatory text.]

1. Background

Section 182(a)(1) requires that marginal and above ozone nonattainment areas submit an emission inventory 2 years after designation as nonattainment in 1990. For nonattainment areas classified under subpart 2 for the 8-hour ozone standard, we proposed to interpret this to mean that an emission inventory would be required 2 years after designation (i.e., in 2006 if EPA designates areas in 2004). The Consolidated Emission Reporting Rule (CERR) in 40 CFR part 51, subpart A, requires States to submit comprehensive statewide triennial emission inventories, beginning with the 2002 inventory year, regardless of an area's attainment status. Because these emission inventories will be available, we proposed that the data elements required for emission inventories by the CERR could be used to prepare the emissions inventories under the 8-hour NAAQS. The draft regulatory text, however, did not contain a specific requirement that the emission inventory be submitted as a SIP revision within 2 years after designation.

For subpart 1 areas, section 172, paragraphs (b) and (c)(3) require submission of the nonattainment area emission inventory as part of the SIP by a date established by EPA, which cannot be later than 3 years after designation as a nonattainment area. However, the June 2, 2003 proposal did not specify a deadline for submission of the emission inventory for subpart 1 areas.

The proposal also noted that we would be updating the April 1999 ''Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations,'' EPA–454/R–99–006. This guidance has been updated and now is available as: ''Emission Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations'', EPA–454/R–05–001.[85] This guidance complements the CERR by providing guidance on how to prepare data for emissions inventory SIP submissions.

2. Summary of Final Rule

Section 51.915 of the final rule reflects our June 2, 2003 proposal but is different from the draft regulatory text. To ensure comprehensive treatment of emission inventory requirements, the final rule contains language addressing the deadlines for submission of emission inventories for both subpart 1 and subpart 2 areas. The deadlines reflect the statutory requirements of no later than 3 years after designation for a subpart 1 area, and no later than 2 years after designation for subpart 2 areas. Existing emissions reporting requirements in 40 CFR part 51, subpart A are sufficient to satisfy the emissions inventory data requirements under the 8-hour ozone NAAQS. Consistent with the statutory schedule in section 182(a)(1) of the CAA, the final regulatory text in section 51.915 requires submission of an emission inventory no later than 2 years after designation as part of a subpart 2 SIP. Consistent with the statutory schedule in paragraphs (b) and (c)(3) of section 172 of the CAA, the final regulatory text in section 51.915 requires submission of an emission inventory no later than 3 years after designation as part of a subpart 1 SIP.

In its guidance titled, ''Public Hearing Requirements for 1990 Base-Year Emissions Inventories for Ozone and Carbon Monoxide Nonattainment Areas,'' September 29, 1992, EPA set forth its interpretation of a ''*de minimis*'' deferral of the public hearing requirement and the requirement for EPA to approve or disapprove emissions inventories under section 110(k). The EPA intends to follow this guidance in implementation of the emissions inventory requirements under the 8-hour ozone standard, under which areas could defer holding public hearings on their inventories and EPA could defer approving such inventories until the time the areas adopt and submit their attainment demonstrations and/or RFP plans.

Existing emissions reporting requirements in 40 CFR part 51, subpart A can be applied to determine the data elements required for emissions inventories under the 8-hour ozone NAAQS (see, e.g. Tables 2A, 2B, 2C, and 2D). Where appropriate, the State may use the data elements developed under part 51, subpart A in preparing its emissions inventory under the 8-hour ozone NAAQS. Also, EPA expects the States to consult the guidance document ''Emission Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations'', EPA–454/R–05–001, and to submit inventories that are appropriate for the geographic area at issue and consistent with this guidance.[86] We expect the State to include in its SIP submission documentation explaining how the emissions data were calculated.

3. Comments and Responses

Comment: Several commenters said that the proposal does not discuss specific requirements above and beyond those in the CERR. However, the proposal does mention one EPA guidance document, ''Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations''. This document states that ''The EPA developed this guidance document to complement the CERR and to provide specific guidance to State and local agencies and Tribes on how to develop emissions inventories for 8-hour ozone, $PM_{2.5}$, and regional haze SIPs.'' Since the 8-hour emissions inventory requirements are the same for the CERR, there should be no additional, special requirements needed in emissions inventory development for the proposed 8-hour rule.

Response: In its proposal, when EPA referred to the CERR emissions inventory requirements as satisfying requirements for emissions inventories under the 8-hour standard, EPA was referring to the requirements for data elements. The EPA did not mean to imply that the emissions inventories developed under the CERR, which are statewide, would satisfy all aspects of SIP inventories developed for SIP submissions under the 8-hour standard. While the CERR sets forth requirements for data elements, EPA guidance complements these requirements and indicates how the data should be prepared for SIP submissions. The 2002 emission inventory submitted as a SIP element under the 8-hour ozone SIP process is not necessarily the same as the 2002 emission inventory submitted under the CERR. The two inventories differ in some important ways. For example, the CERR inventory was due June 1, 2004, while the SIP inventory due dates are later. Because of this time

[85] (available at: *http://www.epa.gov/ttn/chief/eidocs/eiguid/index.html*)

[86] The CERR requires emissions inventory data on a statewide basis.

lapse, the State may choose to revise some of the data from the CERR when it prepares its SIP inventory because of improvements in emission estimates. The SIP inventory also must be approved by EPA as a SIP element and is subject to public hearing requirements where the CERR is not. Because of the regulatory significance of the SIP inventory, EPA will need more documentation on how the SIP inventory was developed by the State as opposed to the documentation required for the CERR inventory. In addition, the geographic area encompassed by some aspects of the SIP submission inventory will be different from the statewide area covered by the CERR emissions inventory. The guidance document ''Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations'' [87] provides details on how States should prepare their emission inventory SIP submittals and discusses these and other relevant topics. If a State's 2005 emission inventory (or a later one) becomes available in time to use for an area subsequently redesignated nonattainment, then that inventory should be used. We also encourage the cooperation of the Tribes and the State and local agencies in preparing their emissions inventories.

Comment: One commenter was concerned with the timing of the release of the final version of the NONROAD model (used to estimate mobile source emissions from nonroad sources). The commenter agreed that the draft version out for comment during the comment period was superior to previous calculation methodology and should be used for planning purposes. However, EPA needs to be cognizant of how disruptive to the planning process it is for new versions of emissions models to be released and incorporated in the middle of the development of a SIP. The commenter strongly encourages EPA to expedite the review and approval of any new models that will ultimately be used by States.

Response: We acknowledge that the timing of the release of new models can sometimes complicate the SIP planning process. In this case, the timing of the final release of the NONROAD is dependent on the timing of the new nonroad standards final rule. We will do what we can to expedite the release of a new version of NONROAD that reflects the emissions benefits of the nonroad rule as soon as possible. In addition, we intend to provide guidance on the use of NONROAD that allows for completion of ongoing work with the current version of NONROAD if switching to the new version would cause significant delay. The EPA has included similar language in previous SIP policy guidance for the MOBILE model.

Comment: One commenter urged EPA to improve the quality of $PM_{2.5}$ rates in MOBILE6.2 so that areas will have a more reliable tool for creating a 2002 base-year inventory and for developing SIP revisions. The commenter was concerned about developing $PM_{2.5}$ emissions inventories because $PM_{2.5}$ emissions factors in MOBILE6.2 are based largely on the old Part #5 emission model and are not as sophisticated as the rates for CO, NO_X, and VOC. The commenter also expressed concern about the lack of knowledge and techniques available for performing on-road mobile source fine particulate emissions inventories. Metropolitan Planning Organizations (MPOs) and air quality agency staff need to have a more reliable tool and acceptable methods for creating base year $PM_{2.5}$ inventories and for SIP planning.

Response: This comment is not directly relevant to the 8-hour ozone implementation rule. However in the interest of providing clarification on the issues raised by the commenter, we provide the following background information. Particulate emission factors in MOBILE6.2 are based on the best technical information available at the time the model was developed and we believe that it is the best available tool for estimating on-road emission factors for $PM_{2.5}$. We are currently collecting additional PM data which will be incorporated in future versions of the EPA mobile source emission factor model. We continue to work to improve models and inventory methods for all pollutants. We have released technical guidance on the use of MOBILE6.2 and on methods for developing annual inventories in SIPs and conformity analyses to help MPOs and air quality agency staff perform on-road mobile source fine particulate analyses.

Comment: One commenter stated that since the CERR requires inventories every 3 years, that the CERR should replace the Emission Statement Reporting Program (ESRP) requirement, which was required before the CERR was adopted.

Response: The ESRP is statutorily prescribed in section 182 (a)(3)(B) of the CAA. The emission statement requirement satisfies a different need from the periodic emissions inventory requirement, namely that affected sources themselves have to report to the State their updated emissions information, whereas the emissions inventory requirement is a requirement on States to compile and make available to EPA an emissions inventory. We believe that the ESRP is a complementary program to the CERR and makes it easier for States to satisfy their CERR reporting requirements by providing data to the States from the sources.

Comment: One commenter said that persistent inaccuracies in official emissions inventories have hindered regulatory acknowledgment and mitigation of the automobile VOC and CO gross polluter problem. The EPA should develop realistic emissions inventories and require States to do the same. Known errors in these inventories continue to misdirect emission reduction efforts. In particular, too little focus has been placed on the potential for rapid, substantial VOC and CO reductions from the in-use automobile fleet.

Response: We agree that realistic emissions inventories are important to properly direct emission reduction efforts. Current emission factor models and inventory methods are far superior to previous models and methods and we are working to continually improve models and methods for developing emissions inventories for on-road and nonroad vehicles and equipment.

Comment: One commenter stated that the official emissions inventories generated and used by EPA and State regulatory agencies for SIP planning and implementation have been shown repeatedly to suffer from serious inaccuracies and biases. Problems with inventories include errors in the total amount of emissions, as well as errors in the apportionment of emissions among various source categories. The most serious inventory problems center on VOC and CO, while problems with NO_X inventories appear to be more modest. Since emissions inventories are a fundamental input to the process of choosing pollution reduction measures and to the modeling used to demonstrate future attainment of NAAQS, an inaccurate inventory is likely to lead to poor policy choices in terms of cost, effectiveness, or both.

Response: We agree that emissions inventories are fundamental inputs to the air quality management process. We continue to strive to work with State and local agency partners to develop emissions inventories that best reflect the real world and will thus assist in identifying control strategies to make

[87] EPA–454/R–05–001, August 2005 (available at: *http://www.epa.gov/ttn/chief/eidocs/eiguid/index.html*).

RFP and attain the NAAQS. One should be aware, however, that it is impossible to develop an emissions inventory for an area that is 100 percent accurate. Part of the problem is that most sources—including mobile sources—don't monitor and report emissions continuously, and therefore we and the States must use other methods to estimate emissions from them. Thus, emission inventories are by nature estimates of actual releases to the atmosphere. The EPA believes that current emission inventories are sufficiently accurate to support the air quality management decisions that are derived from the application of emission inventories and air quality models. The emissions data generated and used by EPA and State regulatory agencies for SIP planning and implementation is the best available. Although inventories are often criticized as lacking accuracy, seldom do critics supply better information.

Comment: One commenter stated that the Agency proposes that the latest approved version of the MOBILE model should be used to estimate emissions from on-road transportation systems. The commenter recommended that if there are other models that meet EPA performance criteria and are scientifically peer reviewed, they should also be acceptable [e.g., the California mobile model, ''EMission FACtor'' (EMFAC)].

Response: We believe that MOBILE is the best available tool for estimating emissions from on-road transportation systems outside of California. We are working to continually improve emission factor models and inventory methods for on-road vehicles. The EMFAC is not designed to be able to estimate fleet, activity, fuel, and environmental characteristics outside of California and is not a reasonable substitute for MOBILE in States other than California.

Comment: One commenter supported the use of MOBILE6 in the 8-hour emissions inventory analyses and believed that EPA should change the guidance with respect to the use of MOBILE6 from ''should be used'' to ''must be used.'' The commenter cautioned that MOBILE6 still significantly over-predicts emissions from passenger cars and light duty trucks for many reasons including the following: (1) The model does not adequately account for the benefits of onboard diagnostic regulation in non-I/M areas; and (2) the model does not reflect the decline in trips per day versus vehicle age.

Response: The EPA's January 18, 2002 SIP and conformity policy guidance document (''Policy Guidance on the Use of MOBILE6 for SIP Development and Transportation Conformity,'' memo from John Seitz and Margo Oge to EPA Regional Air Division Directors) states, ''In general, EPA believes that MOBILE6 should be used as expeditiously as possible. The Clean Air Act requires that SIP inventories and control measures be based on the most current information and applicable models that are available when a SIP is developed.'' The EPA's February 14, 2004 SIP and conformity policy guidance document (''Policy Guidance on the Use of MOBILE6.2 and the December 2003 AP–42 Method for Re-Entrained Road Dust for SIP Development and Transportation Conformity'', memo from Margo Oge and Steve Page to EPA Regional Air Division Directors) updates this by stating that ''All states other than California should use MOBILE6.2 for future VOC, NO_X, and CO SIP and conformity analyses in order to take full advantage of the improvements incorporated in this version.'' MOBILE6.2 is the most current applicable model and is based on the best information available at the time of its development and release. Therefore, EPA has indicated that it should be used.

We do not believe that more on-board diagnostic benefits in non-I/M areas was justified based on available data at the time of the release of MOBILE6.2. Likewise, we did not have sufficient data to develop alternative assumptions about the relationship between trips per day and vehicle age. We are working to continually improve emission factor models and inventory methods for on-road vehicles and will review these issues during the development of the next emission factor model.

L. What guidance should be provided that is specific to Tribes?

[Section VI.R. of June 2, 2003 proposed rule (68 FR 32854); no draft or final regulatory text.]

1. Background

As noted in the preamble to the proposal, the TAR (40 CFR, part 49), which implements section 301(d) of the CAA, gives Tribes the option of developing TIPs which can then be submitted to EPA for approval. Unlike States, Tribes are not required to develop implementation plans. Under the TAR, eligible Tribes are treated in the same manner as a State when implementing the CAA; however, EPA has determined that Tribes are not required to meet plan submittal and implementation deadlines in the CAA, e.g., 110(a)(1), 172(a)(2), 182, 187, and 191.[88]

The TAR provides flexibility for Tribes in the preparation of a TIP to address the NAAQS. The ''modular approach'' was described in the June 2, 2003 proposal of this rule. The TAR indicates that EPA ultimately has the responsibility for implementing CAA programs in Indian country, as necessary or appropriate, if Tribes choose not to implement those provisions. The EPA may find it necessary to develop a FIP to reduce emissions from sources in Indian country where the Tribe has not developed a TIP to address an air quality problem.

Finally, as discussed in the June 2, 2003 proposal, it is important for both States and Tribes to work together to coordinate planning efforts since many nonattainment areas may include both Tribal land and non-Tribal land. Coordinated planning will help ensure that the planning decisions made by the States and Tribes complement each other and that the nonattainment area makes reasonable progress toward attainment and ultimately attains the NAAQS. In reviewing and approving the individual TIPs and SIPs, we will make certain they do not conflict with the overall air quality plan for an area.

Section 301(d) of the CAA recognizes that eligible Indian Tribes are generally the appropriate non-Federal authority to implement the CAA in Indian country. As stated in the TAR, it is appropriate to treat eligible Tribes in the same manner as States, except for certain identified provisions, including provisions relating to plan submittal and implementation deadlines, 40 CFR section 49.3, 49.4. Therefore, when we discuss the role of the State in implementing this rule, we are also generally referring to eligible Tribes, with the above exception.

As we noted in the June 2, 2003 proposal, States have an obligation to notify Tribes as well as other States in advance of any public hearing(s) on their State plans that will significantly impact such jurisdictions. Under 40 CFR 51.102(d)(5), States must notify the

[88] See 40 CFR part 49.4(a). In addition, EPA determined it was not appropriate to treat Tribes similarly to States with respect to provisions of the CAA requiring as a condition of program approval the demonstration of criminal enforcement authority or providing for the delegation of such criminal enforcement authority. See 40 CFR part 49.4(g). To the extent a Tribe is precluded from asserting criminal enforcement authority, the Federal government will exercise primary criminal enforcement responsibility. See 40 CFR part 49.8. In such circumstances, Tribes seeking approval for CAA programs provide potential investigative leads to an appropriate Federal enforcement agency.

affected States of hearings on their SIPs; this requirement extends to Tribes under 301(d) of the CAA and the TAR. (40 CFR part 49). Therefore, affected Tribes that have achieved ''treatment in the same manner as States'' status must be informed of the contents of such plans and the extent of documentation to support the plans. In addition to this mandated process, we encourage States to extend the same notice to all Tribes for the reasons noted in the comment and response below. As a matter of policy, EPA intends to consult with and assist all Tribes, regardless of whether a Tribe has received Treatment in the same manner as a State (TAS) approval for the purpose of implementing its own TIP, and we encourage States to do the same.

Understanding the content of a SIP will be important to Tribes located next to areas that are required to adopt SIPs, particularly to Tribes who do not choose or have the capacity to develop a TIP. Therefore, EPA intends to offer Tribes the opportunity for consultation on activities potentially affecting the achievement and maintenance of the NAAQS in Indian country. In addition, we expect States to work with Tribes with land that is part of the same air quality area during the SIP development process and to coordinate with Tribes as they develop the SIPs. In the case where the State models projected emissions and air quality under the SIP, the Tribes should be made aware of these modeling analyses. Tribes may wish to determine if the Tribal area has been affected by upwind pollution and whether projected emissions from the Tribal area have been considered in the modeling analysis.

Generally, Tribal lands have few major sources, but in many cases, air quality in Indian country is affected by the transport—both long range and shorter distance transport—of pollutants. In many cases, Tribal nonattainment problems caused by upwind sources will not be solved by long-range transport policies, as the Tribes' geographic areas are small. Tribes are sovereign entities, and not political subdivisions of States. Strategies used for intrastate transport are not always available. Most of the strategies and policies used by States in dealing with short-range transport are not available to Tribes, e.g., requiring local governments to work together and expanding the area to include the upwind sources. Unlike Tribes, States can generally require local governments to work together, or make the nonattainment area big enough to cover contributing and affected areas. We believe that it is also unfair to Tribes to require disproportionate local regulatory efforts to compensate for upwind emissions. In many cases, attainment could not be reached even if emissions from the Tribe were zero.

To address these concerns, in the June 2, 2003 proposal, we took comment on the following: EPA will review SIPs for their effectiveness in preventing significant contributions to nonattainment in downwind Tribal areas with the same scrutiny it applies to reviewing SIPs with respect to impacts on downwind States. Where a Tribe has ''treatment in the same manner as States,'' EPA will support the Tribes in reviewing upwind area SIPS during the State public comment period.

2. Summary of Policy

We intend to take the approach noted in the proposal.

3. Comments and Responses

Comment: One commenter was concerned about the transport of pollutants, including ozone precursors from urbanized areas into areas of Indian country. The commenter expressed strong support for the proposed 8-hour implementation rule statement that ''EPA will review SIPS for their effectiveness in preventing significant contributions to nonattainment in downwind Tribal areas with the same scrutiny it applies to impacts on downwind States. Where a Tribe has 'treatment in the same manner as States,' EPA will support the Tribe in reviewing upwind area SIPs during the State public comment period.'' This commenter asked for clarification on the nature of EPA's support for Tribes without TAS status. The commenter also asked if EPA would support Tribes without TAS approval in reviewing upwind area SIPs and provide technical assistance in interpreting SIP documentation.

Response: In the TAR, we stated that the CAA protections against interstate pollutant transport apply with equal force to States and eligible Tribes. We stated that the prohibitions and authority contained in sections 110(a)(2)(D) and 126 of the CAA apply to eligible Tribes in the same manner as States. (See 63 FR 7254, 7260; February 12, 1998). Section 110(a)(2)(D) requires, among other things, that States include provisions in their SIPs that prohibit any emissions activity within the State from significantly contributing to nonattainment, interfering with maintenance of the NAAQS or PSD or visibility protection programs in another State. In addition, section 126 authorizes any State or eligible Tribe to petition EPA to enforce these prohibitions against a State containing an allegedly offending source or group of sources.

We intend to consult with and assist Tribes during the TIP and SIP development process, regardless of whether a Tribe has received TAS approval for the purpose of implementing its own TIP. Executive Orders and EPA Indian policy generally call for EPA to be proactive with the Tribes. Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' requires EPA to develop an accountable process to ensure ''meaningful and timely input by Tribal officials in the development of regulatory policies that have Tribal implications.'' As part of EPA's ongoing efforts to actively involve Tribal officials in the development of programs which have Tribal implications, EPA in the July 18, 2000 ''Guidance on 8-hour Ozone Designations for Indian Tribes'' established a consultation process with each Tribe that EPA used throughout the designations process regardless of whether a particular Tribe has received an eligibility determination to implement section 107 of the CAA. In summary, EPA intends, as a matter of policy, to consult with and assist interested Tribal governments, regardless of their TAS status, in ensuring that the NAAQS are achieved in Indian country, including working with those Tribes located downwind from a polluting area.

Comment: One commenter also asked us to explain how we envision our role in maintaining continued consultation with Tribes throughout the SIP development process.

Response: We intend to continue to offer Tribes the opportunity for consultation on activities potentially affecting attainment and maintenance of the NAAQS in Indian country. In addition, we expect States to work with Tribes with land that is part of a nonattainment area in the SIP development process and to inform Tribes of the content of these SIPs as they develop them. States should coordinate with Tribes when projecting emissions from counties or other areas which include areas of Indian country to ensure that assumptions regarding demographics, economic activity, commuting patterns, etc. are accurate for the Tribal portions. Where the State models project future emissions under the SIP and their effect on air quality, then Tribes should be made aware of these modeling analyses in order to determine if their Indian country is being affected by upwind pollution and whether this impact has been considered in the modeling analyses.

States have an obligation under 40 CFR 51.102(d)(5) to notify other States in advance of any public hearing(s) on their State plans which will significantly impact those other entities. This CAA requirement for States to notify other parties extends to Tribes under section 301(d) and the TAR.

Historically, States have not always understood their responsibility to coordinate with other affected entities, including, where appropriate, Tribes. States may not know how to contact Tribes, particularly when Tribal air programs are not well developed. It may be difficult for a State to obtain a copy of the control requirements for Indian country. We can assist States in identifying and contacting Tribes. When developing control strategies and making policy decisions, States, should as appropriate, coordinate with Tribes at the earliest opportunity. Where States utilize stakeholder-based consensus processes to develop SIP strategies, we recommend that Tribes be provided the opportunity to participate in the process.

We have begun providing training to Tribes about how to participate in SIP development and implementation. Many Tribes may not possess the resources to develop a TIP or may decide not to develop a TIP. Some will develop robust air quality programs, which may or may not include a TIP. We intend to work with Tribes with all levels of air management programs. In general, where areas of Indian country have poor air quality, it is most likely as a result of transported pollution sources. We recognize that the manner in which States construct the SIP and what sources the SIP controls may impact Indian country located in downwind areas.

Comment: One commenter raised concerns about the practical impacts of the NSR program on Indian Tribes. The commenter noted that Tribes have long traditions of environmental stewardship and recognize their responsibility to protect the health of their citizens. However, the commenter noted that Tribes have the right to pursue industrial and economic development. While that development must comply with all current environmental standards, the Tribes should not be burdened with requirements that in effect subsidize non-Tribal sources of pollution.

Under the nonattainment NSR program, new major sources locating in a nonattainment area are required to obtain emissions reductions, referred to as offsets. The commenter stated that this requirement poses a hardship on an Indian reservation located in a larger nonattainment area. The new source wishing to locate on the reservation must obtain offsets from elsewhere in the nonattainment area; there are not usually enough sources on the reservation to supply the needed emissions reductions. When a Tribe is located in such a nonattainment area, efforts to increase economic development may be stalled by an inability of new sources to obtain offsets. The commenter concluded that this requirement is unfair to Tribes because of past barriers to economic development in Indian country. The commenter also stated that in many cases air pollution is transported onto the reservation.

Response: The EPA acknowledges that offsets are a concern for Tribes. We are currently evaluating potential options for addressing this concern.

M. What are the requirements for OTRs under the 8-hour ozone standard?

[Section VI.S. of June 2, 2003 proposed rule (68 FR 32855); § 51.916 in draft and final regulatory text.]

1. Background

Section 176A of the CAA provides EPA with authority to establish interstate transport regions where transport of air pollutants from one or more States contributes significantly to a violation of a NAAQS in one or more other States.

Section 184 of the CAA establishes additional provisions for OTRs. Section 184(a) specifically established an OTR comprising 12 Northeast and Mid-Atlantic States and the District of Columbia in order to address the longstanding problem of interstate ozone pollution in that region. To date, the existing OTR is the only transport region for any pollutant that has been established. The general provisions of section 176A apply to any OTR established under section 184.

Section 184(b) sets forth specific VOC and NO_X regulatory requirements to be applied throughout the entire OTR, in both attainment and nonattainment areas, to reduce interstate pollution. These additional regional regulatory requirements are NSR (for VOC and NO_X), RACT (for VOC and NO_X), enhanced vehicle I/M, and Stage II vapor recovery (for vehicle refueling) or a comparable measure. In general, these requirements duplicate requirements for certain ozone nonattainment areas that are classified under subpart 2. In the proposal, we indicated that we believed that under section 184 the current OTR will remain in place and remain subject to the section 184 control requirements for purposes of the 8-hour standard.

2. Summary of Final Rule

Section 184 continues to apply for purposes of the 8-hour standard. The current OTR remains in place and the section 184 control requirements continue to apply for purposes of the 8-hour standard.

Today's rule describes RACT requirements for portions of an OTR that are not classified moderate or above. Consistent with the RACT requirement for areas classified as moderate and above for the 8-hour standard, the State must submit a SIP revision that meets the RACT requirements of section 184 of the CAA for each area in the OTR that is designated as attainment or unclassifiable or that may be classified marginal, or that is under § 51.904 of this subpart. A major stationary source for these areas is defined as a source which directly emits, or has the potential to emit, 100 tpy or more of NO_X or 50 tpy or more of VOC. For any areas in the OTR, the State is required to submit the RACT revision no later than September 16, 2006 (27 months after designation for the 8-hour NAAQS) and must provide for implementation of RACT as expeditiously as practicable but no later than May 1, 2009 (first day of the first ozone season that is 30 months after the RACT SIP is due).

We believe that this does not result in any new regulatory requirements for any area in the OTR because these regulatory requirements are not associated with an area's designation or classification and already apply regionwide under the 1-hour ozone standard. If a new OTR is established for purposes of the 8-hour standard pursuant to section 176A, that area would also be subject to the provisions and control requirements of section 184.

3. Comments and Responses

Comments: The EPA received two comments supporting our interpretation of section 184 with regard to the 8-hour standard. One commenter further asserted that for any areas that might be added to the OTR, or for any new OTR, if modeling shows that the control requirements from section 184 are not appropriate and should not be required, then EPA has the discretion to exempt such areas from those requirements. The commenter pointed to a portion of the decision in *Alabama Power* v. *Costle,* 636 F. 2d. 323 (D.C. Circuit, 1979).

Response: Regarding the comment about modeling, we are not prepared to determine whether the *de minimis* doctrine established by the court in *Alabama Power* would be available in the situation the commenter describes.

As the court in that case explained, such a determination would first require EPA to assess whether Congress, in enacting section 184 of the CAA, was so prescriptive as to foreclose granting such waivers. Since that issue of statutory interpretation for the described situation is not presently before the Agency, EPA is not addressing whether *de minimis* authority exists under section 184.

N. Are there any additional requirements related to enforcement and compliance?

[Section VI.T. of June 2, 2003 proposed rule (68 FR 32855); no draft or final regulatory text.]

1. Background

In the proposal, we noted that section 172(c)(6) requires nonattainment SIPs to ''include enforceable emission limitations, and such other control measures, means or techniques * * * as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment * * *'' We also noted that the current guidance, ''Guidance on Preparing Enforceable Regulations and Compliance Programs for the 15 Percent Rate-of-Progress Plans (EPA–452/R–93–005, June 1993)'' is relevant to rules adopted for SIPs under the 8-hour ozone NAAQS and should be consulted for purposes of developing appropriate nonattainment plan provisions under section 172(c)(6). We proposed no specific regulatory provisions related to compliance and enforcement.

2. Summary of Final Rule

As in the proposal, we are not setting forth any additional regulatory text related to compliance and enforcement.

3. Comments and Responses

We received no comments on the proposed approach of handling enforcement and compliance provisions related to SIPs for the 8-hour ozone standard.

O. What requirements should apply to emergency episodes?

[Section VI.U. of June 2, 2003 proposed rule (68 FR 32856); no draft or final regulatory text.]

1. Background

In the June 2, 2003 proposal, we noted that subpart H of 40 CFR part 51 specifies requirements for SIPs to address emergency air pollution episodes and for preventing air pollutant levels from reaching levels determined to cause significant harm to the health of persons. We noted that we anticipate proposing a separate rulemaking in the future to update portions of that rule.

2. Summary of Final Rule

We have not yet proposed any rule revision related to emergency episodes, and the final rule below does not contain any such rule revision.

3. Comments and Responses

We received no comments on this aspect of the proposal.

P. What ambient monitoring requirements will apply under the 8-hour ozone NAAQS?

[Section VI.V. of June 2, 2003 proposed rule (68 FR 32856); no draft or final regulatory text.]

1. Background

Ozone monitoring data play an important role in designations, control strategy development, and related implementation activities. We did not propose any revisions to current ambient monitoring requirements listed in 40 CFR part 58.

We indicated in the proposal that we do plan to modify the existing ozone monitoring requirements in a separate rulemaking as part of implementation of the National Ambient Air Monitoring Strategy (NAAMS), including adoption of a national strategy introducing national core monitoring sites (NCore) as a replacement for traditional national air monitoring stations/State and local air monitoring stations (NAMS/SLAMS) monitoring currently codified at 40 CFR part 58. Part of the NCore network would include the existing ozone monitoring sites that currently support the NAAQS-related activities. The regulatory modifications are expected to include ozone monitoring requirements based upon the population of an area and its historical/forecasted ozone air quality values.

We indicated in the proposal that as part of ongoing air quality monitoring network assessments (outside the scope of this present rulemaking), each State, local, and Tribal air monitoring agency is being asked to assess the adequacy of its air pollution monitoring networks, including those sites that measure ozone. We said we would work with these agencies to develop network plans to ensure approval of all network designs. It is expected that the number and location of the original sites will be very similar to the current network. However, on a local basis, there will be some relocation, addition, and removal of ozone sites as a result of regional network assessments.

In addition, we stated that we anticipate that we will include a requirement for measuring multiple air pollutants, including ozone precursors at select locations. The NCore sites are expected to include high-sensitivity nitrogen oxide (NO) and total reactive oxides of nitrogen (NOy) measurements at locations across the nation to support the tracking of emission reduction strategy efforts such as the NO_X SIP Call, the CAIR and, if created, a statute codifying the Administration's Clear Skies Act, which addresses NO_X reductions across the nation.

Section 182(c)(1) of the CAA requires that enhanced ozone (e.g., precursor) monitoring be conducted in any ozone nonattainment area classified as serious, severe, or extreme. Our regulations reflecting the statutory requirements are found at 40 CFR part 58. This is known as the Photochemical Assessment Monitoring Stations (PAMS) program.

The proposal noted that the PAMS monitoring requirements (referred to as ''enhanced monitoring'' under section 182(c)(1) of the CAA) are retained in areas designated as 1-hour ozone serious, severe, and extreme nonattainment areas. Areas that are designated serious or above under the 8-hour ozone NAAQS are not currently addressed in 40 CFR part 58 for ozone precursor monitoring, although such areas are subject to the section 182(c)(1) provision. We anticipated that the revisions to the monitoring regulations would also cover all areas that are classified as serious or above for the 8-hour NAAQS, including any area that is bumped up to serious or above for the 8-hour NAAQS.

2. Summary of Final Rule

There is no change from the proposal. No monitoring requirements are being promulgated as part of this rulemaking. EPA still expects to separately propose a number of amendments to the monitoring requirements, along the lines described above, in December 2005.

3. Comments and Responses

Comment: One commenter noted that the NAAMS, which will likely influence the future of the ozone monitoring network, is based on the presumption that less criteria pollutant monitoring is needed and that resources must be shifted into measures that support other analyses. The commenter pointed out that many States have already curtailed their criteria pollutant monitoring networks in order to meet program requirements. The commenter argued that we should support and maintain the ozone monitoring network since the

data is used as the basis of attainment determinations and the tracking of progress.

Response: While we did discuss some aspects of the NAAMS in the proposed rule, this rulemaking effort does not affect the ambient monitoring requirements listed in 40 CFR part 58. As such, comments on the NAAMS are not germane to this action. As noted above, we are working on a separate rulemaking effort to amend the ambient monitoring requirements. Commenters should raise any concerns they have regarding the NAAMS during the comment period on that action.

We recognize that ozone continues to pose a significant environmental threat. The NAAMS does not recommend curtailing ozone monitoring, but rather recommends that State and local agencies perform assessments of their ozone networks to assure that the available resources are used to maximum benefit. We do not foresee significant changes to the existing ozone network as a result of these assessments. The NAAMS does recommend that resources be shifted from criteria pollutant monitoring to other monitoring initiatives (e.g., air toxics) for those criteria pollutants whose ambient concentrations are well below their respective NAAQS. Specifically, the strategy recommends significant reductions in total suspended particulate (TSP), PM_{10}, SO_2, CO and NO_2 monitoring.

Comment: Two commenters questioned the appropriateness of making high sensitivity NO_X and CO measurements at NCore Level 2 sites which may be in urban areas.

Response: This rulemaking effort does not affect the ambient monitoring requirements listed in 40 CFR part 58. As such, comments on the appropriateness of making high sensitivity NO_X and CO measurements in urban areas are not germane to this action.

Comment: One commenter urged the continued support of the PAMS program. The commenter points out that the PAMS' data has been used to evaluate (and improve) emissions inventories, apply observation-based models, evaluate photochemical grid-based models, and assess effectiveness of control programs. The commenter argues that while fine-tuning the PAMS requirements may be appropriate, the program should be maintained.

Response: As part of the anti-backsliding provisions of the Phase 1 rule, the PAMS monitoring requirements are retained in areas designated as 1-hour ozone serious, severe, and extreme nonattainment areas at the time of a designation of nonattainment for the 8-hour standard. [See 40 CFR 51.900(f)(9)]. In addition, areas that are designated serious or above under the 8-hour ozone NAAQS will also be required to comply with the PAMS monitoring requirements. Also, if an area is bumped up to serious or above for the 8-hour NAAQS, it would be required to conduct the appropriate PAMS monitoring.

Currently, 40 CFR part 58 does not specifically apply to areas for purposes of the 8-hour standard. As discussed above, we are working on a separate rulemaking effort to amend the ambient monitoring requirements. We expect these revisions to ensure that all areas that are classified as serious or above for the 8-hour NAAQS are covered by the PAMS regulations. However, even in the absence of the applicability of these regulations, the enhanced monitoring requirement of section 182(c)(1) applies.

Q. When will EPA require 8-hour attainment demonstration SIP submissions?

[Section VI.W. of June 2, 2003 proposed rule (68 FR 32856); § 51.908(e) in draft regulatory text and § 51.908(d) of final regulatory text.]

1. Background

In the June 2, 2003 action, we proposed that required attainment demonstrations, which will be based on photochemical grid modeling for all areas must be submitted within 3 years after designation. However, we proposed that a subpart 1 area that desires an attainment date within 3 years after designation would have to provide a demonstration within 1 year after designation.

We noted that the proposed time of submission is expected to result in as close as possible a synchronization of the 8-hour ozone and $PM_{2.5}$ attainment demonstration SIP submittal dates.

2. Summary of Final Rule

The final rule provides that attainment demonstrations—where required—must be submitted within 3 years after the effective date of the area's nonattainment designation. As noted in section IV.D.1. above, the final rule does have a separate provision addressing submission of an early attainment demonstration.

On June 18, 2004 (69 FR 34076), EPA announced it was reconsidering the boundaries of the Las Vegas, NV, 8-hour ozone nonattainment area. The EPA deferred the effective date of the designation until September 13, 2004, and that this reconsideration would not affect the time SIPs would be due for the Clark County nonattainment area.

3. Comments and Responses

Comment: Several commenters believed some areas would need longer than 3 years to submit their attainment demonstration. At least one of these commenters noted that section 182(c)(2) allows up to 4 years (rather than 3 years) for submission of a modeled attainment demonstration for serious and above areas. One commenter recommended that EPA should consider extending attainment-modeling deadlines for nonattainment areas that are not currently contained within the 1-hour boundary, but will now be included in the 8-hour boundary. At least one commenter agreed with the timing we proposed.

Response: For the reasons stated in the proposal, we believe it is appropriate to require that the modeled attainment demonstrations be submitted within 3 years after designation. In addition, we note the following:

- In general, the CAA requires these submissions no later than 3 years following designation. See sections 172(b) and 182(b) of the CAA. At the time of enactment of the CAA Amendments of 1990, Congress allowed areas that used the recently developed and complex photochemical grid model an extra year (4 years rather than 3 years) to submit their attainment demonstration. Photochemical grid modeling is now a process more familiar to users for purposes of developing attainment demonstrations, and all areas will be using these models for purposes of their attainment demonstrations and can be completed with the time frame established in this rule. There is no distinction between the tools used for attainment modeling that would justify additional time for these areas to submit attainment demonstrations. Further, where appropriate, existing modeling exercises (e.g., regional analyses, RPO analyses, older 1-hour analyses) may be leveraged for use in certain cases. In most cases, it will not be necessary to conduct a modeling exercise ''from scratch.''
- We do not believe it is appropriate or desirable to require States to submit attainment demonstrations for areas designated nonattainment under the 8-hour standard at different times for different areas. We recognize that photochemical grid modeling—required by the CAA for interstate moderate nonattainment areas, as well as serious and higher—classified areas—will be performed on large enough scales to address transport and will in most cases encompass a number of nonattainment

areas. These numerous nonattainment areas may differ by classification (some areas may be intrastate moderate areas, some interstate moderate areas, and others serious and above nonattainment areas). Some areas that may require attainment demonstrations may be subject to subpart 1 while others may be subject to subpart 2.

• The control strategies that may be modeled for all the areas in the modeling domain will likely be modeled simultaneously, especially if all the areas are located in a single State.

• We also note that an area's RFP plan and the RACM demonstration under section 172(c)(1) are due within 3 years after designation. For the reasons stated in sections describing those requirements, it is appropriate that the attainment demonstration, the RFP plan, and the RACM demonstration be submitted at the same time.

In light of these reasons, we do not believe it is consistent with the CAA and reasonable to require submission of attainment demonstrations no later than 3 years following designation.

Although we proposed that subpart 1 areas requesting an attainment date within 3 years after designation should submit their attainment demonstration within 12 months, the final rule does not include such a provision (see section IV.D.1 above for a further discussion of this).

R. How will the statutory time periods in the CAA be addressed when we redesignate areas to nonattainment following initial designations for the 8-hour NAAQS?

[Section VI.B. of June 2, 2003 proposed rule (68 FR 32816); § 51.906 in draft and final regulatory text.]

1. Background

We noted in the proposal that section 181(b) of the CAA provides that for areas designated attainment or unclassifiable for ozone immediately following enactment of the 1990 CAA Amendments and subsequently redesignated to nonattainment, the period to the maximum statutory attainment date would run from the date the area is classified under subpart 2.[89] Thus, if an area designated as attainment for the 1-hour ozone standard in 1990 was redesignated to nonattainment for the 1-hour ozone standard in January 2002 and classified as moderate, the area's 1-hour attainment date would be no later than 6 years following January 2002, i.e., January 2008. Section 172(a)(2) of the CAA provides for attainment dates to be calculated from the time the area is designated nonattainment.

We also noted in the proposal that most of the SIP submittal dates in subpart 2 are set as a fixed period from the date of enactment of the 1990 CAA Amendments, which was also the date of designation and classification by operation of law for most subpart 2 areas. Section 181(b)(1) of the CAA provides that any fixed dates applicable in connection with any such requirements under section 110, subpart 1 and subpart 2 will be extended by operation of law to a period equal to the length of time between the date of enactment of the 1990 CAA Amendments and the date that an area is subsequently designated and classified.

2. Final Rule

We are adopting the approach set forth in the proposed rule. For any area that is initially designated attainment or unclassifiable for the 8-hour NAAQS and subsequently redesignated to nonattainment for the 8-hour ozone NAAQS, the periods for the attainment date and dates for submittal of any applicable requirements under subpart 1 or subpart 2 would run from the date of redesignation to nonattainment of the 8-hour NAAQS. This is consistent with section 181(b), which gives areas redesignated to nonattainment the same amount of time to submit plans and to attain the standard as areas initially designated nonattainment.

3. Comments and Responses

Comment: One commenter asked what the reasoning was behind the time period extension and if this is an attempt to provide equity, based on the wording of the draft regulatory text.

Response: As stated above, section 181(b)(1) of the CAA provides for extending by operation of law any absolute, fixed date applicable in connection with a nonattainment requirement by a period equal to the length of time between the date of enactment of the CAA Amendments of 1990 and the date the area is classified and redesignated as nonattainment. Thus, an area redesignated to nonattainment for the 1-hour standard and classified as moderate would have been given 3 years to submit an attainment demonstration and up to 6 years to attain, which are the same time periods given to an area designated nonattainment and classified by operation of law at the time of the 1990 CAA Amendments. Since it does not make sense to run deadlines from the date of the CAA Amendments of 1990, we have adopted an approach consistent with the intent of that section—that the statutory time periods run from the date of redesignation to nonattainment.

V. EPA's Final Rule for New Source Review

A. Background

1. The Major NSR Program

The major NSR program contained in parts C and D of title I of the CAA is a preconstruction review and permitting program applicable to new and modified major stationary sources of air pollutants regulated under the CAA. In areas not meeting health-based NAAQS and in OTRs, the program is implemented under the requirements of section 110(a)(2)(C) and part D of title I of the CAA. We call this program the ''nonattainment'' major NSR program. Subpart 1 of part D of title I contains general requirements for nonattainment areas for any criteria pollutant and subpart 2 contains provisions specifically for ozone nonattainment areas. Subparts 3 and 4 contain provisions specifically for CO monoxide and PM_{10}, respectively. In *Whitman* v. *American Trucking Associations,* [531 U.S. 457, 482–86 (2001)], the Supreme Court reviewed EPA's implementation strategy for the revised 8-hour ozone NAAQS, and remanded it to EPA to develop a reasonable resolution of the roles of subparts 1 and 2 in classifying areas for and implementing the revised ozone standard.[90]

In areas meeting the NAAQS (''attainment'' areas) or for which there is insufficient information to determine whether they meet the NAAQS (''unclassifiable'' areas), the NSR requirements under part C of title I of the CAA apply. We call this program the PSD program. Collectively, we also commonly refer to the attainment and nonattainment programs as the major NSR program. These regulations are contained in 40 CFR 51.165, 51.166, 52.21, 52.24, and part 51, appendix S. Of these, the nonattainment area regulations are contained in 40 CFR 51.165, 52.24, and part 51, appendix S.

The major NSR provisions of the CAA are implemented primarily through SIP-approved State preconstruction permitting programs. As provided in section 172(c)(5) of the CAA, the SIP

[89] Section 181(b) provides that ''any absolute, fixed date applicable in connection with any such requirement is extended by operation of law by a period equal to the length of time between the date of enactment of the CAAA of 1990 and the date the area is classified under this paragraph.'' Under section 181(b), the date of classification is the same as the date of redesignation to nonattainment.

[90] For a more complete discussion of this decision and its implications, see 69 FR 23956; April 30, 2004.

must require permits for the construction and operation of new or modified major stationary sources in accordance with section 173 of the CAA. Subpart 2 of title I of the CAA sets forth additional SIP requirements for ozone nonattainment areas, including preconstruction permitting requirements.[91]

The minimum permitting requirements States must meet before EPA can approve a State's nonattainment major NSR program into a SIP are found in part D of title I and 40 CFR 51.165. However, some States are lacking a SIP-approved major NSR program for the 8-hour ozone NAAQS. This may be because the State has never had a nonattainment area in which it needed to apply a nonattainment NSR program or because the approved program does not apply to an 8-hour ozone nonattainment area. As discussed in section V.D of this preamble, EPA is providing States 3 years to develop and submit an approvable nonattainment major NSR program for the 8-hour NAAQS. The regulations at 40 CFR 52.24(k) specify that appendix S governs permits to construct and operate in a nonattainment area or in any area designated under section 107(d) of the CAA as attainment or unclassifiable for ozone that is located in an OTR that a source applies for during this SIP development period (the interim period between the effective date of designations and the date that EPA approves a nonattainment major NSR program).

Appendix S is an interpretation of 40 CFR subpart I (including § 51.165), and has historically reflected substantially the same requirements as those in § 51.165, subject to a limited exemption in section VI. This includes the requirement that a source comply with LAER and obtain offsetting emissions reductions. Pursuant to section 52.24(k), where necessary, appendix S governs nonattainment major NSR permitting of ozone precursors in 8-hour ozone nonattainment areas and all areas within the OTR, including areas designated attainment/unclassifiable, during the SIP development period. Thus, consistent with section 110(a)(2)(C), permitting of new and modified stationary sources in the area will be regulated as necessary to ensure that the NAAQS are achieved.

As we describe further in section V.A.2 of this preamble, today's final regulations were proposed as part of two different regulatory packages. On July 23, 1996 (61 FR 38250), we proposed changes to the major NSR program, including codification of the requirements of part D of title I of the 1990 CAA Amendments.[92] On June 2, 2003 (68 FR 32802), we proposed a rule to implement the 8-hour ozone NAAQS. On April 30, 2004, we promulgated the Phase 1 final rule and you will find a summary of the regulatory development process and stakeholder development for that rulemaking at 69 FR 23951.

2. What We Proposed

a. Proposed Changes to Incorporate the 1990 CAA Amendments

On July 23, 1996 (61 FR 38250), we proposed changes to § 51.165 and appendix S to incorporate requirements in part D of title I of the 1990 CAA Amendments for ozone, CO, and PM_{10} nonattainment areas. Concerning ozone, we proposed (among other things) to codify the following provisions from section 182 of the CAA:

- Major stationary source thresholds (ranging from 10 to 100 tpy, depending on classification),
- Significant emission rates (ranging from 0 to 25 tpy),
- Offset ratios (ranging from 1.1:1 to 1.5:1), and
- Special modification provisions implementing CAA sections 182(c), (d), and (e) for serious, severe, and extreme ozone nonattainment areas.

In the 1996 proposal, we proposed that the major stationary source thresholds and offset ratios of CAA section 182 (subpart 2 of part D) would apply to all major stationary sources of VOC and NO_X to implement major NSR under the 1-hour ozone NAAQS. This proposal is consistent with the 1991 and 1992 Transition Policy Memos explaining major NSR requirements under the 1990 CAA Amendments.[93] These memos also explained that permits must comply with the new statutory requirements for major NSR under the 1-hour NAAQS after the deadlines set by Congress, regardless of the delay in incorporating them into SIPs.

Our 1996 proposal predated promulgation of the 8-hour ozone NAAQS and thus did not explain the details of implementation of these standards under § 51.165 or appendix S. For a discussion of implementation of the 1-hour and 8-hour ozone NAAQS under § 51.165 and appendix S, see section V.D. of this preamble.

Also, in our 1996 action, and then again in our June 2, 2003 action, we proposed to amend our nonattainment NSR provisions to expressly include NO_X as an ozone precursor in nonattainment major NSR programs (61 FR 38297, 68 FR 32847). We also proposed that, as provided under CAA section 182(f), a waiver from nonattainment NSR for NO_X as an ozone precursor would be available for both subpart 1 and subpart 2 areas (68 FR 32846).

On June 2, 2003, we proposed a rule to identify the statutory requirements that apply for purposes of developing SIPs under the CAA to implement the 8-hour ozone NAAQS (68 FR 32802). Specifically, we proposed two options-one in which all nonattainment areas would be classified and regulated under subpart 2 of part D of title I, and one in which some nonattainment areas would be regulated under the less restrictive requirements of subpart 1 and some would be classified and regulated under subpart 2. For areas classified under subpart 2—those with a 1-hour ozone design value at or above 0.121 ppm—the classifications set forth in subpart 2 (marginal, moderate, etc.) would govern part D SIPs for the 8-hour ozone standard, with each area's classification determined by a modified version of the subpart 2 classification table containing 1-hour design values and translated 8-hour design values for each classification. The NSR permitting requirements for the 8-hour ozone standard necessarily follow from the classification scheme chosen under the terms of subpart 1 and subpart 2. We did not propose specific regulatory language for implementation of NSR under the 8-hour NAAQS. However, we indicated that we intended to revise the nonattainment NSR regulations to be consistent with the rule for implementing the 8-hour ozone NAAQS (68 FR 32844).

Concerning CO, in 1996 we proposed the following:

- Major stationary source threshold of 50 tpy for serious nonattainment areas in which the Administrator has determined that stationary sources are significant contributors to CO levels,

[91] In some cases, subpart 1 and subpart 2 requirements are inconsistent or overlap. To the extent that subpart 2 addresses a specific obligation, the provisions in subpart 2 control (68 FR 32811; June 2, 2003).

[92] On December 31, 2002, we finalized five actions from that proposal related to the applicability of the NSR regulations. For a summary of the regulatory development process and stakeholder development for that rulemaking, see 67 FR 80188.

[93] John S. Seitz, ''New Source Review (NSR) Program Transitional Guidance,'' March 11, 1991. We provided additional transitional guidance for nonattainment areas in our September 3, 1992 memorandum, New Source Review (NSR) Program Supplemental Transitional Guidance on Applicability of New Part D NSR Permit Requirements, from John S. Seitz, Director, Office of Air Quality Planning and Standards.

• Significant emission rate of 50 tpy for serious nonattainment areas in which the Administrator has determined that stationary sources are significant contributors to CO levels.

Concerning PM_{10}, in 1996, we proposed to amend our nonattainment NSR regulations to incorporate requirements of the 1990 CAA Amendments and establish significant emission rates. Specifically, we proposed the following:

• Major stationary source threshold of 100 tpy PM_{10} or any specific PM_{10} precursor in moderate PM_{10} nonattainment areas,

• Major stationary source threshold of 70 tpy PM_{10} or any specific PM_{10} precursor in serious PM_{10} nonattainment areas, and

• Significant emission rate of 15 tpy PM_{10} and 40 tpy PM_{10} precursors.

b. Proposed Changes To Criteria for Emission Reduction Credits From Shutdowns and Curtailments

In 1996 we proposed to revise the regulations limiting offsets from emissions reductions due to shutting down an existing source or curtailing production or operating hours below baseline levels (''shutdowns/curtailments''). The prior regulations at § 51.165(a)(3)(ii)(C) provided that such emissions reductions could be used as offsets if the State lacked an approved attainment demonstration, unless the shutdown/curtailment occurred after the date the new source permit application was filed or the applicant could establish that the proposed new source is a replacement for the shutdown/curtailed source. We proposed to revise the existing provisions for crediting emissions reductions by restructuring existing § 51.165(a)(3)(ii)(C)(1) and (2) for clarity without changing the current requirements therein. [See proposed § 51.165 (a)(3)(ii)(C)(1) through (4)]. We also proposed substantive revisions in two alternatives that would ease, under certain circumstances, the existing restrictions on the use of emission reduction credits from source shutdowns and curtailments as offsets. We explained that easing the restrictions may be warranted by the 1990 CAA Amendments, in which Congress significantly reworked the attainment planning requirements of part D of title I of the CAA such that an approved attainment demonstration is unnecessary.

The revised CAA emphasizes the emission inventory as the first requirement in planning, includes new provisions keyed to the inventory requirements, and mandates several adverse consequences for States that fail to meet the planning or emissions reductions requirements related to inventories.[94] In 1993, we issued a policy memorandum addressing the use of shutdown credits for offsets in ozone nonattainment areas and areas in the OTR in light of the new statutory requirements.[95] According to our longstanding policy, we emphasized that sources may use emission reduction credits generated from shutdowns and curtailments as offsets if the State continues to include the emissions in the emissions inventory for attainment demonstration and RFP milestone purposes. We proposed two alternatives to revise the regulations that limit a source's use of emissions reductions as offsets if the reductions were achieved by shutting down an existing emissions unit or curtailing production or operating hours of a unit (shutdowns/curtailments).

Under Alternative 1, we proposed to allow emissions reductions from shutdowns and curtailments from sources located in ozone nonattainment areas that lack an EPA-approved attainment demonstration to be used as offsets or netting credits, if the emissions reductions occur after November 15, 1990 and the area is current with part D ozone nonattainment planning requirements. See proposed § 51.165(a)(3)(ii)(C)(5) and (6) [Alternative 1]. Proposed Alternative 2 generally would have allowed emissions reductions from source shutdowns and source curtailments in all nonattainment areas and for all pollutants to be used as offsets or netting credits when such reductions occur after the base year of the emissions inventory for that pollutant. See proposed § 51.165(a)(3)(ii)(C)(5) [Alternative 2]. The 1996 proposal retained the provision that the permitting authority may consider the shutdown or curtailment to have occurred after the date of its most recent emissions inventory if the inventory explicitly includes as current existing emissions the emissions from such previously shutdown or curtailed sources.

c. Proposed Changes to Revise the Construction Ban Provisions

On July 23, 1996, we proposed to revise § 52.24(a) to incorporate changes made by the 1990 CAA Amendments related to the applicability of construction bans. Under the 1977 Amendments, section 110(a)(2)(I) of the CAA required EPA to place certain areas under a federally imposed construction moratorium (ban) that prohibited the construction of new or modified major stationary sources in nonattainment areas where the State failed to have an implementation plan meeting all of the requirements of part D. The 1990 CAA Amendments removed these provisions from the CAA. However, in section 110(n)(3) of the CAA (Savings Clause), the 1990 CAA Amendments retained the prohibition in cases where it was applied prior to the 1990 CAA Amendments based upon a finding by the Administrator that the area: (1) Lacked an adequate NSR permitting program (as required by section 172(b)(6) of the 1977 CAA); or (2) the State plan failed to achieve the timely attainment of the NAAQS for SO_2 by December 31, 1982. All other construction bans pursuant to section 110(a)(2)(I) are lifted as a result of the new statutory provision. This includes previously imposed construction bans based upon a finding that the plan for the area did not demonstrate timely attainment and maintenance of the ozone or CO NAAQS. In accordance with the amended section 110(n)(3) of the CAA, any remaining construction ban continues in effect until the Administrator determines that the SIP meets either the amended part D permit requirements, or the requirements under subpart 5 of part D for attainment of the NAAQS for SO_2, as applicable.

We note that § 52.24(k) was not retained in our proposed rule text. However, the preamble did not in any manner indicate that EPA believed that NSR permits complying with appendix S were not required during the SIP development period where necessary. To clarify our intent, our proposed 8-hour ozone NAAQS implementation rule explained that § 52.24(k) remained in effect and would be retained. In that action, we also proposed that we would revise § 52.24(k) to reflect the changes in the 1990 CAA Amendments (68 FR 32846). The prior language at section 52.24(k) allowed States to issue permits under appendix S for a maximum period of 18 months after designation. After this time, if the nonattainment area did not have an approved part D NSR permit program, the construction ban would apply. However, the 1990 CAA Amendments to the construction ban provisions altered the provisions of the construction ban such that it would not apply when a State lacked an approved part D NSR program in the

[94] For a complete discussion of how the 1990 CAA Amendments attainment planning requirements relate to shutdown/curtailment credits (61 FR 38311; July 23, 1996).

[95] *Use of Shutdoen Credits for Offsets*, July 21, 1993, John S. Seitz, Director, Office of Air Quality Planning and Standards.

future. Thus, the 1990 CAA Amendments supersede that portion of prior § 52.24 dealing with the construction ban but leave unaltered the requirement that appendix S continues to apply through § 52.24(k). We explained that we have interpreted this language to allow States or EPA to issue permits under appendix S from designation to approval even if the time period between designation and approval exceeds 18 months, and proposed to revise § 52.24(k) to properly reflect this interpretation.

We also proposed regulatory text to reflect the revisions to CAA section 173(a)(4). Before the State can issue a nonattainment major NSR permit, the reviewing authority must first find pursuant to section 173(a)(4) that the ''Administrator has not determined that the applicable implementation plan is not being adequately implemented for the nonattainment area'' in accordance with the requirements of part D. We stated our intent to make this determination by sending a letter to the permitting authority, and publishing a subsequent action in the **Federal Register**, but we solicited comment on the need to undertake notice-and-comment procedures before taking final action.

Section 113(a)(5) of the CAA provides that EPA may issue an order prohibiting the construction or modification of any major stationary source in any area, including an attainment area, where the Administrator finds that the State is not in compliance with the NSR requirements. Specifically, EPA may issue an order under section 113(a)(5) banning construction in an area whenever the Administrator finds that a State is not acting in compliance with any requirement or prohibition of the CAA relating to construction of new sources or the modification of existing sources. To codify the requirements of section 113(a)(5), we proposed new language in § 52.24(c).

We proposed to remove the transition provisions under existing § 52.24(c) and (g). These paragraphs were proposed to be removed because they were originally designed to clarify the applicable requirements for permits issued prior to the initial SIP revisions required by the 1977 CAA Amendments.

In addition to the significant changes already discussed, we proposed several minor changes to § 52.24. These minor changes included: (1) The addition of requirements applicable to transport regions; (2) the inclusion of requirements applicable to criteria pollutant precursors; (3) incorporation of the definitions proposed in § 51.165(a); (4) revisions to the language at § 52.24(h)(2); and (5) revisions to § 52.24(j).

d. Proposed Changes on Applicability of Appendix S and the Transitional NSR Program

On June 2, 2003 (68 FR 32802), we explained implementation of the major NSR program under the 8-hour ozone NAAQS during the SIP development period, and proposed flexible NSR requirements for areas that expected to attain the 8-hour NAAQS within 3 years after designation. We stated that the existing regulation codified at 40 CFR § 52.24(k) requires that permits be issued in compliance with appendix S during this time, and that a State would have to continue implementing part D nonattainment requirements under appendix S unless the source was eligible for flexibility under section VI of the appendix (68 FR 32846–48).

Our June 2, 2003 proposal would limit the circumstances under which section VI of appendix S applies (68 FR 32844). Under the existing regulatory structure of section VI, major new sources and major modifications located in nonattainment areas for which the attainment date has not yet passed may avoid the requirement to comply with LAER and obtain source-specific offsets if the new emissions will not interfere with an area's ability to reach attainment by its attainment date. Because we believed that most new emissions in 8-hour nonattainment areas would generally not meet this criteria of non-interference, we proposed to apply section VI only in areas that qualify for a ''transitional classification'' (68 FR 32846). Accordingly, we called this revised section VI the Transitional NSR Program. We proposed that the program would apply only in nonattainment areas that: (1) Are attaining the 1-hour NAAQS; (2) are subject to subpart 1 (rather than subpart 2) of part D of title I; (3) for which the State submitted an attainment plan by April 15, 2004 that demonstrates attainment within 3 years after designation; (4) and for which the State submitted an attainment plan containing any additional local control measures needed for attainment of the 8-hour standard (68 FR 32847). We also proposed that the sources using section VI would be required to comply with BACT.

On August 6, 2003 (68 FR 46536), we solicited comment on additional options for implementing major NSR under the 8-hour NAAQS, including a major rewrite of appendix S that would include the proposed changes to section VI. We also solicited comment on two alternatives to appendix S for implementing NSR in newly designated nonattainment areas during the transitional SIP development period. One alternative was a Federal part D NSR regulatory program for major new and modified sources, to be codified at 40 CFR 52.10, under which EPA would be responsible for permitting unless a State took delegation of the program. The other alternative was application of the Federal PSD program at 40 CFR 52.21 in such newly designated nonattainment areas. Commenters stated that neither of those alternatives was sufficiently developed for public comment, and we have not pursued them further.

One other proposal affects appendix S applicability. In 1978 (43 FR 26408; June 19, 1978) and 1979 (44 FR 3276; January 16, 1979), we proposed that applicability under PSD and appendix S respectively be based on uncontrolled emissions, but sources would be exempt from control requirements unless the increase in allowable emissions was at least 50 tpy, 1,000 pounds per day, or 100 pounds per hour. The U.S. Court of Appeals for the District of Columbia Circuit, however, ruled that major source applicability should be based on potential to emit, rather than uncontrolled emissions. *Alabama Power Co.* v. *Costle*, 606 F.2d 1068 (D.C. Circuit, 1979), amended 636 F. 3d 323, 356–57 (D.C. Circuit, 1980). The court also ruled that EPA had exceeded its authority in establishing the 50 tpy exemption and remanded the exemption for reconsideration. In response, we proposed removing the 50 tpy exemption from the PSD rules and appendix S in the 1979 Notice of Proposed Rulemaking (NPRM) (44 FR 51930). We finalized these changes in 1980, but we inadvertently did not remove the change in all the places in appendix S where it was located, specifically footnotes 5 and 8 to IV.D.

e. Proposed Changes To Identify NO_X as an Ozone Precursor in Attainment and Unclassifiable Areas

Currently, only VOCs are expressly regulated as ozone precursors under the PSD regulations. Recognizing the role of NO_X in ozone formation and transport, we proposed to amend our PSD regulations to expressly include NO_X as an ozone precursor in attainment and unclassifiable areas. Moreover, we proposed to require States to modify their existing programs to include NO_X as an ozone precursor in these areas (68 FR 32846).

B. Summary of Final Rule and Legal Basis

1. Final Action and Legal Basis for Changes to Incorporate the 1990 CAA Amendments

a. Final Changes to Incorporate the 1990 CAA Amendments

In today's final action, we revised § 51.165 and appendix S to incorporate the major stationary source thresholds, significant emission rates, and offset ratios for sources of ozone precursors pursuant to part D, subpart 1 and subpart 2 of title I of the 1990 CAA Amendments. [See § 51.165(a)(1)(iv), (a)(1)(v), (a)(1)(x), (a)(8), (a)(9) and section II. A. 4, 5, and 10 and section IV.G and H of appendix S.] Accordingly, consistent with statutory requirements and the final rules in 40 CFR part 51, subpart X (Provisions for Implementation of 8-hour Ozone NAAQS), today's final rules in § 51.165 require States' part D NSR SIPs implementing the 8-hour ozone standard to include provisions meeting subpart 1 of part D of the CAA, and subpart 2 as applicable, based on the area's classification. (We note 40 CFR part 51, subpart X includes the specific provisions for determining whether an area is designated and classified under subpart 1 or subpart 2 and these rules are explained in the preamble to those final rules at 69 FR 23954.) Also, appendix S requires States or EPA to issue permits during the SIP development period consistent with these requirements. Specifically, under subpart 1, the major stationary source threshold is 100 tpy, and an offset ratio of at least 1:1 applies. Under subpart 2, the major stationary source threshold ranges from 10 to 100 tpy, depending on the classification of the nonattainment area in which the source is located. The applicable offset ratios range from 1:1 to 1:5, also depending on the classification of the nonattainment area in which the source is located.

We also finalized as proposed in 1996 and 2003 that the NSR requirements applicable to major stationary sources of VOC (including provisions regarding major modifications, significant emission rates, and offsets) apply to NO_X emissions. These requirements apply in all 8-hour ozone nonattainment areas, including subpart 1 and subpart 2 areas. These requirements apply except where the Administrator determines, according to the standards set forth in section 182(f), that NO_X requirements for major stationary sources, including nonattainment major NSR requirements, would not apply or would be limited (''NO_X waiver''). [See § 51.165(a)(8) and appendix S.] According to § 51.913(c), a section 182(f) NO_X exemption granted under the 1-hour ozone standard does not relieve the area from any requirements under the 8-hour ozone standard, including nonattainment major NSR for major stationary sources of NO_X. We discuss whether a NO_X waiver under section 182(f) applies in a particular area and the effects of NO_X waivers on RACT in section IV.H. of this preamble.

We are not taking final action to implement the special modification provisions at CAA sections 182(c), (d), and (e) for serious, severe, and extreme ozone nonattainment areas at this time. We are evaluating additional issues related to implementation of these requirements and anticipate taking final action in the future.

As proposed on July 23, 1996 (61 FR 38250), we have incorporated requirements in part D of title I of the 1990 CAA Amendments for CO. [See § 51.165(a)(1)(iv)(A)(*1*)(*v*) and (a)(1)(x)(D) and appendix S.]

We have also made final changes to incorporate the requirements of the 1990 CAA Amendments concerning PM_{10} nonattainment areas. Specifically, we have promulgated as proposed in 1996 the major stationary source thresholds and significant emission rates for PM_{10} in PM_{10} nonattainment areas. [See § 51.165(a)(1)(iv)(A)(1)(*vi*) and (a)(1)(x). See also appendix S at II.A.4.(i)(a)(*6*) and II.A.4.(i).] We have not taken final action on our 1996 proposed rules for PM_{10} precursors. Instead, we plan to propose regulations concerning PM precursors as part of the $PM_{2.5}$ NAAQS implementation rule. We also plan to address requirements for stationary sources of PM in that action.

b. Legal Basis for Changes To Incorporate the 1990 CAA Amendments

In areas not meeting health-based NAAQS and in the OTR, the major NSR program is implemented under the requirements of section 110(a)(2)(C) and part D of title I of the CAA. Subpart 1 of part D of title I contains general requirements for nonattainment areas for any criteria pollutant. Subpart 2 contains provisions specifically for ozone nonattainment areas. Subpart 3 contains provisions specifically for CO nonattainment areas. Subpart 4 contains provisions specifically for PM_{10} nonattainment areas. On July 23, 1996 (61 FR 38250), we proposed changes to § 51.165 and appendix S to incorporate requirements in part D of title I of the 1990 CAA Amendments for ozone, CO, and PM_{10} nonattainment areas.

We promulgated a new 8-hour ozone NAAQS on July 18, 1997. We indicated that we anticipated that States would implement the 8-hour ozone NAAQS under the less prescriptive subpart 1 requirements. In February 2001, the Supreme Court ruled that the statute was ambiguous as to the relationship of subparts 1 and 2 for purposes of implementing the 8-hour ozone NAAQS. In *Whitman* v. *American Trucking Associations,* [531 U.S. 457, 482–86 (2001)], the Supreme Court reviewed EPA's implementation strategy for the revised 8-hour ozone NAAQS, and remanded it to EPA to develop a reasonable resolution of the roles of subparts 1 and 2 in classifying areas for and implementing the revised ozone standard. On April 30, 2004, we promulgated a final rule to implement the 8-hour ozone NAAQS (69 FR 23951), in which some nonattainment areas would be regulated under the less restrictive requirements of subpart 1 and some would be classified and regulated under subpart 2. All ozone nonattainment areas have now been categorized subpart 1 or subpart 2 areas in 40 CFR part 81. Now that we have designated and classified nonattainment areas, the NSR program requirements (including the specific major stationary source thresholds, significant emission rates, and offset ratios associated with each classification) are determined by reference to subpart 1 and subpart 2, as codified in § 51.165 and appendix S through this rulemaking. Thus, as described in further detail in section V.A.2 of this preamble, we have incorporated the requirements of the 1990 CAA Amendments for major stationary sources of ozone precursors in ozone nonattainment areas as proposed in 1996, and codified those requirements for the 8-hour standard consistent with the designation and classification scheme finalized in the 8-hour ozone implementation rule (69 FR 23951) promulgated in response to *Whitman* v. *American Trucking Associations,* 531 U.S. 457 (2001).

Concerning CO, section 187(c) of the CAA unambiguously establishes the major stationary source threshold of 50 tpy codified today for serious nonattainment areas where the Administrator has determined that stationary sources contribute significantly. It is also reasonable to set the significant emission rate at 50 tpy in those serious nonattainment areas where 50 tpy is the major stationary source threshold. The regulations at § 51.165(a)(1)(iv)(A)(2) require that if a modification itself would constitute a major stationary source, the modification is subject to major NSR.

Concerning PM_{10}, section 189 of the CAA unambiguously establishes the

major stationary source threshold as 70 tpy in serious nonattainment areas. Also, EPA has the authority to exempt *de minimis* emissions from the reach of a rule. See Alabama Power, 636 F.2d at 360–61. Previously, EPA has defined the PM_{10} significant emission rate (that is, *de minimis* cut-off level) as at or above 15 tpy for purposes of determining which modifications are insignificant and thus exempt from PSD review (52 FR 24672, 24694–96; July 1, 1987). We believe it is reasonable to use the same significant emission rate in the nonattainment NSR program. This is consistent with our past practice of applying the same significant emissions rates for each pollutant in the PSD and nonattainment NSR programs.

We also revised appendix S to incorporate the requirements of the 1990 CAA Amendments to part D of title I of the CAA. These changes are necessary to make appendix S consistent with part D. As we discuss in section V.B.3.b of this preamble, we have determined that Congress intended for permitting equivalent to the part D NSR provisions to apply during the SIP development period through the use of appendix S (subject to the limited section VI exemption). In light of this determination, there is no reasonable basis for declining to implement the NSR requirements in the 1990 CAA Amendments during that period.[96] Additionally, appendix S provides on its face that it is an interpretation of the NSR permitting rules in 40 CFR subpart I, including § 51.165. Therefore, it is necessary to have appendix S reflect substantially the same requirements as are in § 51.165.[97] Thus, we proposed to amend appendix S in this manner in the 1996 NSR proposal. We also are mindful of the Supreme Court's decision in *American Trucking Associations.* Although the decision did not directly address NSR implementation during the SIP development period, the Court emphasized the importance of creating a role for subpart 2 in implementation of the 8-hour ozone NAAQS. We believe this suggests the need to create a role for subpart 2 in appendix S, in contrast to the exclusive subpart 1 scheme currently embodied in appendix S.

2. Final Action and Legal Basis for Changes to Criteria for Emission Reduction Credits From Shutdowns and Curtailments

a. Final Changes to Criteria for Emission Reduction Credits From Shutdowns and Curtailments

The final revisions lift the requirement to have an approved attainment plan before using preapplication credits from shutdowns or curtailments as offsets. They also facilitate the availability of creditable offsets, consistent with the requirements of section 173 of the CAA. We revised the provisions at § 51.165(a)(3)(ii)(C) and appendix S concerning emission reduction credits generated from shutdowns and curtailments as proposed in Alternative 2 of the 1996 proposal, with one exception. We agree with the commenter who found the regulatory term ''most recent emissions inventory'' confusing. We have revised § 51.165(a)(3)(C)(1) accordingly, specifying that the shutdown or curtailment must have occurred after ''the last day of the base year for the SIP planning process.'' For the 8-hour ozone NAAQS, the base year is 2002.[98] Additionally, today's final provisions allow a reviewing authority to consider a prior shutdown or curtailment to have occurred ''after the last day of the base year if the projected emission inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emissions unit.'' This provision is consistent with the previous regulation which also allowed the reviewing authority to treat prior shutdowns or curtailments as occurring after the date of the most recent emissions inventory, but we have modified the regulatory language to clarify the appropriate emissions inventory. This regulatory language is consistent with our previous guidance on how emission reduction credits from shutdowns and curtailments are used in attainment planning.[99] The base year inventory includes actual emissions from existing sources and would not reflect emissions from units that were shutdown or curtailed before the base year, as these emissions are not ''in the air.'' To the extent that these emission reduction credits are considered available for use as offsets and are thus ''in the air'' for purposes of demonstrating attainment, they must be included in the projected emissions inventory used in the attainment demonstration along with other growth in emissions over the base year inventory. This step assures that emissions from shutdown and curtailed units are accounted for in attainment planning.[100] As with the prior rules, reviewing authorities thus retain the ability to consider a prior shutdown or curtailment to have occurred after the last day of the base year if emissions from the shutdown or curtailment are accounted for in the attainment demonstration. However, in no event may credit be given for shutdowns that occurred before August 7, 1977, a provision carried over from the previous regulation.

The other changes to the proposed rule text also are nonsubstantive and instead clarify the restrictions on credits from shutdowns or curtailments. Specifically, the proposed rule retained the requirement for an approved attainment demonstration, but made that requirement inapplicable where the credits occurred after the last day of the base year for the SIP planning process or where they were included in the most recent emissions inventory. The final rule recognizes there is no requirement for an approved attainment demonstration in those circumstances, and thus deletes the reference to that former requirement.

We note that the requirements for emissions reductions used as offsets and for netting differ from those for emission reduction credits used for RFP and ROP.

[96] The 1991 NSR transitional guidance issued to address implementation of the 1990 CAA Amendments acknowledged that appendix S did not contain at that time the newly enacted part D provisions, and further provided that the new requirements of part D to title I did not apply until November 15, 1992 for the ozone nonattainment areas; June 30, 1992, for the PM_{10} nonattainment areas; and 3 years from designation for most CO nonattainment areas. NSR Program Transitional Guidance, at A5 (March 11, 1991). We later clarified that the 1990 CAA Amendments did apply to all permits after those deadlines passed. NSR Supplemental Program Transitional Guidance on Applicability of New Part D NSR Requirements at 3 (September 3, 1992).

[97] Thus, EPA has typically conformed appendix S to the part D nonattainment NSR permitting provisions governing SIPs at 40 CFR § 51.165 (originally codified at § 51.18) whenever those regulations were revised. See, for example, 45 FR 52676 (August 7, 1980); 47 FR 27554 (June 25, 1982); 49 FR 43210 (October 26, 1984); 54 FR 27274 (June 28, 1989); 57 FR 3941 (February 3, 1992).

[98] 68 FR 32833. See also ''2002 Base Year Emission Inventory SIP Planning: 8-hr Ozone, PM2.5 and Regional Haze Programs,'' U.S. EPA, pg. 1 (November 18, 2002).

[99] See 57 FR 13553. After the 1990 CAA Amendments were enacted, 1990 was the base year for 1-hour ozone NAAQS attainment planning purposes. See 57 FR 13502. The EPA encouraged States to allow sources to use pre-enactment banked emissions reductions credits for offsetting purposes. States have been allowed to do so if the restored credits meet all other offset creditability criteria, and States consider such credits as part of the attainment emissions inventory when developing their post-enactment attainment demonstration.

[100] For a discussion of emission inventories for the 8-hour ozone standard, see our emission inventory guidance, ''Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations—Final,'' at *http://www.epa.gov/ttn/chief/eidocs/eiguid/index.html.* For a discussion of emission projections used in attainment demonstrations, see Emission Inventory Improvement Program, Volume X, Emission Projections, December 1999, available at *http://www.epa.gov/ttn/chief/eiip/techreport/.*

Section IV.E.14. of this preamble discusses requirements for emission reduction credits used for RFP and ROP. For a more detailed discussion of emission reduction credits for offsets and netting under the 8-hour ozone NAAQS, see section V.D.5. of this preamble.

b. Legal Basis for Changes to Criteria for Emission Reduction Credits From Shutdowns and Curtailments

The revisions to the rules governing use of emissions reductions from shutdowns/curtailments as offsets are warranted by the more detailed attainment planning and sanction provisions of the 1990 CAA Amendments. These provisions specifically address air quality concerns in nonattainment areas lacking EPA-approved attainment demonstrations. As a threshold matter, we note that CAA section 173 does not mandate the prior restrictions on shutdown credits, specifically, the requirement to have an approved attainment demonstration. (See 48 FR 38742, 38751; August 25, 1983). Rather, in promulgating these restrictions in 1989, EPA recognized that it had a large degree of discretion under the CAA to shape implementing regulations, as well as the need to exercise that discretion such that offsets are consistent with RFP as required in CAA section 173. (See 54 FR 27286, 27292; June 28, 1989). Originally, EPA believed that areas without approved attainment demonstrations lacked adequate safeguards to ensure that shutdown/curtailment credits would be consistent with RFP. We thus subjected those areas to more restrictive requirements to ensure a link between the new source and the source being shutdown/curtailed (that is, shutdown/curtailment must occur after application for a new or modified major source is filed).

The 1990 CAA Amendments changed the considerations involved. As discussed above, for areas subject to subpart 2, Congress emphasized the emission inventory requirement in section 172(c)(3) as a fundamental tool in air quality planning. Congress also added new provisions keyed to the inventory requirement, including specific reduction strategies and Amilestones@ that measure progress toward attainment from the base year emissions inventory or subsequent revised inventories. Where the emission reduction credits pre-date the base year, State and local agencies must include the credits from the shutdown/curtailment in the projected emissions inventory used to develop the attainment demonstration. Subpart 4 sets forth specific reduction strategies and milestones for attainment of the PM_{10} standards. Additionally, there are now several adverse consequences where States fail to meet the planning or emissions reductions requirements of the CAA. For example, the CAA contains mandatory increased new source offset sanctions at a 2:1 ratio where the Administrator finds that a State failed to submit a required attainment demonstration. In areas that are subject to subpart 2 and subpart 4, failure to attain the air quality standard by the attainment deadline results in the area being bumped up to a higher classification. Additional regulatory requirements are imposed as a result of the higher classification. These statutory changes justify shifting the focus of the current regulations from individual offset transactions between a specific new source and shutdown source and towards a systemic approach. Considering the changes to the 1990 CAA Amendments, we now believe that continuing the prohibition on the use of shutdown/curtailment credits generated where there is no approved attainment demonstration is not warranted. We believe that use of emission reduction credits from shutdowns/curtailments will be consistent with RFP towards attainment under CAA section 173, even in the absence of an approved attainment demonstration, if they occur after the last day of the base year for the SIP planning process or are included in the projected emissions inventory used to develop the attainment demonstration. From an air quality planning perspective, emissions from the shutdown source actually impacted the measurements of air quality used in determining the nonattainment status of an area. Subsequently, emissions reductions from such source shutdowns/curtailments are actual emissions reductions, and their use as emission offsets at a ratio of 1:1 or greater is consistent with RFP towards improved air quality as set forth in CAA section 173(a)(1)(A).

3. Final Action and Legal Basis for Changes to the Construction Ban Provisions

a. Final Action for Changes to the Construction Ban Provisions

We are promulgating final changes to § 52.24 to implement the construction ban provisions and other changes, as proposed in 1996 and 2003.[101] We believe these changes are beneficial to conform the regulatory text with the requirements that apply under the 1990 CAA Amendments.

As noted in our June 2003 proposal, we are retaining the provision in § 52.24(k) that specifies that appendix S governs permits to construct and operate applied for during the SIP development period. Although the regulatory text proposed in 1996 omitted § 52.24(k), the 1996 preamble also explained that the changes to § 52.24 were intended only to update and clarify the regulation with regard to the changes to the construction ban made by the 1990 CAA Amendments. (61 FR 38250, 38305). The preamble did not in any manner indicate that EPA believed that NSR permits complying with appendix S were not required during the SIP development period where necessary. Additionally, it did not contemplate nonattainment major NSR permitting in light of the situation that today's final action addresses, which is the need to permit nonattainment area sources during a transition period in which a substantial number of new nonattainment areas are being created. Therefore, we are retaining § 52.24(k).

As we proposed in the 8-hour ozone NAAQS implementation rule (68 FR 32846), we made one change to the regulatory language in § 52.24(k). The previous language at § 52.24(k) only allowed States to issue permits under appendix S for a maximum period of 18 months after designation. This language was consistent with the previous SIP development period and construction ban under the 1977 CAA, which no longer apply under the 1990 CAA Amendments. We have revised § 52.24(k) to allow States to issue permits under appendix S from designation until the SIP is approved, even if this exceeds 18 months. As we noted in our proposal, this change implements the removal of the construction ban from the 1990 CAA Amendments and is consistent with our 1991 policy memo, ''New Source Review (NSR) Program Transitional Guidance,'' John S. Seitz, March 11, 1991.

b. Legal Basis for Changes to the Construction Ban Provisions

Section 110(a)(2)(c) of the CAA establishes a general duty on States to include a program in their SIP that regulates the modification and construction of any stationary source as necessary to assure that the NAAQS are achieved. This general duty, often referred to as ''minor NSR,'' exists during all periods, including before a

[101] We note that we are changing the cross-reference in § 52.24(f) to ''§ 51.165'' instead of the definitions section at § 51.165(a), to ensure that all of the provisions of ''51.165 apply in interpreting the terms of § 52.24.

State has an approved part D NSR permit program.

Section 110(a)(2)(c) of the CAA does not define specific requirements States must follow for issuing major source permits during the interim period between nonattainment designation and EPA approval of a part D nonattainment NSR SIP (''interim period''). However, EPA's regulations at § 52.24(k) require States to follow EPA's Emission Offset Interpretative Ruling, 40 CFR part 51, appendix S, during this time.

This approach is consistent with Congressional intent, as indicated in the 1977 CAA Amendments providing for major NSR permitting during the SIP development period in accordance with appendix S. [See Public Law No. 95–95, section 129(a), 91 Statute 685 (1977)]. Specifically, Congress enacted a moratorium on construction in any area lacking an approved part D NSR SIP, with a delayed effective date of July 1, 1979. Congress also provided that appendix S, as modified by rule of the Administrator, govern permitting of sources constructing in such areas before that date, subject to a limited waiver by the Administrator. *Id.* 108(b), 129(a). We subsequently codified the use of appendix S as the interim major NSR program in 40 CFR § 52.24(k), reasoning (in the context of implementing a delay in the construction ban for then-recently designated nonattainment areas) that Congress had provided that appendix S should remain in effect to protect air quality while State plans were being designed (45 FR 65209). When Congress removed the construction ban [(except as provided in section 110(n)(3)), it left in place 40 CFR § 52.24(k)], implementing the interim major NSR program under appendix S.

Accordingly, we have historically recognized that the SIP development period provided for in section 172(b) leaves a gap in part D major NSR permitting and have determined that this gap is to be filled with an interim major NSR program that is substantially similar to the requirements of part D. This includes the LAER and offset requirements from part D (57 FR 18070, 18076). Appendix S has been used by EPA and the States as this interim major NSR program.[102]

Our regulations at 40 CFR 52.24(k) require permits issued during this period to be consistent with the requirements in appendix S. The continued application of appendix S through § 52.24(k) is also supported by the purpose of the CAA, specifically, section 101(b)(1), ''to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population.'' This provision was the basis for the original judicial finding that the CAA imposed an obligation to prevent significant deterioration in areas that meet the NAAQS, prior to Congress' enactment of the PSD program at part C of the CAA.[103] This policy of non-degradation applies with even greater force in areas that fail to meet the NAAQS. Thus, we believe that an interim major NSR program for the SIP development period—as codified at appendix S and updated to reflect CAA amendments—is supported by section 110(a)(2)(C), section 101(b)(1), Congressional intent, and our gapfilling authority under section 301(a).

4. Final Action and Legal Basis for Changes on Applicability of Appendix S and the Transitional NSR Program

a. Final Changes on Applicability of Appendix S and the Transitional NSR Program

We are not finalizing the transitional NSR program under section VI of appendix S as proposed, which would have established limited criteria for determining in which nonattainment areas section VI could apply. Upon consideration of public comments, we decided to retain the original eligibility conditions, but added a procedural requirement that the Administrator determine whether section VI applies for a specific situation.

As we noted at 68 FR 32848, on its surface section VI could apply in any nonattainment area where the dates for attainment have not passed if the source meets all applicable SIP emission limitations and would not interfere with the area's ability to meet its attainment date, without providing any specific safeguards for such noninterference. We noted at proposal, however, that States generally would not be able to show that a nonattainment area would continue to meet its attainment date if it does not apply LAER or offsets to major new sources and major modifications in the absence of safeguards (68 FR 32848).

We continue to believe, as stated in the proposal, that States should not interpret section VI as allowing a blanket exemption from LAER and offsets for all major new sources and major modifications in a given area before attainment dates have passed for that area. However, based on public comment, we now believe that the program as proposed at 69 FR 32846 is not implementable. As many commenters noted, the April 15, 2004 deadline for submission of attainment plans and December 31, 2004 deadline for implementation of all necessary attainment controls were impracticable. We agree with the many commenters who supported flexible NSR requirements under section VI for some areas and maintained that attainment would not be in jeopardy due to such programs. While we do not identify any such particular instances in today's final rule, we believe that participation in programs such as the NO_X SIP Call and the CAIR (70 FR 25162, May 12, 2005) will achieve significant emissions reductions across broad geographical areas. Certainly, we want to encourage development of programs that address transported air pollution. We recognize that these and other programs may prove to be more effective and practical in assuring that there is no interference with an area's ability to meet its attainment deadline than relying on offsets from a single source.

For these reasons, we have retained the original eligibility conditions for determining when section VI applies, but added a procedural requirement that the Administrator provide public notice that section VI applies for a specific situation. This requirement will achieve the proposal's purpose of assuring that States do not interpret section VI to provide a broad exemption to all major new sources and major modifications in any nonattainment area for which the attainment date has not passed.

We also are taking final action to remove the 50 tpy exemption from appendix S. As discussed in section V.A.2.f of this preamble, we proposed this change in 1979 and finalized it in

[102] Appendix S was originally promulgated in 1976 to address whether, and to what extent, new and modified sources would be allowed to construct in nonattainment areas whose attainment deadlines had already passed, in light of the regulatory requirement that new or modified sources be disapproved where the source would interfere with attainment of the NAAQS (41 FR 55524; December 21, 1976). It required, *inter alia*, compliance with the LAER and offsetting emissions reductions in excess of the new source's emissions. At that time, part D NSR was not part of the CAA.

When the part D NSR provisions were added in the 1977 CAA Amendments, Congress added the requirement that SIPs contain nonattainment NSR provisions as set forth in CAA section 173, including LAER and the requirement to either offset the increase in new source emissions or ensure that emissions fell within a growth allowance. (The growth allowance provision was repealed in 1990). Additionally, Congress provided that appendix S, as modified by rule of the Administrator, would govern preconstruction permitting in areas lacking approved part D SIPs before a construction ban went into effect, as discussed in more detail above.

[103] See Alabama Power Co. v. Costle, 636 F. 3d 323, 346–047 (D.C. Circuit, 1980) (discussing Sierra Club v. Ruckelshaus, 344 F. Supp. 253 (D.D.C. 1972), aff'd per curiam 4 ERC 1815 (D.C. Circuit, 1972), aff'd by an equally divided court, sub nom Fri v. Sierra Club, 412 U.S. 541 (1973).

most respects in 1980. However, we inadvertently did not remove the exemption in all the places in appendix S where it was located, specifically footnotes 5 and 8 to IV.D. We are now finalizing the 1979 proposal to the extent it remained incomplete, by removing these last two references to the 50 tpy exemption in appendix S.

b. Legal Basis for Changes to Applicability of Appendix S and the Transitional NSR Program

The legal basis for appendix S itself, including section VI, is discussed in detail in section V.B.3.b. of this preamble. We have historically recognized that the SIP development period provided for in section 172(b) leaves a gap in part D major NSR permitting and have determined that this gap is to be filled with an interim major NSR program that is substantially similar to the requirements of part D, including the LAER and offset requirements from part D, subject to a limited exemption where the attainment deadline will be met (57 FR 18070, 18076). This interim NSR program has been implemented to date through appendix S.

We also believe that, contrary to objections made by some commenters, appendix S—and in particular, section VI—has not been superseded by the 1990 CAA Amendments to title I of the CAA. In short, appendix S only applies where a NSR permitting program for the new or revised NAAQS is not otherwise in effect, and thus does not replace any part D NSR SIP provisions, as many commenters erroneously believed. That is, it applies only in newly designated or redesignated nonattainment areas lacking approved part D programs for a new or revised NAAQS, such as the 8-hour ozone NAAQS. Thus, the evasion of subpart 2 requirements posited by commenters and the anti-backsliding concerns they raise are not triggered, as nothing in the SIP is replaced. Our detailed response to those comments is set forth in section V.C.4. of this preamble.

The section VI exemption, as limited by this final rule, is consistent with the section 110(a)(2)(C) requirement that the preconstruction permitting is implemented ''as necessary to assure that the [NAAQS] are achieved.'' We are not adopting the eligibility criteria that were proposed to ensure satisfaction of the original section VI conditions. However, we have added a requirement that the Administrator determine that sources exempted from LAER and offsets under section VI will meet those conditions, in particular, noninterference with the attainment deadline. Section VI also is consistent with the exercise of our gapfilling authority under section 301, as informed by the legislative history. That is, appendix S reflects Congressional intent that standards equivalent to part D govern the issuance of NSR permits, subject to a limited degree of flexibility under conditions where attainment of the NAAQS by the attainment deadline is assured.

The removal of the 50 tpy exemption from appendix S is based on *Alabama Power Co.* v. *Costle*, 636 F. 3d 323, 356–57 (D.C. Circuit, 1980), in which the court held that EPA had exceeded its authority to establish the exemption, as discussed in more detail in section V.A.2.f. above.

5. Final Action and Legal Basis for Changes to Identify NO_X as an Ozone Precursor in Attainment and Unclassifiable Areas

a. Final Changes to Identify NO_X as an Ozone Precursor in Attainment and Unclassifiable Areas

Our existing PSD regulations in § 51.166 and § 52.21 define regulated NSR pollutants, which includes any pollutant for which we promulgate a NAAQS and any constituents or precursors for such pollutants as identified by the Administrator. [See § 51.166(b)(49)(i) and § 52.21(b)(50)(i)]. Today, the Administrator is identifying NO_X as an ozone precursor in attainment and unclassifiable areas. Accordingly, as proposed, we amended our PSD regulations in § 51.166 and § 52.21 to expressly include NO_X as an ozone precursor. Specifically, we have amended the definitions of major stationary source, major modification, significant, and regulated NSR pollutant to include NO_X as an ozone precursor. [See § 51.166(b)(1)(ii), (b)(2)(ii), (b)(23), and (b)(49). See also § 52.21(b)(1)(ii), (b)(2)(ii), (b)(23), and (b)(50)]. We have also amended the footnote to § 51.166(i)(5)(i)(*e*) and § 52.21(i)(5)(i) to require sources with a net increase of 100 tpy or more of NO_X to perform an ambient impact analysis.

b. Legal Basis To Identify NO_X as an Ozone Precursor in Attainment and Unclassifiable Areas

The nonattainment provisions of the CAA, as amended in 1990, recognize NO_X as an ozone precursor; section 182(f) of the CAA established nonattainment requirements for NO_X. The definition of air pollutant under section 302(g) of the CAA includes, ''* * * any precursors to the formation of any air pollutant * * *'' Also, the definition of regulated NSR pollutant in § 51.166 and § 52.21 specifically recognizes that a regulated NSR pollutant is ''any pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for such pollutant identified by the Administrator (e.g., volatile organic compounds are precursors for ozone).''

The EPA has recognized NO_X as an ozone precursor in several national rules because of its contribution to ozone transport and the ozone nonattainment problem. The EPA's recognition of NO_X as an ozone precursor is supported by scientific studies, which have long recognized the role of NO_X in ozone formation and transport.[104] Such formation and transport is not limited to nonattainment areas. Therefore, we believe NO_X should be treated consistently as an ozone precursor in both our PSD and nonattainment NSR regulations. For these reasons we have promulgated final regulations providing that NO_X is an ozone precursor in attainment areas.

6. Final Changes and Legal Basis for Changes to Emission Offset Provisions of Appendix S

a. Final Changes to Emission Offset Provisions of Appendix S

We are revising certain provisions in appendix S to reflect requirements of the 1990 CAA Amendments concerning offsets and RFP. Specifically, we have conformed appendix S at IV.D. to the 1990 CAA Amendments by replacing the interim policy on offsetting emissions with the statutory language at section 173(c)(1). We also have removed the language concerning reasonable progress in section IV.E. of appendix S and replaced it with the statutory requirements at 173(a)(1)(A).

Also, we note that the definition of net emissions increase at § 51.165(a)(1)(vi)(E) requires that a decrease in actual emissions is creditable only to the extent that the State has not relied on it in demonstrating attainment or RFP. This requirement has never been codified in appendix S. However, the 1990 CAA Amendments at sections 172(b)(1) and 182 codifies the requirements concerning RFP. State and local agencies should consider the effect of creditable decreases from permitting under appendix S in their planning for demonstrating attainment and RFP.

We are also restating our policy on offsets from resource recovery facilities

[104] See 68 FR 32805–06, 32840, footnote 58 (discussing national rules for controlling VOC and NO_X emissions); and 68 FR 32840 footnote 57.

under appendix S. Appendix S at IV.B.(i) exempts resource recovery facilities from permitting under certain circumstances. Our 1988 policy memo indicates that as a matter of policy, EPA no longer adheres to the offset exemption for resource recovery facilities in appendix S.[105] As we did not propose to change this provision, we are not revising the final rules today regarding resource recovery facilities. However, we plan to remove this exemption in a future rulemaking.

b. Legal Basis for Changes to Emission Offset Provisions of Appendix S

Because we have not revised the regulatory text in appendix S since the latest revision to the statute, the 1990 CAA Amendments provisions limiting the use of offsets are not explicitly included in appendix S. Nonetheless, these requirements apply to sources permitted using appendix S because appendix S is intended to reflect the same offset requirements contained in part D of the CAA. These provisions relate to offsets and RFP.

We are revising appendix S to incorporate the statutory restrictions on offsets and remove the existing regulatory text that is outdated. The 1977 CAA is silent concerning the location of offsetting emissions. As we noted in footnote 9 to section IV.D. of appendix S, in the absence of specific statutory language, we developed an interim policy on offset locations. The 1990 CAA Amendments at section 173(c)(1), however, placed specific limits on the location of offsets and therefore superceded the interim policy in appendix S. Accordingly, we conformed appendix S at IV.D. to the 1990 CAA Amendments by replacing the interim policy on offsetting emissions with the statutory language at section 173(c)(1).

Appendix S at section IV.E. contains provisions regarding the relationship between offsets, reasonable progress towards attainment, and RFP. Under the 1990 CAA Amendments, section 173(a)(1)(A) was revised to set forth the extent to which offsets must represent RFP, as defined in section 171. Therefore, we removed the language concerning reasonable progress in section IV.E. of appendix S and replaced it with the statutory requirements at 173(a)(1)(A).

C. Comments and Responses

1. Comments on Proposed Changes to Incorporate the 1990 CAA Amendments

In today's final action, we have revised § 51.165 and appendix S to incorporate the major stationary source thresholds, significant emission rates, and offset ratios pursuant to part D of title I of the 1990 CAA Amendments for major stationary sources of ozone precursors. As we noted in section V.A.2.a. of this preamble, now that the designations and classifications have been made, the provisions of subpart 1 and subpart 2 determine the NSR program requirements. Those requirements are codified in this rulemaking. For a summary of comments and responses related to when subpart 1 or subpart 2 applies, please see the preamble to those final rules at 69 FR 23961.

Commenters on both the 1996 and 2003 proposals generally supported applying the nonattainment major NSR requirements applicable to major stationary sources of VOC (including provisions regarding major modifications, significant emission rates, and offsets) to NO_X emissions, except where the Administrator determines pursuant to section 182(f) that NO_X requirements for major stationary sources, including NSR requirements, would not apply or would be limited (''NO_X waiver''). A few commenters opposed waivers under section 182(f) for exemptions from NO_X requirements, due to their effect on NO_X emissions in downwind States.

We agree with the commenters supporting NO_X as an ozone precursor for nonattainment major NSR applicability, and have retained it in the final rule. We note that whether a NO_X waiver applies in a particular area and the effects of NO_X waivers on RACT are discussed in section IV.H. of this preamble.

2. Comments on Proposed Revisions to Criteria for Emission Reduction Credits From Shutdown and Curtailments

Many commenters generally supported EPA's conclusion that emission reduction credits from shutdowns and curtailments can be used for NSR offsets. These commenters believed the safeguards in the 1990 CAA Amendments justified removing the previous requirement for an approved attainment plan before such credits can be used as offsets. One commenter opposed lifting the restrictions, believing that the cited 1990 CAA Amendment provisions, including submittal of SIP attainment demonstrations, have not been implemented.

While no commenters supported the adoption of Alternative 1 exclusively, a few commenters supported both proposed Alternatives. However, many commenters strongly supported Alternative 2. These commenters asserted that the safeguards in the 1990 CAA Amendments address progress in nonattainment areas and that an approved attainment demonstration is no longer necessary to ensure shutdown/curtailment credits are accounted for in the attainment demonstration. These commenters also believed Alternative 2 was more flexible and would encourage stable banking programs. Many commenters believed that State agencies would be unable to meet the deadlines in Alternative 1. They also believed that Alternative 1 was unnecessarily restrictive, and would cause confusion.

We agree with the commenters who supported Alternative 2. We have promulgated final regulations that allow emission reduction credits to be used as offsets in the absence of an approved attainment demonstration, provided that these emission reduction credits were generated from shutdowns or curtailments that are included in the base year emission inventory as current actual emissions.

One commenter stated that the regulatory language concerning the ''most recent emissions inventory'' is confusing. The commenter believed this language could be mistaken to mean that the base year would continue to shift. The commenter noted that it would be more accurate to state that the base year emissions inventory is the starting point and all creditable emissions reductions must have been reported in the base year inventory or a subsequent emissions inventory. We agree with the commenter that the terminology ''most recent emissions inventory'' is confusing and have revised § 51.165(a)(3)(C)(1) accordingly, specifying the cutoff date as ''the last day of the base year if the projected emissions inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emission units.'' As we discussed in section V.B.2.a. of this preamble, this regulatory language is consistent with our previous guidance on how emission reduction credits from shutdowns and curtailments are used in attainment planning. Most importantly, it assures that emissions from shutdown and curtailed units are accounted for in attainment planning.

We disagree with the commenter who opposed the revisions. Since the submission of this comment in 1997, States have made substantial progress in implementing the 1990 CAA Amendments. This progress includes submitting the required inventories to which attainment planning is keyed, along with the required attainment

[105] See *Emission Offset Exemptions for Resource Recovery Facilities* from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, December 28, 1988.

demonstrations.[106] We believe that implementation of the 1990 CAA Amendments to date supports the conclusion that emission inventories have been effective in attainment planning, and will continue to be effective in implementing the 8-hour standard. Therefore, we disagree with the commenter that the 1990 CAA Amendments do not justify the revisions due to inadequate implementation.

3. Comments on Construction Ban Provisions

We received comments on the following procedural issue. In the proposal, we stated our intent to issue determinations of inadequate SIP implementation under section 173(a)(4) by letter, followed by publication in the **Federal Register**, and explained that such determinations would result in a prohibition on construction in the area pursuant to that provision (61 FR 38305). We also solicited comment on whether an opportunity for public notice and comment should be provided. A few State commenters believed that EPA should provide such notice and comment, but did not state a basis for their position.

The text of § 52.24(b) as proposed tracked the language of section 173(a)(4) and did not include a provision on the process to be used for issuing a determination of inadequate SIP implementation. We have finalized § 52.24(b) in substantially the same form as we proposed. The Agency is still considering the appropriate process to use in issuing a determination under CAA section 173(a)(4).

4. Comments on Applicability of Appendix S and the Transitional Program

Many commenters opposed our proposed Transitional NSR Program, stating that it would not be protective of air quality. Many other commenters supported the proposed program, believing that it would provide needed flexibility and would not interfere with achieving attainment. Many commenters, including some who supported the Transitional Program, believed the schedule for submitting attainment plans and control requirements was impracticable. Some commenters opposed the Transitional NSR Program on legal grounds, arguing that section VI does not authorize any NSR flexibility or that appendix S has been superseded in its entirety by various sections of the CAA.

We agree with commenters that the schedule in the proposed rule for submitting attainment plans to be eligible for Transitional NSR was impracticable. On the other hand, however, we do agree with the many commenters who urged us to provide flexible NSR requirements for some areas. While we have not promulgated specific criteria for when such flexibility would apply, we have promulgated final regulations specifying that section VI applies where the original conditions are met (that is, the attainment deadline has not passed, the source would not interfere with attainment by the deadline, and the source meets all applicable SIP emissions limitations) and the Administrator has determined and provided public notice that section VI applies.

Regarding the objections to our legal authority to implement flexible NSR under appendix S, some commenters argued that the section VI exemption is potentially applicable only where an attainment date for the secondary standards has not yet passed. However, this comment ignores the plain language of section VI, which references primary standards. It states: ''In some cases, the dates for attainment of primary standards have not yet passed due to the delay in the promulgation of a plan under this section of the Act.'' It then goes on to note that the attainment deadlines for the secondary standards may also not yet have passed. It then states: ''In such cases [a reference to attainment dates that have not passed for both primary and second standards], a new source locating in an area designated in 40 CFR 81.3000 *et seq.* as nonattainment may be exempt from the conditions of Section IV.A'' [107] where certain requirements are met. Thus, the section VI exemption is applicable where the attainment date for the primary standard has not passed.

Other commenters argued that appendix S and 40 CFR 52.24(k) have been superseded by or prohibited by various sections of the CAA. (The EPA will use the term ''appendix S'' in this section of the preamble to refer to these collectively). Although commenters made this argument in the context of opposing the proposed revisions to section VI of appendix S, this comment applies to any use of appendix S for permitting, including the LAER and offset requirements of section IV, and the existing version of section VI. First, the commenter contended that appendix S has been superseded by section 181(b)(1) within subpart 2 of the CAA, under which it believes a newly designated nonattainment area receives its nonattainment classification by operation of law and immediately becomes subject to all of the requirements—including section 110, subpart 1, and subpart 2—that apply to that classification. The EPA disagrees with the commenter. As a threshold matter, even if the commenter were correct that both subpart 1 and subpart 2 applied upon an area's nonattainment classification, the statute provides that the area may have a period of time to develop and submit a SIP or SIP revision meeting the preconstruction permitting requirements of section 173. See CAA sections 172(b)(5) and 182(a)(2)(C). For the SIP development period, part D leaves a gap as to the NSR requirements applicable to the newly designated nonattainment area (if the state's part D NSR SIP does not automatically cover the area). This gap exists even if EPA were to accept the commenter's contention that subpart 2 applies. Pursuant to 40 CFR 52.24(k), this gap is filled by appendix S, which requires NSR permitting that mirrors part D, subject to the section VI exemption.

Additionally, EPA disagrees with the commenter's contention that subpart 2 must apply to all newly designated nonattainment areas. As discussed in more detail in the preamble to the Phase 1 8-hour ozone implementation rule (69 FR 23951), EPA has determined that it has discretion in determining whether subpart 2 applies to these areas because subpart 2 does not dictate whether it applies where the 1-hour design value falls below the lowest value in the subpart 2 classification table. The EPA has described in that rule the circumstances in which subpart 2 applies.

The commenter also contends that section 193 has superseded appendix S. The EPA disagrees. The commenter relies on the following language in section 193: ''No control requirement in effect, or required to be adopted by a[] * * * [implementation] plan in effect before November 15, 1990, in any area which is a nonattainment area for any air pollutant may be modified after November 15, 1990, in any manner unless the modification insures equivalent or greater emission reductions of such air pollutant.'' However, this part of section 193 is of no relevance to appendix S because

[106] Of the 135 areas designated as nonattainment for the 1-hour ozone NAAQS in 1991, 69 have been redesignated as attainment. See *hhtp://www.epa.gov/oar/oaqps/greenbk/onsum2.html.* Of the 55 nonattainment areas with classifications of moderate and higher that were required to submit SIPs and attainment demonstrations, all but 4 have an approved SIP or have requested redesignation to attainment.

[107] Designations are in 40 CFR 81.300. This citation has been corrected in today's final rule.

appendix S does not replace any existing SIP requirements. An area is only required to apply appendix S where it does not have a part D NSR SIP covering permitting for the 8-hour standard. In other words, it covers only the gap in the SIP caused by the lack of a part D NSR program for the relevant NAAQS, and is supplemental to any existing SIP requirements.[108]

The commenter also believes that use of appendix S for permitting would violate section 110(l), which provides, in relevant part, that: ''The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress * * *'' The commenter states that nonattainment preconstruction permitting requirements ''concern[] attainment and reasonable further progress,'' so if a SIP is already written such that nonattainment NSR will apply in an area as soon as it is designated nonattainment under the 8-hour standard, then any revision that would thwart the automatic effectiveness of those requirements would violate section 110(l). Again, appendix S is not an amendment to a SIP, and does not replace any existing SIP requirements. Rather, it covers the gap caused by the lack of a part D NSR SIP for the newly designated nonattainment area. If a SIP applies the nonattainment NSR program to a newly designated nonattainment area, appendix S does not apply to that area. [See 40 CFR 52.24(k) and appendix S, section I.] For these same reasons, the commenter is incorrect that NSR permitting under appendix S violates Congressional intent not to relax pollution control requirements when the NAAQS are revised, as expressed in section 172(e). One commenter stated that any major revisions to appendix S should be subject to additional notice-and-comment because such revisions could not be a logical outgrowth of the June 2, 2003 proposal. We disagree that the public lacked adequate notice and opportunity to comment. The changes to incorporate the 1990 CAA Amendments to part D of title I of the CAA (for example, major stationary source thresholds, significant emission rates, and offset ratios) and the revisions to the rule governing creditable emissions reductions from shutdowns and curtailments were proposed in 1996 for the major NSR program, including appendix S (61 FR 38252). The method for making designations and classifications specific to the 8-hour standard under subparts 1 and 2 was proposed on June 2, 2003 (68 FR 32802). Although rule language was not proposed specifically for appendix S, the rule language could be discerned from the rule language proposed for § 51.165, as appendix S states it is an interpretation of 40 CFR subpart I, which includes § 51.165. Additionally, the CAA does not require that the Agency provide notice of the exact rule language that will be finalized, but rather that the Agency provide a statement of basis, including, among other things, the major legal interpretations and policy considerations underlying the proposal. These were provided by the 1996 and 2003 proposals and, in the case of the removal of the 50 tpy exemption, in the 1979 proposal.

With regard to the changes to section VI of appendix S, the Agency notes that because it declined to adopt the extensive revisions proposed, the changes are minimal. The additional condition regarding approval by the Administrator is a logical outgrowth of the proposed revisions to section VI, which explained that the Agency's goal was to limit the applicability of section VI to situations where the new source would comply with all of the conditions in section VI, most notably, not interfering with an area's ability to meet its attainment deadline.

5. Comments on Changes To Identify NO_X as an Ozone Precursor in Attainment and Unclassifiable Areas

Commenters supported our proposal to amend our PSD regulations to expressly include NO_X as an ozone precursor. We agree with these commenters.

6. Comments on Removing the 50-Ton Exemption

For comments on removing the 50-ton exemption, see the discussion in the 1980 final rules at 45 FR 52689–90.

D. NSR Implementation Under the 8-Hour Ozone NAAQS

As promulgated at 69 FR 23858, the designation and classifications for the 8-hour NAAQS became effective June 15, 2004. The transition to NSR under the 8-hour NAAQS raises multiple implementation questions, which are discussed below. We intend to address additional issues in the future.

1. Areas That Have Never Been Nonattainment for Ozone

If an area has never been nonattainment for ozone and is nonattainment for the 8-hour ozone NAAQS, it became subject to nonattainment major NSR under the 8-hour standard on June 15, 2004. Permits for new or modified major stationary sources in such areas issued on or after June 15, 2004 must reflect NSR requirements under the 8-hour ozone NAAQS. Some States may already have in place a part D major source permitting program applicable to newly designated 8-hour ozone nonattainment areas. For nonattainment areas in States whose SIPs contain a generic requirement to issue part D major source NSR permits in areas designated as nonattainment, the State can continue to issue nonattainment NSR permits for new and modified major stationary sources under the part D NSR SIP on or after June 15, 2004. For a nonattainment area in a State with a SIP that specifically lists the areas in which part D NSR applies, or in an area that currently has no nonattainment plan or otherwise lacks authority to implement NSR for the 8-hour ozone NAAQS through a SIP-approved permitting program, there will be an interim period between June 15, 2004 and the date that the State amends its SIP either to list any new nonattainment area(s) or to include a part D plan. During this interim period, pursuant to § 52.24(k), permits for new and modified major stationary sources in such areas must be consistent with the requirements in appendix S. Where a State or local agency lacks authority to issue permits consistent with appendix S, EPA is the reviewing authority.

States may not issue PSD permits to address major NSR obligations arising from nonattainment classifications. As we stated at 69 FR 23992, PSD permits may not be issued after June 14, 2004, to satisfy permitting obligations under the 8-hour nonattainment designation. We clarify here that States are not precluded from issuing PSD permits based on the 1-hour attainment classifications, but such actions do not relieve States or sources from addressing nonattainment NSR obligations based on the 8-hour classification.

2. Areas That Are Nonattainment for the 1-Hour NAAQS and the 8-Hour NAAQS

New source review under the 8-hour NAAQS became effective in 8-hour nonattainment areas on June 15, 2004.

[108] Although EPA did state in the proposal that States with already applicable part D NSR SIPs may choose to amend their SIPs to allow them to take advantage of the proposed revisions to section VI (68 FR 32844 n.67), the decision not to go forward with the section VI revisions as proposed makes that issue moot. New source review under section VI, as finalized, will involve notification by the Administrator that it applies for new sources meeting the section VI criteria in areas lacking approved part D NSR programs, rather than replacement of a NSR program in the SIP with an alternative NSR program.

Currently, the 1-hour NAAQS remains in effect. Thus, there is a period of time when major NSR requirements for both the 1-hour and 8-hour NAAQS applies in an area or parts of an area. During this period, different major stationary source thresholds and offset ratios may apply in a given nonattainment area under the 1-hour and 8-hour ozone NAAQS, due to a change in its classification. Permits issued during this transition period will assure compliance with both programs if the permit requirements are based on the highest classification that applies to the area. If the area's 1-hour classification is higher than its 8-hour classification, the NSR SIP program under the 1-hour NAAQS will satisfy the requirements of both programs. If the 8-hour classification is higher, then the NSR program under the 8-hour classification will determine the NSR requirements. For example, suppose a source is locating in an area that is now classified as moderate nonattainment under the 8-hour ozone NAAQS but was previously classified as a serious ozone nonattainment area under the 1-hour NAAQS. Any permit the State issues during the transition would be based on the 50 tpy major stationary source threshold and at least 1.2:1 offset ratio that apply to serious ozone nonattainment areas under the 1-hour ozone NAAQS.

Pursuant to 40 CFR 50.9(b), EPA revoked the 1-hour NAAQS effective June 15, 2005 for areas designated for the 8-hour ozone standard effective June 15, 2004. We anticipate that, upon revocation of the 1-hour ozone NAAQS, States will submit requests for approval of SIP revisions removing NSR requirements based on the 1-hour classifications, where such SIP revisions are necessary to achieve this result. At 69 FR 23985, we stated that upon revocation of the 1-hour ozone NAAQS, for any area that was designated nonattainment for the 1-hour ozone NAAQS, the area's implementation plan provisions satisfying sections 172(c)(5) and 173 (including provisions satisfying section 182) based on the area's previous 1-hour ozone NAAQS classification are no longer required elements of an approvable implementation plan. We also indicated that a State may request approval of a SIP revision to remove its 1-hour nonattainment NSR program from its SIP. We further stated that we will approve such changes to a state's SIP because we have determined based on 110(l) of the CAA that such changes will not interfere with any state's ability to reach attainment of the 8-hour standard and will be consistent with RFP.

On June 29, 2004, we received a Petition for Reconsideration from Earthjustice concerning these statements on removing the 1-hour NSR SIP and on the 110(l) determination related to removing the 1-hour NSR SIP. You can find a copy of this Petition for Reconsideration at *http://www.epa.gov/ttn/naaqs/ozone/o3imp8hr/materials.html.* We have granted reconsideration on these two narrow NSR issues in the Phase 1 Ozone Implementation Rule. We published a proposed rule on these issues on April 4, 2005 (70 FR 17018). We published a final rule on these two issues on July 8, 2005 (70 FR 39413).

As we stated at 69 FR 23986 (Column 1), emission limitations and other requirements in major NSR permits issued under 1-hour NSR programs will continue to be in force when the 1-hour NAAQS is revoked. For example, suppose an existing source is located in an area classified as serious nonattainment under the 1-hour ozone NAAQS and has a nonattainment major NSR permit based on its potential to emit 75 tpy VOC. That major NSR permit (including emission limitations and other requirements) remains in force on and after June 15, 2005 even if the area that the source is located in is now classified moderate nonattainment (with a major stationary source threshold of 100 tpy) under the 8-hour ozone NAAQS.

3. Part D NSR SIP Submittals

Today's final action on the regulations at § 51.165 establishes the minimum requirements for part D SIPs implementing major NSR under the 8-hour NAAQS. Some States may find it unnecessary to revise their SIPs to implement NSR under the 8-hour NAAQS. This can happen when the approved part D NSR and ozone classification scheme SIP applies to any areas designated as nonattainment under section 107 of the CAA or listed in 40 CFR 81.300 et seq. In States that do not have authority to implement a part D program for the 8-hour NAAQS, a SIP revision for major NSR under the 8-hour NAAQS must be submitted.[109] The revised implementation plan must include requirements to implement the provisions of sections 172(c)(5) and 173 of the CAA based on the area's 8-hour ozone NAAQS classification under 40 CFR part 81, and the provisions of § 51.165 as amended in today's final action.

States must submit SIP provisions incorporating today's final rules at § 51.165 no later than June 15, 2007, which is 3 years after designation. This schedule is consistent with the schedule set forth in CAA sections 172(b) and 110(a)(1).[110] This date facilitates coordination of NSR program changes with the submission of the attainment plan, which is also due within 3 years. Part D NSR SIPs to implement the 8-hour NAAQS should reflect the requirements of today's final action, as well as the requirements in subpart X of part 51 promulgated on April 30, 2004 at 69 FR 23951. Before EPA can approve a program into the SIP to implement a nonattainment major NSR program for the 8-hour ozone NAAQS, State and local agency programs implementing part D (nonattainment NSR permit program in § 51.165) must include today's changes as minimum program elements. States must also submit SIP provisions incorporating today's final rules at § 51.166 no later than June 15, 2007.

4. Effective Date for Today's Requirements

All of these changes will take effect in the NSR permitting programs for nonattainment areas codified at appendix S of part 51 and § 52.24 on January 30, 2006. This means that appendix S as amended in today's final action will apply on January 30, 2006 in any nonattainment area without an approved part D NSR SIP that applies to major sources in the nonattainment area for the nonattainment pollutant. These changes will take effect in the Federal PSD program (codified at 40 CFR 52.21) on January 30, 2006 in any area without an approved PSD program, for which we are the reviewing authority, or for which we have delegated our authority to issue permits to a State or local reviewing authority. The provisions of § 51.165 and § 52.24, as amended in today's final action, also apply on January 30, 2006. State and local agency programs implementing part C (PSD permit program in § 51.166) and part D (nonattainment NSR permit program in § 51.165) are effective when they are approved by us.

5. Requirements for Offsets

Offsets under CAA section 173 are typically based on emissions reductions

[109] As noted in section V.D.2 of this preamble, we will complete our reconsideration on issues related to NSR SIP submittals and announce our final action by May 20, 2005.

[110] CAA Section 182(a)(2)(C)(i) requires NSR SIPs to meet the 1-hour ozone NAAQS to be submitted within 2 years after the date of the enactment of the 1990 CAA Amendments. This requirement has been met by the submission of NSR SIPs due on November 15, 1992, which EPA requested on April 16, 1992 at 57 FR 13499. We have interpreted the 2-year schedule not to apply for the NSR SIPs implementing the 8-hour ozone NAAQS.

achieved through installation of control technology, shutdown of a source, or curtailment of production or operating hours below baseline levels. Offsets must meet several requirements set forth in section 173 of the CAA, including the following:

- Offsets must be obtained by the time the source is to commence operation [CAA section 173(a)(1)(A)].
- Offsets must be consistent with RFP [CAA section 173(a)(1)(A)].
- Offsets must be federally enforceable before permit issuance [CAA section 173(a)].
- Offsets must be in effect and enforceable by the time a new or modified source commences operation [CAA section 173(c)(1)(B)].
- Emissions reductions that are otherwise required under the CAA cannot be creditable as offsets [CAA section 173(c)(2)].
- Offsets must come from a source in the same nonattainment area, unless it comes from an area that has an equal or higher nonattainment classification and the emissions from such other area contribute to a violation of the national in the nonattainment area in which the source is located [CAA section 173(c)(1)].

If an emission reduction credit (including an emission reduction credit generated from a shutdown or curtailment) has been used to meet ROP or RFP milestones, it is not available for use as an offset or in netting. This is because section 173(c)(2) of the CAA prohibits use of emissions reductions as offsets where the reductions are ''otherwise required by the Act.'' Thus, reductions that are used to meet Federal requirements, including SIP-approved ROP and RFP obligations under CAA section 182, are not creditable. Where emissions reductions pre-dating 2002 have not been used to meet ROP and RFP obligations, or other Federal requirements, CAA section 173(c)(2) does not prohibit their use. Thus, EPA believes that such credits may be used as offsets consistent with the CAA. The EPA encourages States to allow sources to use pre-2002 banked emissions reductions credits (that is, those that were generated before January 1, 2002, which is the first day of the emissions inventory base year for the base year inventory used to develop the attainment demonstration) for offsetting purposes. States may do so as long as the banked credits meet all other offset creditability criteria and such credits are included by States as growth in developing the attainment demonstration as discussed elsewhere in this preamble. See also 57 FR 13508–09. The credits must be certified and approved for such purposes.

Additional requirements apply to credits generated from shutdowns or curtailments. Pursuant to today's final rule, States may revise their SIPs to remove the requirement for an approved attainment demonstration as a condition of using shutdown/curtailment credits pre-dating the new source application. Under the revised rule, emissions from the shutdown/curtailed source can be creditable if they are included in the projected emissions inventory used to develop the attainment demonstration. For emissions reductions from shutdowns or curtailments to be creditable for offset purposes, the State must also certify that emissions from the shutdown or curtailed source have not been used and are not necessary to meet any other requirement under the CAA, including RFP or ROP.

Use of emission reduction credits banked before the base year (that is, those generated before January 1, 2002) for netting continues to be available to the extent allowed under State rules. However, because these emission reduction credits represent emissions that are not included in the 2002 base year inventory, States should consider net emission increases occurring on or after January 1, 2002 as growth even though, for applicability purposes, the source does not have a significant net emissions increase.

VI. Final Rule for RFG

A. Introduction

This portion of the rule addresses what effect the transition to the 8-hour NAAQS will have on certain aspects of the federal RFG program. Under the CAA, the RFG requirements apply in certain areas of the country. First, there are nine areas that Congress identified pursuant to section 211(k)(10)(D) of the CAA as mandatory RFG areas. Second, there are five RFG areas that are mandatory areas based on their reclassification to a severe ozone classification. These areas are typically called ''bump-up'' areas. See CAA section 211(k)(10)(D), 211(k)(6), and 211(k)(5). Finally, there are a number of areas that have voluntarily opted in to the RFG program. The purpose of the RFG program is to improve air quality through the use in certain areas of gasoline that is reformulated to reduce motor vehicle emissions of tropospheric ozone-forming compounds and toxics, as set forth in section 211(k)(1) of the CAA.

B. Background

In the Phase 1 Rule, EPA addressed two key issues regarding the transition from the 1-hour NAAQS to the 8-hour NAAQS. First, when will the 1-hour NAAQS no longer apply (i.e., be ''revoked'')? Second, what protections are in place to ensure that, once the 1-hour NAAQS is revoked, air quality will not degrade and that progress toward attainment will continue as areas transition from implementing the 1-hour NAAQS to implementing the 8-hour NAAQS?

On the first issue, EPA decided that the 1-hour NAAQS will be revoked in full, including the associated designations and classifications, 1 year following the effective date of the designations for the 8-hour NAAQS. Most areas were designated effective June 15, 2004, and for those areas the 1-hour NAAQS and the related designation and classification will no longer apply as of June 15, 2005.

On the second issue, the anti-backsliding portion of the Phase 1 rule established that all areas designated nonattainment for the 8-hour ozone NAAQS, that were designated nonattainment for the 1-hour NAAQS at the time of designation for the 8-hour NAAQS, remain subject to mandatory control measures that applied by virtue of the area's classification for the 1-hour NAAQS. These control measures are called ''applicable requirements.'' [111] Also, EPA decided that areas designated nonattainment for the 8-hour NAAQS, that were designated attainment subject to a section 175A maintenance for the 1-hour NAAQS at the time of designation for the 8-hour NAAQS, must continue to implement all applicable requirements that have been approved into the SIP.[112]

In the June 2003 proposal, EPA identified Federal RFG as an applicable requirement (68 FR 32867). In the final rule, however, EPA did not include RFG in the list of applicable requirements. The EPA instead clarified that RFG is required under a Federal program, and thus differs significantly from the other programs on the list of applicable requirements, which are developed and adopted by States for inclusion in the

[111] In the Phase 1 Rule, EPA defined applicable requirements as those control measures in place as of the date of signature of the Phase 1 Rule, (i.e., April 15, 2004). The EPA recently reconsidered this issue and changed this date to the effective date of the 8-hour designations—for most areas this would be June 15, 2004 (70 FR 30596).

[112] While the Phase 1 Rule also addressed the transition to the 8-hour NAAQS for areas recently designated as attainment for the 8-hour NAAQS, all relevant RFG areas are designated as 8-hour nonattainment areas (69 FR 23858).

SIP. The EPA recognized that various issues exist regarding the scope and applicability of the RFG program during and after implementation of the 8-hour NAAQS that need further clarification. The EPA stated that we were still considering how to treat RFG and that we would address these issues in an action separate from the Phase 1 Rule (69 FR 23973). Thus, EPA did not include RFG in the list of applicable requirements in the Phase 1 Rule, and EPA made no decision at that time concerning RFG treatment in the transition to the 8-hour NAAQS.

C. What action is EPA taking?

As discussed in more detail below, EPA is clarifying today that the nine original mandatory RFG areas, as well as most other areas that have become mandatory RFG areas by being ''bumped up'' to a severe classification, will continue to be required to use RFG at least until they are redesignated to attainment for the 8-hour NAAQS. The EPA is not deciding at this time what will happen when the original nine areas and the bump-up areas covered by this rule are redesignated to attainment for the 8-hour NAAQS. The EPA is also not deciding at this time what RFG requirements apply for any bump-up areas that are redesignated to attainment for the 1-hour NAAQS before the 1-hour NAAQS is revoked. The only such area that was redesignated to attainment prior to revocation of the 1-hour NAAQS is Atlanta, Georgia. That issue will be addressed in an action separate from this final rule.

The RFG areas that opted into the program will continue to be RFG areas unless they opt-out pursuant to EPA's opt-out regulations. The transition to the 8-hour NAAQS does not change the terms and conditions that apply to opting-out of the RFG program. Likewise, EPA's current rules on opting-in to RFG will apply in the same manner under the 8-hour NAAQS as under the 1-hour NAAQS—i.e., 8-hour nonattainment areas that are classified as marginal or above under subpart 2 will be able to opt-in to the RFG program.

D. Why is EPA taking this action?

1. RFG Mandatory Areas

Under section 211(k)(5), RFG is required in any ''''covered area.'' The term ''covered area'' is defined in section 211(k)(10)(D) as:

[t]he 9 ozone nonattainment areas having a 1980 population in excess of 250,000 and having the highest ozone design value during the period 1987 through 1989 shall be ''covered areas'' for purposes of this subsection. Effective one year after the reclassification of any ozone nonattainment area as a severe ozone nonattainment area under section 181(b) of this title, such severe area shall also be a ''covered area'' for purposes of this subsection.

In the June 2003 proposed Phase 1 Rule, EPA proposed that RFG be considered an applicable requirement and treated like the various mandatory control obligations that States remained obligated to adopt and implement after revocation of the 1-hour NAAQS. Under that proposal, the nine original mandatory areas and all bump-up areas would have continued to be covered areas after revocation of the 1-hour NAAQS. For the reasons discussed below, EPA is adopting this basic approach for the nine original mandatory areas as well as those bump-up areas covered by this final rule.

a. Nine Original Mandatory Areas

The first sentence of section 211(k)(10)(D) identifies certain covered areas by reference to their 1980 population and their 1987–1989 ozone design value. The nine areas that meet these criteria are Los Angeles, San Diego, Hartford, New York, Philadelphia, Chicago, Baltimore, Houston, and Milwaukee. It is clear that transition to the 8-hour NAAQS does not change the historical facts that define these areas. In addition, all of these areas are designated as nonattainment areas under the 8-hour NAAQS. Thus, they will continue to be ''ozone nonattainment areas'' until they are redesignated to attainment for the 8-hour NAAQS. Revocation of the 1-hour NAAQS and transition to the 8-hour NAAQS does not change the fact that each of these nine mandatory areas will continue to meet the definition of covered area at least until it is redesignated to attainment for the 8-hour NAAQS. As discussed below, EPA is not deciding at this time whether these areas will continue to be covered areas upon redesignation to attainment for the 8-hour NAAQS. The EPA reserves any determination on that issue for a future action.

The EPA believes that this is a straightforward and clear application of the plain language of the statute. However, even if the statutory terms were considered ambiguous on this issue, EPA believes that the same statutory interpretation and policy considerations described below for the ''bump-up'' areas covered by this final rule apply to the nine mandatory areas and would lead EPA to require continued use of RFG in the nine areas at least until they are redesignated to attainment for the 8-hour NAAQS.

Since EPA regulations at 40 CFR 80.70 currently define the term ''covered area'' to include the original nine mandated areas, no change in EPA regulations is needed at this time. The EPA will address in a future action what RFG requirements, if any, apply to the original nine RFG covered areas when they are redesignated to attainment for the 8-hour NAAQS.

b. Bump-Up Areas

The second sentence of section 211(k)(10)(D) identifies areas that become covered areas because they have been reclassified as a severe area under CAA section 181(b). These are called ''bump-up'' areas. To date, five areas have been reclassified to severe for the 1-hour NAAQS. They became RFG covered areas 1 year after their reclassification—Baton Rouge, Atlanta, Sacramento, San Joaquin Valley, and Washington, DC—which was already an opt-in area.

The areas that are RFG covered areas based on the bump-up provision were designated as ozone nonattainment areas and classified by operation of law at the time of the 1990 CAA Amendments, and their bump-up to severe occurred by operation of law based on EPA's determination under section 181(b) that the areas failed to attain the 1-hour NAAQS by the applicable attainment date. Thus, their reclassification to severe was not based on a determination that their air quality met the severe area design value. Instead, reclassification was based on their failure to meet the applicable attainment date. The bump-up to severe has two effects—a later attainment date is set for the area, and a variety of additional control measures become mandatory for the area. The Federal RFG program becomes a mandatory control measure in an area 1 year after it is bumped up to a severe classification.

There are two ways that a bump-up area classified as severe could lose its severe classification. First, it could do so through redesignation to attainment for the 1-hour NAAQS. (This is no longer an option for areas where the 1-hour NAAQS was revoked on June 15, 2005.) Second, since the 1-hour NAAQS is revoked, a bump-up area will no longer be classified as severe under the 1-hour NAAQS and may have a lower classification (i.e., subpart 1, marginal, moderate or serious) for the 8-hour NAAQS. This rule only addresses the second situation.

The bump-up areas in this second situation are all designated as 8-hour ozone nonattainment areas, with classifications under the 8-hour NAAQS that are a lower classification than severe. This raises the issue of whether the bump-up areas that lose their severe classification through revocation of the

1-hour NAAQS should continue to be covered areas once the 1-hour NAAQS and the areas' related severe classifications are revoked.

The EPA believes that section 211(k)(10)(D) is ambiguous on the issue of whether a bump-up area continues to be a covered area when it is no longer classified as severe. The text of the provision could be read to set the defining criteria as the occurrence of reclassification to severe, a historical fact that does not change based on subsequent changes in classification. It could also be read as identifying areas that are reclassified to severe, but as leaving unresolved what happens when they are no longer so classified. Given this ambiguity, EPA has discretion to determine whether section 211(k)(10)(D) authorizes removal of a bump-up area from the RFG program when it is no longer classified as severe, and to set appropriate criteria for such removal.[113]

For a bump-up area covered by this rule, it is instructive to consider what would happen if EPA had never revised the 1-hour NAAQS. In that case, the area would continue to be a covered area at least until it was redesignated to attainment for the 1-hour NAAQS. While section 211(k)(10)(D) does not directly address whether a bump-up area would continue to be a covered area after redesignation, it is clear that if EPA had never revised the 1-hour NAAQS, the area would continue to be a covered area at least as long as it was a severe area, and it would be a severe area as long as it was still designated as an ozone nonattainment area.

The EPA does not believe that Congress would have intended that removal of the severe classification based solely on revocation of the less protective 1-hour NAAQS should result in backsliding of the RFG requirement. For example, as noted above, if EPA had not adopted a more protective 8-hour NAAQS, with the related revocation of the 1-hour NAAQS and removal of the severe classification, then the bump-up areas covered by this rule would remain covered areas at least until they were redesignated to 1-hour attainment, at which point they would no longer be designated as ozone nonattainment areas. Here, the removal of the severe classification is through revocation of the 1-hour NAAQS, not through redesignation to 1-hour attainment. These bump-up areas are still designated as ozone nonattainment areas. The EPA believes the removal of the severe classification for these areas as a result of revocation of the 1-hour standard should not lead to removal of the RFG requirement. The EPA believes the RFG requirement should continue beyond revocation of the 1-hour NAAQS, and it should continue at least until the areas are redesignated to attainment for the 8-hour NAAQS. This does not change or affect any discretion EPA may otherwise have under the RFG provisions to modify or remove RFG requirements.

This is consistent with the approach taken in the Phase 1 Rule for the mandatory obligations that EPA identified there as ''applicable requirements.'' In that rule, EPA determined that a number of provisions of the CAA evidence Congress' intent that certain obligations that applied to an area by virtue of the area's classification for the 1-hour NAAQS should continue to apply despite EPA's determination the 1-hour NAAQS is no longer necessary to protect public health. While some of these various statutory provisions do not have direct bearing on Federal RFG and section 211(k), the issues are closely analogous. For example, the inclusion of a bump-up area in the RFG program is integrally tied to the subpart 2 provisions that establish the original classification and attainment date for an area and its later reclassification as severe under section 181(b). The Supreme Court cautioned in *Whitman* v. *American Trucking Assn.*, 531 U.S. 457 (2001), against EPA making subpart 2 ''abruptly obsolete.'' Although the RFG requirement itself is not set forth in subpart 2, the requirement to use it in severe bump-up areas is tied directly to the classifications that arise by operation of subpart 2. Thus, it would appear that the Supreme Court's caution should be as relevant for RFG bump-up areas as it is for the subpart 2 control obligations. For further discussion of the reasoning behind anti-backsliding provisions in the Phase 1 Rule, see 69 FR 23951, 23972. The reasoning presented there also supports EPA's interpretation of section 211(k)(10)(D) regarding RFG requirements for bump-up areas covered by today's rule.

One issue addressed in the Phase 1 Rule involved setting the trigger date for determining what 1-hour SIP-related requirements would continue as mandatory ''applicable requirements'' after revocation of the 1-hour NAAQS. The EPA considered three possible trigger dates for the Phase 1 Rule—the date of signature of the Phase 1 Rule, the effective date of the 8-hour nonattainment designation, and the date of revocation of the 1-hour NAAQS.[114] For purposes of this final rule, it is not necessary to decide on a similar date for determining the continued applicability of RFG for these bump-up areas. Under all potential trigger date options, RFG would be a requirement on the trigger date for the bump-up areas covered by this rule, as they would all be classified as severe areas on any of the trigger dates that were considered.

Based on the above, EPA has determined that bump-up areas that lose their severe classification based solely on revocation of the 1-hour NAAQS should remain RFG covered areas at least until they are redesignated to attainment for the 8-hour NAAQS. As indicated above, this does not change or affect any discretion EPA may otherwise have under the RFG provisions to modify or remove RFG requirements.

2. RFG Opt-In Areas

Under section 211(k)(6) of the CAA, certain ozone nonattainment areas may opt-in to the RFG program. That provision limits opt-ins to areas ''classified under subpart 2 of part D of title I as a marginal, moderate, serious, or severe Area.'' The EPA's regulation implementing this provision is at 40 CFR 80.70(j), which states that ''[a]ny * * * area classified under 40 CFR part 81, subpart C as a marginal, moderate, serious, or severe ozone nonattainment area may be included as a covered area on petition of the Governor of the State in which the area is located.''

Some areas designated nonattainment for the 8-hour NAAQS are subject only to the planning requirements of subpart 1, while others are also subject to the planning requirements of subpart 2 of part D of title I. The 8-hour nonattainment areas subject to the planning requirements of subpart 2 were all classified as marginal, moderate, serious, or severe (69 FR 23951, 23954; April 30, 2004). The 8-hour nonattainment areas subject only to subpart 1 are not subject to those classifications. Thus the only 8-hour nonattainment areas that would be able to opt-in under the terms of section 80.70(j) are areas classified under subpart 2 as marginal, moderate, serious, or severe, consistent with the terms of section 211(k)(6).

In a prior rulemaking, EPA initially expanded the scope of this opt-in provision, interpreting section 211(k)(6) as authorizing opt-in for any current or prior 1-hour ozone nonattainment area,

[113] While this final rule only addresses bump-up areas that lose their severe classification based upon revocation of the 1-hour NAAQS, the ambiguity in section 211(k)(10)(D) extends to all bump-up areas, including those not covered by this final rule. As noted above, EPA intends to address and resolve this ambiguity for any bump-up areas not covered by this rule in an action separate from this final rule.

[114] May 26, 2005 (70 FR 30596).

including areas that were not classified marginal or above. In that rulemaking, EPA reserved judgment on whether it would apply the same expanded interpretation to areas designated as nonattainment for the then recently adopted 8-hour NAAQS (63 FR 52094, 52101; September 29, 1998). The EPA's expanded view of the scope of section 211(k)(6) was subject to judicial review and was rejected as inconsistent with the terms of section 211(k)(6), as ''Congress provided for opt-in only for areas classified as marginal, moderate, serious, or severe.'' *API and NPRA* v. *EPA*, 198 F. 3d 275, 281 (D.C. Cir. 2000).

The text of EPA's current opt-in regulation is limited as a result, is consistent with the limitation in section 211(k)(6), and only allows opt-in for areas classified under subpart 2 as marginal or above. The EPA interprets the current opt-in regulation as allowing opt-in for those 8-hour nonattainment areas that are classified as marginal or above under subpart 2. The EPA believes this is consistent with section 211(k)(6) and with the *API and NPRA* case, and therefore sees no need to revise the current regulation.

E. Future Proceedings

Today, EPA is reserving for future consideration what RFG requirements, if any, should apply to the nine mandatory areas and the bump-up areas covered by this final rule when they are redesignated to attainment for the 8-hour NAAQS. The Phase 1 Rule provides that upon redesignation to attainment for the 8-hour NAAQS, SIP measures may be moved to the contingency measure portion of the SIP if the State demonstrates in accordance with section 110(l) that doing so will not interfere with maintenance of the 8-hour NAAQS or any other applicable requirement of the CAA (69 FR 23951, 23998; April 30, 1994)(40 CFR 51.905(b)). This SIP process does not apply to RFG, since it is not a SIP measure. However, EPA will need in the future to consider whether it should develop a similar scheme for RFG. Specifically, EPA will consider the following issues. Should a State be allowed to drop the RFG requirement when a covered area is redesignated to attainment for the ozone NAAQS, or should the requirement remain in place? If it can be dropped, under what conditions? Once dropped, would the requirement to use it spring back if a State backslides into nonattainment? If it springs back, what lead time should be provided? If it does not spring back automatically, should EPA nevertheless reserve the discretion to require a former covered area to use RFG if it slips back into nonattainment? The EPA anticipates considering these and related issues in a future notice-and-comment proceeding. The EPA is not soliciting comment on these issues at this time.

As noted above, EPA is not deciding at this time what RFG requirements apply for any bump-up areas that are redesignated to attainment for the 1-hour NAAQS before the 1-hour NAAQS is revoked. The only such area that was redesignated to attainment prior to revocation of the 1-hour NAAQS is Atlanta, Georgia. That issue will be addressed in an action separate from this final rule.

F. Miscellaneous Administrative Changes to the RFG Regulations

Today, EPA is making a non-substantive formatting change to its RFG regulations. The regulations are currently structured to envision a complete list of all bump-up areas required to use RFG. However, EPA has not made timely amendments to these regulations to keep the list of bump-up areas up to date, so the regulations may appear to be misleading. Although EPA could take the opportunity to revise the list at this time to include all current bump-up areas, EPA believes that it would be best to amend the regulations to omit the list. The EPA will maintain a list of bump-up areas on its RFG Web site: *http://www.epa.gov/otaq/rfg/whereyoulive.htm.* This list can more quickly and easily be amended in the future to be kept up-to-date.

G. Comments and Responses

Comment: One commenter noted EPA has proposed that all areas designated 8-hour nonattainment remain subject to control measures that apply by virtue of the area's classification for the 1-hour standard. For control measures that the State has not adopted, the State remains obligated to adopt and submit such controls. The commenter believes that such a policy may have unintended negative consequences for the few areas that recently bumped-up as the result of EPA's failed transport policy. Specifically, most of these areas will bump-up to either the serious or severe subpart 2 classification triggering higher classification controls. Some of these controls, and in particular VOC controls and RFG, may not benefit and/or may even be counterproductive to attaining the 8-hour standard. The commenter believes that for these few areas that recently bumped-up as the result of the failed transport policy, EPA should allow those States to evaluate the relative ozone reduction benefits of the higher classification controls and, where appropriate, substitute for more effective ozone controls. The commenter believes this is important to ensure continued progress towards attainment in the most cost-effective manner.

Response: Congress specified use of RFG for areas bumped up to severe nonattainment status without providing an opportunity for such areas to substitute other controls that may be more effective. Specifying mandated controls for areas that have failed to achieve timely attainment is one of the specific provisions added by Congress in the 1990 CAA Amendments. The EPA does not believe that the transition to a more protective 8-hour standard should result in less restrictive requirements for RFG, such as allowing substitution of other control measures for RFG, than would apply if EPA had never revised the 1-hour standard. Substitution was not allowed under the 1-hour standard.

However, EPA notes that Congress established a mechanism to address adverse impacts of the RFG program on attainment of the NAAQS by authorizing EPA to waive the RFG oxygen content requirement where it is clearly demonstrated that the oxygen content requirement prevents or interferes with NAAQS attainment [section 211(k)(2)(B)]. This provides additional support for the view that the transition to the 8-hour standard should not establish a right to substitute other measures for RFG as the statute provides a different way to address potential concerns over the effectiveness of RFG in addressing ozone attainment.

Comment: The local experts have estimated that RFG will cost consumers in the 5-parish nonattainment area an additional $48 to $72 million annually. The Department of Environmental Quality, using MOBILE6 modeling has projected that RFG will provide no measurable benefits for NO_X and less than 2 tons per day of VOC reductions. Recent UAM–V modeling for the Baton Rouge area shows an ozone benefit for RFG of around 0.26 ppb. Earlier UAM–V sensitivity modeling showed only a 1 ppb reduction in ozone with a 30 percent reduction in local anthropogenic VOC emissions from all sources. Thus, for an expenditure of up to $72 million annually, we can expect a negligible ozone benefit. Employing the usual cost-benefit analysis for cost per ton of pollutant removed, we arrive at a cost of around $36 million per daily ton removed or around $100,000 per annual ton removed. Since the reduction would be expected to produce no measurable ozone benefit anyway, wouldn't this qualify as an ''absurd result'' and be subject to consideration

for waiver as discussed in the proposed 8-hour implementation rules? (p.3–4).

Response: Baton Rouge has submitted requests for an RFG waiver and for a waiver of the RFG oxygen content requirement, which are currently before the Agency. With respect to EPA's authority to grant a waiver of the entire RFG requirement for bump-up areas on the basis of claims of ''absurd results'' allegedly caused by the oxygen content requirement of RFG, please see EPA's September 30, 2004, response to Georgia's request for an RFG waiver, which is available at: *www.epa.gov/otaq/regs/fuels/rfg/420s04006.pdf.* As noted above, EPA does not believe that the transition to the more protective 8-hour standard should result in less restrictive requirements for RFG than would apply if EPA had never revised the 1-hour standard. The appropriate mechanism to address Baton Rouge's concerns is therefore in the context of Baton Rouge's petitions for relief under the RFG program, and not by establishing different, less restrictive RFG requirements as part of the transition to the 8-hour standard.

Comment: Several commenters oppose any attempts to liberalize procedures allowing for voluntary opt-ins to the Federal RFG program. Simply stated, further fuels restrictions are not an appropriate local control strategy. There is little justification for automatic proliferation of RFG. The industry is currently working hard to implement far-reaching fuels regulations that will result in significant environmental improvement. It does not need additional fuel reformulation requirements while this implementation work is going forward.

The commenter notes under section 211(k)(6)(A) of the CAA, only areas classified under subpart 2 of Part D of Title I as a marginal, moderate, serious or severe area (without regard to whether or not the 1980 population of the area exceeds 250,000) can opt-in to RFG. Therefore, ''Gap'' Areas—those attaining the 1-hour, but not the 8-hour standard—would be subject to implementation under subpart 1 of the CAA. Those areas not attaining the 1-hour standard and reclassified as 8-hour nonattainment areas would be subject to implementation procedures under subpart 2.

Response: Section 211(k)(6)(A) specifies which ozone nonattainment areas may opt-in to the RFG program. The EPA's implementation plan for the 8-hour standard does not change or liberalize this statutory provision or EPA's regulations implementing it, but rather provides for continued availability of opt-ins consistent with the statutory scheme. After revocation of the 1-hour standard, opt-ins will be possible for areas classified under subpart 2 as marginal, moderate, serious or severe ozone nonattainment areas under the 8-hour standard. The EPA will continue after transition to the 8-hour standard to use its existing regulations at 40 CFR 80.70(j) and 80.72 regarding procedures for opt-ins and opt-outs.

Comment: The American Road and Transportation Builders Association (ARTBA) believes States should be able to choose their own devices for improving air quality. As a result, ARTBA would like EPA to liberalize its procedures for allowing a voluntary opt-in for the Federal RFG program. While ARTBA understands new national fuel standards are in the developmental process, the transportation conformity requirement often mandates short-term solutions with a limited number of options. We believe the RFG opt-in should be one of the tools available for States.

Response: Section 211(k)(6) of the CAA specifies which ozone nonattainment areas are eligible to opt-in to the RFG program and the procedures (petition by governor of the State) for opting in. Opt-in is limited to areas classified under subpart 2 as marginal, moderate, serious or severe ozone nonattainment areas. The EPA does not have the authority to ''liberalize'' these provisions in a manner inconsistent with the statute. See *American Petroleum Institute* v. *EPA,* 198 F. 3d 275 (D.C. Cir. 2000)(RFG opt-ins limited to areas classified under subpart 2 as marginal, moderate, serious or severe nonattainment areas).

Comment: One commenter believes EPA's proposed incentive feature undercuts controls aimed at reducing ozone precursor emissions from mobile sources. For example, areas that are bumped down from severe to serious will no longer need to sell less-polluting reformulated gas.

Response: The EPA's final rule does not provide for areas to be ''bumped down'' after final designation and thereby drop the requirement to use RFG. On the contrary, the original nine mandated RFG covered areas, and any other nonattainment area bumped up to a severe classification, will be required to use RFG at least until redesignated to attainment of the 8-hour ozone NAAQS.

Comment: One commenter notes that, in the proposed rule, EPA includes the requirement for RFG in severe areas in its list of applicable requirements that will remain in effect after full revocation of the 1-hour standard (68 FR 32802 appendix B). This commenter requests that EPA remove the RFG requirement from appendix B before promulgation of the final implementation plan.

The commenter notes that within 1 year of reclassification as a ''severe'' nonattainment area under the 1-hour standard, gasoline distributors in the 13-county Metro Atlanta nonattainment area will be required to distribute reformulated gasoline. [42 U.S.C. 7545(k)(10)(D)]. Reformulated gasoline, however, will not be as beneficial to the air quality in Atlanta as other types of fuel. After significant study, the Georgia Environmental Protection Division (EPD) has implemented a fuel program tailored to the atmospheric conditions and air quality problems in the metro area that are primarily related to NO_X emissions and not VOC emissions. House Hearing (July 22, 2003). Reformulated gasoline, however, is designed to reduce VOC emissions rather than NO_X emissions. Therefore, EPD's fuel program that requires the distribution of fuel that is specifically designed to reduce NO_X will do more to clean the air in Atlanta than RFG. If Atlanta is ''bumped up'' to a ''severe'' nonattainment area, it will lose the benefits of its beneficial fuel program in place of the less effective RFG.

The commenter requests EPA to remove RFG as an applicable requirement that will remain in effect after implementation of the 8-hour standard. The requirement for RFG under the 1-hour standard is flawed in that it does not address the specific ozone nonattainment issues of areas such as Atlanta in which NO_X rather than VOCs is the pollutant of concern. Therefore, the commenter urges EPA to allow the revocation of the RFG requirement associated with areas classified as severe and higher under the 1-hour standard to allow areas that will be classified as a lower designation under the new, more stringent 8-hour standard the flexibility to utilize a gasoline formulated specifically to address the air quality issues in those particular areas.

Response: The final rule adopted today specifies that areas bumped up to a severe classification under the 1-hour standard that are designated nonattainment for the 8-hour standard must continue to use RFG at least until redesignated as attainment for the 8-hour standard. The reasons for this approach are described in the preamble and do not change or affect any discretion EPA may otherwise have under the RFG provisions to modify or remove RFG requirements. The EPA did remove RFG from the list of applicable requirements identified in the Phase 1 Rule, because the applicable

requirements provision in the Phase 1 Rule addresses State controls and SIP requirements. The final rule adopted today treats RFG, a Federal control, in basically the same manner as applicable requirements are treated in the Phase 1 Rule.

With respect to the specific comments regarding the impact of using RFG in the Atlanta area, please see EPA's analysis of these issues in its September 30, 2004, response to Georgia's request for an RFG waiver for Atlanta.

VII. Other Considerations

A. How will EPA's implementation of the 8-hour ozone NAAQS affect funding under the congestion mitigation and air quality improvement (CMAQ) program?

1. Background

In the proposal, we noted that the Transportation Equity Act for the 21st Century (TEA–21) established eligibility for the use of CMAQ program funds in certain nonattainment and maintenance areas, designated under section 107(d) of the CAA (42 U.S.C. 7407(d)), provided the area is, or was, also classified in accordance with CAA subpart 2, sections 181, 186, and 188. All areas designated nonattainment after December 31, 1997 were also eligible, but without regard to classification.

2. Current Position

Since the proposal, new transportation legislation was passed by Congress and signed into law. The amount of CMAQ funds available to States is now set at levels authorized by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU). The funds are still apportioned to States through the statutory formula contained in section 104(b) of title 23. The formula is still based on the designations and classifications of ozone and CO nonattainment and maintenance areas, and the population in such areas.

The formula for determining the amount of funds apportioned to the States takes into account the areas that are designated under both subpart 1 and subpart 2 of part D of title I, of the CAA. How funding is affected for any specific area is determined by the U.S. DOT in accordance with SAFETEA–LU.

3. Comments and Responses

Comments: The EPA received several comments expressing concern that implementation of the 8-hour ozone standard may negatively impact an area's eligibility for CMAQ Program funds and/or the amount of CMAQ funding the State would receive. The comments indicated that projects and programs to reduce air pollution in their area was supported through CMAQ funding. Some stated that their area was attaining the 8-hour ozone standard, and thus would become ineligible for CMAQ funding when the 1-hour ozone standard is revoked. Others expressed concern that any increases to the number of nonattainment areas or changes to classifications of nonattainment areas could reduce the amount of CMAQ funds available to the area.

Response: The impact of the implementation of the 8-hour standard and enactment of SAFETEA–LU result in the geographic eligibility and apportionment of funds for the CMAQ programs as follows:

CMAQ Eligible Areas

- Designated 8-hour nonattainment and maintenance areas.
- Former 1-hour ozone nonattainment and maintenance areas, that are attaining the 8-hour standard, but must submit a section 110(a)(1) maintenance plan in compliance with EPA's anti-backsliding provisions.
- CO, PM_{10} and $PM_{-2.5}$ nonattainment and maintenance areas. Additionally, Nashville, TN; Greensboro, NC; and Denver, CO are Early Action Compact areas under the 8-hour ozone standard that were excepted from the revocation of the 1-hour standard. As a result, their CMAQ eligibility and apportionment are based on their status as maintenance areas under the 1-hour ozone standard.
- If the State does not have, and has never had, a nonattainment area designated under the CAA (42 U.S.C. 7401 et seq.), the State may use the funds for any project in the State that would otherwise be eligible under the CMAQ program as if the project were carried out in a nonattainment or maintenance area, or is eligible under section 133 of the surface transportation program. This flexibility is in reference to the CMAQ Program's minimum apportionment provision.

Apportionment (ozone-based)

- Nonattainment areas designated under subpart 1 receive a weighting factor of 1.0
- Nonattainment areas designated and classified under subpart 2 retain the same apportionment weighting factors as under TEA–21
- Maintenance areas receive a weighting factor of 1.0.

Apportionment of CMAQ funds is carried out yearly and varies according to the severity of air pollution and changes in nonattainment and maintenance area population as estimated by the U.S. Census for each affected county. The program is administered by the U.S. DOT with EPA in a consultative role. The EPA is only taking action to implement the 8-hour ozone standard and has no authority to make changes to the eligibility criteria or apportionment formula contained in SAFETEA–LU. We understand the importance of CMAQ funding to States and nonattainment areas and are prepared to work with the U.S. DOT to minimize any unintended impact of the 8-hour ozone NAAQS on transportation programs in those areas.

B. What is the relationship between implementation of the 8-hour standard and the CAA's title V permits program?

1. Background

The interrelationship between implementation of the 8-hour ozone standard and the title V permits program was not discussed in the proposed rule. However, various questions have been raised about the interface between the implementation of the 8-hour ozone standard and the title V operating permits program. The following questions and answers address these questions.

Question 1: How is title V applicability affected by the new 8-hour ozone standard and the revocation of the 1-hour ozone standard? [115]

Response: Section 502(a) of the CAA and 40 CFR 70.3 and 71.3 establish specific criteria for determining whether a source is subject to the title V operating permits program. A source that meets one or more of these criteria is subject to title V: title IV affected sources, major sources, sources subject to standards or regulations under

[115] The 1-hour standard was revoked for most areas, including the associated area designations and classifications, on June 15, 2005, 1 year following June 15, 2004, the effective date of designations for the 8-hour standard. The 1-hour standard was revoked for most areas, including the associated area designations and classifications, on June 15, 2005, 1 year following June 15, 2004, the effective date of designations for the 8-hour standard. However, for early action compact areas that were not designated attainment for the 8-hour standard, the effective date of 8-hour designations and classifications was deferred, and the 1-hour standard remains applicable and will not be revoked until 1 year after the effective date of the 8-hour designations for these areas. As a result, although this section of the preamble continually refers to the June 15, 2004, and June 15, 2005, dates, the title V major source thresholds are currently determined only by the 1-hour standard in areas where the 8-hour designations and classifications are not effective and the 1-hour standard has not been revoked. The scenarios described in this preamble section will not begin to be applicable to these areas until the effective date of the 8-hour designations in these areas.

section 111 or 112,[116] sources required to have a permit under part C or D of title I, or any other stationary source in a category designated by the Administrator. Although a source is required to obtain a title V permit if it meets one or more of these criteria, only sources which are brought into title V as a result of their major source status and/or the requirement to obtain a part C or D permit may be directly affected by the transition from the 1-hour ozone standard to the 8-hour ozone standard.

For example, a source subject to title V *solely* because it was major for VOCs under a 1-hour ozone classification is no longer subject to title V after the revocation of the 1-hour ozone standard (on June 15, 2005) if its actual and potential emissions of VOCs under an 8-hour ozone designation or classification are minor. However, if the same source was also subject to title V for other reasons, the source would remain subject to title V. See question 4 for further information. In addition, the source's title V applicability could also be affected by future changes, such as becoming subject to PSD or major nonattainment NSR.

Question 2: When do the 8-hour major source thresholds apply for determining major source status under title V?

Response: For purposes of title V, section 501(2) of the CAA defines ''major source'' in part as ''a major stationary source as defined in section 302 or part D of title I.'' The part 70 and part 71 regulations incorporate this definition and the part D major source thresholds. ''Major source'' for ozone nonattainment areas include sources which emit or which have the potential to emit 100 tpy or more of VOCs or oxides of nitrogen in areas classified as ''marginal'' or ''moderate,'' 50 tpy or more of these ozone precursors in areas classified as ''serious,'' 25 tpy or more of these ozone precursors in areas classified as ''severe,'' and 10 tpy or more of these ozone precursors in areas classified as ''extreme.''

On or after June 15, 2004, until June 15, 2005, the major source thresholds for the 1-hour ozone designations and classifications *and* the 8-hour ozone designations and classifications were in effect under part D of title I, and therefore under title V as well. Since revocation of the 1-hour ozone standard and the corresponding area designations and classifications on June 15, 2005, only the major source thresholds for the 8-hour ozone designations and classifications continue to determine whether a source is major for ozone precursors under title V. Our review of the 1-hour and 8-hour designations and nonattainment classifications indicates that no additional sources became subject to title V on June 15, 2004 (the effective date of the 8-hour ozone NAAQS designations and classifications (40 CFR part 81, subpart C)) based solely on the 8-hour designations and classifications and corresponding major source thresholds. This is because the 8-hour designations and classifications effective on June 15, 2004 did not result in a lowering of the title V major source threshold for any area compared to the 1-hour designations and classifications. Rather, the title V major source thresholds either stayed the same or were raised to a higher threshold in all cases, e.g., 50 tpy to 100 tpy.

Question 3: Are title V permits required for sources that trigger the major source applicability cut-offs for RACT in 40 CFR 51.900(f)(3) due to the 8-hour ozone anti-backsliding provisions in 40 CFR part 51, subpart X?

Example: An area is classified as extreme under the 1-hour ozone standard. In an extreme area, the major source threshold for ozone precursors is 10 tpy. Under the 8-hour standard in this example, this same area is classified as a severe-17 area. In a severe-17 area, the major source threshold for ozone precursors is 25 tpy. Under the anti-backsliding provisions, this area would be required to continue its application of RACT to sources with potential emissions of 10 or more tpy of ozone precursors. However, is the title V major source threshold for ozone precursors in this area 10 tpy or 25 tpy since June 15, 2005?

Response: Since revocation of the 1-hour ozone standard on June 15, 2005, the title V major source thresholds for ozone are now based solely on the 8-hour designations and classifications and thus in the above example will be 25 tpy for ozone precursors. As discussed in Question 1 above, section 502(a) and 40 CFR §§ 70.3 and 71.3 include criteria for determining title V applicability. These criteria do not specifically include sources subject to RACT, but do include major sources. As discussed in Question 2 above, section 501(2) defines a title V ''major source'' in part as ''a major stationary source as defined in section 302 or part D of title I'' and 40 CFR 70.2 and 71.2 incorporate this definition.

In terms of the language in 40 CFR 51.900(f)(3) regarding ''major source applicability cut-offs for purposes of RACT,'' this provision does not apply for purposes of defining a ''major source'' under title V (nor could it, since major source is statutorily defined and cannot be revised by regulation). Rather, the cut-offs referenced in this anti-backsliding provision apply in determining which 1-hour nonattainment requirements are ''applicable requirements'' for an area—requirements which will be continued in implementing the 8-hour standard. Additionally, 40 CFR 51.900 specifies that the definition of ''applicable requirements'' and other definitions in this section only ''apply for purposes of this subpart [subpart X].'' Thus, in short, the major source applicability cut-offs for purposes of RACT referenced in 40 CFR 51.900(f)(3) are not relevant in determining whether a source is a major source under title V.

Question 4: In many nonattainment areas, the major stationary source threshold under the 8-hour ozone standard is currently higher than the major stationary source threshold for the same area under the 1-hour ozone standard.

Example: Under the 1-hour ozone standard, an area is classified as serious with a 50 tpy major stationary source threshold for ozone precursors. Under the 8-hour standard, this same area is classified as moderate with a 100 tpy major stationary source threshold for ozone precursors. If a source in this area has a potential to emit VOCs at 75 tpy, but also has a part D permit obtained under the 1-hour standard, is this source subject to title V since revocation of the 1-hour ozone standard on June 15, 2005?[117]

Response: Yes. Under the 1-hour standard, this source was subject to title V both because it was a major source and also because it was required to have a part D permit. Under the 8-hour standard, this source remains subject to title V because it was required to have a part D permit under the 1-hour standard even though it is no longer subject to title V due to its major source status.

Sources that are, at any time, required to have a permit under part C or D of title I must obtain a title V permit. This interpretation is consistent with the CAA and EPA's implementation policy history. See the Vastar letter discussed below. Section 502(a) states in part that ''any other source required to have a permit under part C or D of title I'' is required to have a title V permit. We interpret the phrase ''required to have a permit under part C or D of title I'' to include any source required to obtain a

[116] 40 CFR 70.3(b) and 71.3(b) provide for certain area source deferrals and exemptions, which are not detailed here.

[117] A source with a part D permit obtained under the 1-hour standard must retain its part D permit under the 8-hour standard even though it is now in an area with a higher major stationary source threshold.

permit under part C or D of title I regardless of whether the permit was actually obtained by the source. This interpretation is consistent with the legislative history which indicates Congress intended that sources ''subject to * * * requirements'' from PSD and NSR be required to have a title V permit. H.R. Rep. No. 101–490, 101st Congress, 2nd Session, at 344 (May 17, 1990); see also S. Rep. 101–228, 101st Congress, 1st Session, at 349 (December 20, 1989).

Note that the exemption in 40 CFR 70.3(b)(1) and 71.3(b)(1) for nonmajor sources does not apply to sources required to have a part C or D permit. As EPA has previously stated: ''* * * section 70.3(b)(1) cannot be appropriately interpreted as allowing title V permitting authorities to exempt nonmajor part C or D sources from title V, especially in light of the explicit requirement in sections 71.5(a)(1)(ii) and 70.5(a)(1)(ii) that these sources obtain title V permits.'' See letter from R. Long, EPA Region 8, to M. Tarrillion, Vastar Resources, Inc., September 10, 1999. See also 66 FR 59161, 59163; November 27, 2001 (''A source required to have a part C or D permit but considered nonmajor for part 70 would be subject to part 70 * * *'')

Title V permit content may be affected for sources in the above-noted situation because, pursuant to 40 CFR 70.3(c)(2) and 71.3(c)(2), for any nonmajor source subject to title V, the permit is required at a minimum to include the applicable requirements for the emissions units that cause the source to be subject to the part 70 or part 71 programs. If an emissions unit at the nonmajor source did not trigger the requirement to apply for a title V permit, then none of that unit's applicable requirements are required to be included in the source's title V permit. See 66 FR 59163 and footnote 2. However, nothing in 40 CFR 70.3(c)(2) or 71.3(c)(2) precludes States from including Federal applicable requirements for other emissions units at a nonmajor source in the source's title V permit if States require it.

2. Summary of Final Rule

There has been no change in the final rule as a result of the above clarifications regarding the interface between the 8-hour ozone standard and the title V operating permits program.

3. Comments and Responses

Comment: One commenter stated support of the anti-backsliding regulations to maintain the requirements established under the 1-hour standard nonattainment area classifications when 8-hour classification requirements would be less stringent. However, the commenter requested that EPA consider using the major source thresholds as defined by the 8-hour standard classifications for title V permitting purposes. The commenter further suggested that EPA evaluate whether a lower title V major source threshold provides sufficient protections to justify the added costs involved, especially in areas such as that of the commenter's where 75 percent of the reactive organic gases (ROG) and NO_X emissions are from mobile sources, which are not subject to control under title V.

Response: We agree that, since revocation of the 1-hour ozone standard, the title V major stationary source thresholds are only determined by the 8-hour designations and classifications. Additionally, as stated in response to question 3 in the above questions and answers, the language in 40 CFR 51.900(f)(3) regarding ''major source applicability cut-offs for purposes of RACT'' does not apply for purposes of defining a ''major source'' under title V (nor could it, since major source is statutorily defined and cannot be revised by regulation). Rather, the cut-offs referenced in this anti-backsliding provision apply in determining which 1-hour nonattainment requirements are ''applicable requirements'' for an area—requirements which will be continued in implementing the 8-hour standard. Additionally, 40 CFR 51.900 specifies that the definition of ''applicable requirements'' and other definitions in this section only ''apply for purposes of this subpart [subpart X].'' Thus, in short, the major source applicability cut-offs for purposes of RACT referenced in 40 CFR 51.900(f)(3) are not relevant in determining whether a source is a major source under title V.

C. What Action Is EPA Taking on the Overwhelming Transport Classification for Subpart 1 Areas?

The Phase 1 Rule created an overwhelming transport classification that would be available to subpart 1 areas that demonstrate they are affected by overwhelming transport of ozone and its precursors and demonstrate they meet the definition of a rural transport area in section 182(h) of the CAA [40 CFR 51.904(a)]. We received a petition for reconsideration of the overwhelming transport classification from Earthjustice,[118] who claimed that our final rule of April 30, 2004, relied on guidance that was not publicly available during the comment period and was still unavailable at the time of final rulemaking. In addition, we noted in the Phase 1 Rule that we were considering the comments we received on the issue of applicable requirements for these subpart 1 areas and that we would address this issue after we issue guidance on how areas should assess whether they are subject to overwhelming transport. We granted the Earthjustice petition concerning the overwhelming transport classification on January 10, 2005. In a separate rulemaking action, we are inviting comment on the overwhelming transport classification, the draft overwhelming transport guidance, and the requirements that would apply to such areas.

We will address any comments on the applicable control requirements for an area that receives an overwhelming transport classification in the context of the reconsideration action.

VIII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether the regulatory action is ''significant'' and, therefore, subject to the Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is a ''significant regulatory action'' because it raises novel legal or policy issues arising out of legal mandates. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or

[118] Filed June 29, 2004 by Earthjustice on behalf of American Lung Association, Environmental Defense, Natural Resources Defense Council, Sierra Club, Clean Air Task Force, Conservation Law Foundation, and Southern Alliance for Clean Energy.

recommendations are documented in the public record.

B. Paperwork Reduction Act

The information collection requirements in this rule will be submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The information collection requirements are not enforceable until OMB approves them other than to the extent required by statute.

This rule provides the framework for the States to develop SIPs to achieve a new or revised NAAQS. This framework reflects the requirements prescribed in CAA sections 110 and part D, subparts 1 and 2 of title I. In that sense, the present final rule does not establish any new information collection burden on States. Had this rule not been developed, States would still have the legal obligation under law to submit nonattainment area SIPs under part D of title I of the CAA within specified periods after their nonattainment designation for the 8-hour ozone standard, and the SIPs would have to meet the requirements of part D.

A SIP contains rules and other requirements designed to achieve the NAAQS by the deadlines established under the CAA, and also contains a demonstration that the State's requirements will in fact result in attainment. The SIP must meet the CAA requirements in subparts 1 or 2 to adopt RACM, RACT, and provide for RFP toward attainment for the period prior to the area's attainment date. After a State submits a SIP, the CAA requires EPA to approve or disapprove the SIP. If EPA approves the SIP, the rules in the SIP become federally enforceable. If EPA disapproves the SIP (or if EPA finds that a State fails to submit a SIP), the CAA requires EPA to impose sanctions (2:1 offsets for major new or modified sources and restrictions on Federal highway funding) within specified timeframes; additionally, EPA must prepare and publish a FIP within 2 years after a disapproval or finding of failure to submit. The SIP must be publicly available. States must maintain confidentiality of confidential business information, however, if used to support SIP analyses. The SIP is a one-time submission, although the CAA requires States to revise their SIPs if EPA requests a revision upon a finding that the SIP is inadequate to attain or maintain the NAAQS. The State may revise its SIP voluntarily as needed, but in doing so must demonstrate that any revision will not interfere with attainment or RFP or any other applicable requirement under the CAA (see section 110(l)).

This rule does not establish requirements that directly affect the general public and the public and private sectors, but, rather, interprets the statutory requirements that apply to States in preparing their SIPs. The SIPs themselves will likely establish requirements that directly affect the general public, and the public and private sectors.

The EPA has not yet projected cost and hour burden for the statutory SIP development obligation but has started that effort and will shortly prepare an Information Collection Request (ICR) request. However, EPA did estimate administrative costs at the time of promulgation of the 8-hour ozone standard in 1997. See Chapter 10 of U.S. EPA 1997, Regulatory Impact Analyses for the Particulate Matter and Ozone National Ambient Air Quality Standards, Innovative Strategies and Economics Group, Office of Air Quality Planning and Standards, Research Triangle Park, N.C., July 16, 1997. Assessments of some of the administrative cost categories identified as a part of the SIP for an 8-hour standard are already conducted as a result of other provisions of the CAA and associated ICRs (e.g. emission inventory preparation, air quality monitoring program, conformity assessments, NSR, I/M program).

The burden estimates in the ICR for this rule are incremental to what is required under other provisions of the CAA and what would be required under a 1-hour standard. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule. However, the failure to have an approved ICR for this rule does not affect the statutory obligation for the States to submit SIPs as required under part D of the CAA.

The information collection requirements associated with NSR permitting for ozone are covered by EPA's request to renew the approval of the ICR for the NSR program, ICR 1230.17, which was approved by OMB on January 25, 2005. The information collection requirements associated with NSR permitting were previously covered by ICR 1230.10 and 1230.11. The OMB previously approved the information collection requirements contained in the existing NSR regulations at 40 CFR parts 51 and 52 under the provisions of the Paperwork Reduction Act, and assigned OMB control number 2060–0003. A copy of the approved ICR may be obtained from Susan Auby, Collection Strategies Division; U.S. Environmental Protection Agency (2822T); 1200 Pennsylvania Ave., NW., Washington, DC 20460 or by calling (202) 566–1672.

For the portion of this rulemaking on RFG, this action does not add any new requirements under the provisions of the Paperwork Reduction Act. The OMB has approved the information collection requirements contained in the final RFG/anti-dumping rulemaking (see 59 FR 7716, February 16, 1994) and has assigned OMB control number 2060–0277 (EPA ICR No. 1951.08).

C. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administrations' regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final Phase 2 Rule for implementation of the 8-hour ozone standard on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. This final rule will not impose any new

or additional requirements on small entities.

Concerning the NSR portion of this rule, a Regulatory Flexibility Act Screening Analysis (RFASA) was developed as part of a 1994 draft Regulatory Impact Analysis (RIA) and incorporated into the September 1995 ICR renewal. This analysis showed that the changes to the NSR program due to the 1990 CAA Amendments would not have an adverse impact on small entities. This analysis encompassed the entire universe of applicable major sources that were likely to also be small businesses (approximately 50 ''small business'' major sources). Because the administrative burden of the NSR program is the primary source of the NSR program's regulatory costs, the analysis estimated a negligible ''cost to sales'' (regulatory cost divided by the business category mean revenue) ratio for this source group. The incorporation of the major source thresholds and offset ratios from the 1990 CAA Amendments in § 51.165 and appendix S for the purpose of implementing NSR for the 8-hour standard does not change this conclusion. Under section 110(a)(2)(C), all States must implement a preconstruction permitting program ''as necessary to assure that the [NAAQS] are achieved,'' regardless of changes to today's regulations. Thus, small businesses continue to be subject to regulations for construction and modification of stationary sources, whether under State and local agency minor NSR programs, SIPs to implement § 51.165, or appendix S, to ensure that the 8-hour standard is achieved.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and Tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and Tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including Tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The RFG-related portions of this rule contain no new Federal mandates (under the regulatory provisions of title II of the UMRA) for State, local or Tribal governments or the private sector. The rule imposes no new enforceable duty, since it merely clarifies that in the transition to the 8-hour ozone standard the pre-existing opt-in rules remain in place, as does the pre-existing requirement that RFG be used in mandatory RFG-covered areas within the scope of this rule until such areas are redesignated to attainment for the ozone standard. Although EPA does not believe that UMRA imposes requirements regarding the RFG-related portions of this rulemaking, EPA notes that the environmental and economic impacts of the RFG program were assessed in EPA's RIA for the 1994 RFG rules.

The EPA has determined that all other portions of this rule do not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any 1 year. The estimated administrative burden hour and costs associated with implementing the 8-hour, 0.08 ppm NAAQS were developed upon promulgation of the NAAQS and presented in Chapter 10 of U.S. EPA 1997, Regulatory Impact Analyses for the Particulate Matter and Ozone National Ambient Air Quality Standards, Innovative Strategies and Economics Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC, July 16, 1997. The estimated costs presented there for States in 1990 dollars totaled $0.9 million. The corresponding estimate in 1997 dollars is $1.1 million. Thus, today's rule is not subject to the requirements of sections 202 and 205 of the UMRA. At the time EPA proposed its Implementation Rule, EPA noted that if it chose a classification option that classified all areas under subpart 2 of part D, these costs may increase modestly, but would not reach $100 million. However, in promulgating the Phase 1 Rule, EPA adopted a classification scheme that resulted in approximately half of the areas designated nonattainment being subject only to the subpart 1 requirements.

The CAA imposes the obligation for States to submit SIPs to implement the 8-hour ozone NAAQS; in this rule, EPA is merely fleshing out those requirements. However, even if this rule did establish a requirement for States to submit SIPs, it is questionable whether a requirement to submit a SIP revision would constitute a Federal mandate in any case. The obligation for a State to submit a SIP that arises out of section 110 and part D of the CAA is not legally enforceable by a court of law, and at most is a condition for continued receipt of highway funds. Therefore, it is possible to view an action requiring such a submittal as not creating any enforceable duty within the meaning of section 421(5)(9a)(I) of UMRA [2 U.S.C. 658(a)(I)]. Even if it did, the duty could be viewed as falling within the exception for a condition of Federal assistance under section 421(5)(a)(i)(I) of UMRA [2 U.S.C. 658(5)(a)(i)(I)]. As noted below under ''L. Petitions for Judicial Review,'' this rule is covered under section 307(d) of the CAA.

The EPA has determined that this rule contains no regulatory requirements that may significantly or uniquely affect small governments, including Tribal governments. Nonetheless, EPA carried out consultations with governmental entities affected by this rule.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

This rule does not have federalism implications. It will not have substantial direct effects on the States, on the

relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The RFG-related portions of the rule impose requirements on certain refiners and other entities in the gasoline distribution system, and not on States. In addition, as described in section D, above (on UMRA), EPA previously determined the costs to States to implement the 8-hour ozone NAAQS to be approximately $1 million. The CAA establishes the scheme whereby States take the lead in developing plans to meet the NAAQS. This rule would not modify the relationship of the States and EPA for purposes of developing programs to implement the NAAQS. In the non-RFG portions of this rule, EPA is interpreting the statutory SIP submission requirements that apply to areas designated. As described above, EPA has generally adopted the more flexible options proposed in the June 2003 proposal. Thus, Executive Order 13132 does not apply to this rule.

Although section 6 of Executive Order 13132 does not apply to this rule, EPA actively engaged the States in the development of this rule. The EPA held regular calls with representatives of State and local air pollution control agencies. Also, EPA held three public meetings at which it described the approaches it was considering and provided an opportunity for States and various other governmental officials to comment on the options being considered. Finally, EPA held three public hearings after the proposed rule was published to obtain public comments.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.''

The portions of this rulemaking that relate to RFG do not create a mandate for any Tribal government. The rule does not impose any enforceable duties on these entities. Rather, the rule will affect only those refiners, importers or blenders of gasoline that choose to produce or import RFG for sale in the nonattainment areas addressed in the rule, and the gasoline distributors and retail stations in those areas. The following discussion relates to the non-RFG portions of the rule.

This rule concerns the implementation of the 8-hour ozone NAAQS in areas designated nonattainment for that NAAQS. The CAA provides for States and Tribes to develop plans to regulate emissions of air pollutants within their jurisdictions. The non-RFG portions of this rule flesh out the statutory obligations of States and Tribes that develop plans to implement the 8-hour ozone NAAQS. The TAR and the CAA give Tribes the opportunity to develop and implement CAA programs such as the 8-hour ozone NAAQS, but it leaves to the discretion of the Tribe whether to develop these programs and which programs, or appropriate elements of a program, they will adopt.

This rule does not have Tribal implications as defined by Executive Order 13175. There are 126 designated nonattainment areas. Although there are 61 Tribes estimated to be in one or more of those nonattainment areas, this rule does not have a substantial direct effect on one or more Indian Tribes, since no Tribe is required to implement a CAA program to attain the 8-hour ozone NAAQS. See: *http://www.epa.gov/oar/oaqps/glo/designations/tribaldesig.htm* for the list of Tribes included as part of a designated nonattainment area. Furthermore, this rule does not affect the relationship or distribution of power and responsibilities between the Federal government and Indian Tribes. The CAA and the TAR establish the relationship of the Federal government and Tribes in developing plans to attain the NAAQS, and this rule does nothing to modify that relationship. Because this rule does not have Tribal implications, Executive Order 13175 does not apply.

Although Executive Order 13175 does not apply to this rule, EPA did consult with Tribal leaders and environmental staff in developing this rule and encouraged Tribal input at an early stage. The EPA supports the national ''Tribal Designations and Implementation Work Group'' which provided an open forum for all Tribes to voice concerns to EPA about the designation and implementation process for the 8-hour ozone NAAQS. These discussions have given EPA valuable information about Tribal concerns regarding implementation of the 8-hour ozone NAAQS. The work group sent issue summaries and suggestions for addressing them to the newly formed National Tribal Air Association (NTAA), which in turn sent them to Tribal leaders. The project lead for this rule informed interested Tribal leaders about progress on the rule and invited input. The EPA encouraged Tribes to participate in the national public meetings held to take comment on early approaches to the rule. Several Tribes made public comments at the April 2002 public meeting in Tempe, Arizona.

Furthermore, EPA sent individualized letters to all federally-recognized Tribes inviting Tribal leaders to consult with EPA on the proposed implementation rule. The EPA received comment from the NTAA on several questions: (1) the NTAA asked for clarification on the nature of EPA's support for Tribes without TAS status and asked if EPA would provide technical assistance in interpreting SIP documentation to a Tribe without TAS approval; (2) the NTAA asked EPA to explain how it envisions its role in continuing consultation with Tribes throughout the execution of SIPs. We respond to these comments in the technical support document. The NTAA's final comment cited concerns with the impact of NSR requirements on the Tribes. The EPA acknowledges that offsets are a concern for Tribes. We are currently evaluating potential options for addressing this concern.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

Executive Order 13045: ''Protection of Children From Environmental Health and Safety Risks'' (62 FR 19885, April 23, 1997) applies to any rule that (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This rule is not subject to Executive Order 13045 because it implements a previously promulgated health-based Federal standard—the 8-hour ozone NAAQS—and contains a non- health-based determination of the extent to which the existing RFG program remains in place under the 8-hour standard. We have evaluated the environmental health and safety effects of the 8-hour ozone NAAQS on children as part of this previously promulgated Federal standard. The results of this evaluation are contained in 40 CFR part 50, National Ambient Air Quality Standards for Ozone, Final Rule (62 FR 38855–38896, July 18, 1997;

specifically, 62 FR 38855, 62 FR 38860 and 62 FR 38865).

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This rule is not a ''significant energy action'' as defined in Executive Order 13211, ''Actions That Significantly Affect Energy Supply, Distribution, or Use,'' (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

At the time of proposal, information on the methodology and data regarding the assessment of potential energy impacts regarding implementation of the 8-hour standard was addressed in Chapter 6 of U.S. EPA 2003, Cost, Emission Reduction, Energy, and Economic Impact Assessment of the Proposed Rule Establishing the Implementation Framework for the 8-Hour, 0.08 ppm Ozone National Ambient Air Quality Standard, prepared by the Innovative Strategies and Economics Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC, April 24, 2003. Subsequently, EPA issued an Addendum 1 to that analysis for the Phase 1 final rule and designated nonattainment areas. For purposes of this final rule, EPA has issued Addendum 2. By adopting the more flexible approaches while providing for attainment and maintenance of the 8-hour NAAQS as required by the CAA, additional energy cost associated with more extensive use of less flexible approaches would be averted. The portions of this rule that relate to RFG merely clarify that the existing program continues under the 8-hour standard in the areas addressed by the rule, so the rule does not have a significant affect on energy supply, distribution or use. The EPA evaluated energy impacts of the RFG program in the RIA for the 1994 rulemaking establishing the RFG program.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer Advancement Act of 1995 (NTTAA), Public Law No. 104–113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

This rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any VCS.

The EPA will encourage the States and Tribes to consider the use of such standards, where appropriate, in the development of the implementation plans.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations.

The EPA believes that this rule does not raise any environmental justice concerns. Today's rule helps establish a framework for bringing all areas of the country into attainment with the 8-hour ozone standards, an important environmental justice goal. The health and environmental risks associated with ozone were considered in the establishment of the 8-hour, 0.08 ppm ozone NAAQS, and the standard was set at a level requisite to protect public health with an adequate margin of safety. In setting this standard, EPA considered the effects on sensitive subpopulations, such as those with respiratory problems.

The EPA has designated as nonattainment these areas of the country that are not meeting the 8-hour ozone standard. This rule will assist States as they develop plans to bring these nonattainment areas into attainment in accordance with the CAA schedule. By establishing guidelines for bringing these areas into attainment with the 8-hour ozone standard, the Phase 2 Rule advances an important environmental justice goal and will help make significant progress in providing for the fair treatment of all people with respect to air pollution.

In the preamble to the proposed rule, EPA took comment on the Clean Air Development Communities (CADC) concept (regarding possible State adoption of land use planning as a pollution reduction strategy) and noted that it might raise environmental justice concerns. Public comments were submitted that raised environmental justice concerns with this concept. As noted earlier in the preamble to this Phase 2 Rule, EPA is not finalizing the CADC concept and has therefore not responded to these (or any other) comments on the CADC concept.

The RFG program is designed to reduce vehicle emissions of toxic and ozone-forming substances. This rule will not alter the air quality benefits associated with the RFG program.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective January 30, 2006.

L. Petitions for Judicial Review

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit by January 30, 2006. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. See CAA section 307(b)(2).

M. Determination Under Section 307(d)

Pursuant to sections 307(d)(1)(E) and 307(d)(1)(V) of the CAA, the Administrator determines that this action is subject to the provisions of section 307(d). Section 307(d)(1)(V) provides that the provisions of section 307(d) apply to ''such other actions as the Administrator may determine.'' While the Administrator did not make this determination earlier, the Administrator believes that all of the procedural requirements, e.g., docketing, hearing and comment periods, of section 307(d) have been complied with during the course of this rulemaking.

Appendix A to Preamble—Methods to Account for Non-Creditable Reductions When Calculating ROP Targets for the 2008 and Later ROP Milestone Years

The following methods properly account for the non-creditable emissions reductions when calculating ROP targets for the 2008 and later ROP milestone years.[119] They are consistent with requirements of sections 182(b)(1)(C) and (D) and 182(c)(2)(B) of the CAA.

(1) Method 1: For areas that must meet a 15 percent VOC reduction requirement by 2008:

(A) Estimate the actual anthropogenic base year VOC inventory in 2002 with all 2002 control programs in place for all sources.

(B) Using the same highway vehicle activity inputs used to calculate the actual 2002 inventory, run the appropriate motor vehicle emissions model for 2002 and for 2008 with all post-1990 CAA measures turned off. Any other local inputs for vehicle inspection and maintenance (I/M) programs should be set according to the program that was required to be in place in 1990. Fuel Reid Vapor Pressure (RVP) should be set at 9.0 or 7.8 depending on the RVP required in the local area as a result of fuel RVP regulations promulgated in June, 1990.

(C) Calculate the difference between the 2002 and 2008 VOC emission factors calculated in Step B and multiply by 2002 vehicle miles traveled (VMT). The result is the VOC emissions reductions that will occur between 2002 and 2008 without the benefits of any post-1990 CAA measures. These are the non-creditable reductions that occur over this period.

(D) Subtract the non-creditable reductions calculated in Step C from the actual anthropogenic 2002 inventory estimated in Step A. This adjusted VOC inventory is the basis for calculating the target level of emissions in 2008.

(E) Reduce the adjusted VOC inventory calculated in Step D by 15 percent. The result is the target level of VOC emissions in 2008 in order to meet the 2008 ROP requirement. The actual projected 2008 inventory for all sources with all control measures in place and including projected 2008 growth in activity must be at or lower than this target level of emissions.

(2) Method 2: For areas covered under 40 CFR 51.910(a)(1)(ii)(C) and that meet an 18 percent VOC emission reduction requirement by 2008 with NO_X substitution allowed, following EPA's NO_X Substitution Guidance:

(A) Estimate the actual anthropogenic base year inventory for both VOC and NO_X in 2002 with all 2002 control programs in place.

(B) Using the same highway vehicle activity inputs used to calculate the actual 2002 inventory, run the appropriate motor vehicle emissions model for 2002 and for 2008 with all post-1990 CAA measures turned off. Any other local inputs for I/M programs should be set according to the program that was required to be in place in 1990. Fuel RVP should be set at 9.0 or 7.8 depending on the RVP required in the local area as a result of fuel RVP regulations promulgated in June, 1990.

(C) Calculate the difference between 2002 and 2008 VOC emissions factors calculated in Step B and multiply by 2002 VMT. The result is the VOC emissions reductions that will occur between 2002 and 2008 without the benefits of any post-1990 CAA measures. These are the non-creditable VOC reductions that occur over this period. Calculate the difference between 2002 and 2008 NO_X emissions factors calculated in Step B and multiply by 2002 VMT. This result is the NO_X emissions reductions that will occur between 2002 and 2008 without the benefits of any post-1990 CAA measures. These are the non-creditable NO_X reductions that occur over this period.

(D) Subtract the non-creditable VOC reductions calculated in Step C from the actual anthropogenic 2002 VOC inventory estimated in Step A. Subtract the non-creditable NO_X reductions calculated in Step C from the actual anthropogenic 2002 NO_X inventory estimated in Step A. These adjusted VOC and NO_X inventories are the basis for calculating the target level of emissions in 2008.

(E) The target level of VOC and NO_X emissions in 2008 needed to meet the 2008 ROP requirement is any combination of VOC and NO_X reductions from the adjusted inventories calculated in Step D that total 18 percent. For example, the target level of VOC emissions in 2008 could be a 10 percent reduction from the adjusted VOC inventory in Step D and an 8 percent reduction from the adjusted NO_X inventory in Step D. The actual projected 2008 VOC and NO_X inventories for all sources with all control measures in place and including projected 2008 growth in activity must be at or lower than the target levels of VOC and NO_X emissions.

(3) Method 3: For all areas that have used Method 1 above (and therefore do not have a NO_X target level of emissions for 2008) and must meet an additional reduction VOC requirement of 9 percent every 3 years after 2008 with NO_X substitution allowed, following EPA's NO_X Substitution Guidance. Each subsequent target level of emissions should be calculated as an emission reduction from the previous target.

(A) Estimate the actual anthropogenic base year NO_X inventory in 2002 with all 2002 control programs in place for all sources.

(B) Using the same highway vehicle activity inputs used to calculate the actual 2002 inventory, run the appropriate emissions model for VOC and NO_X in 2002 and 2008 (previously done in Step B in Method 1 for VOC but not necessarily for NO_X) and 2011 with all post-1990 CAA measures turned off. Any other local inputs for I/M programs should be set according to the program that was required to be in place in 1990. Fuel RVP should be set at 9.0 or 7.8 depending on the RVP required in the local area as a result of fuel RVP regulations promulgated in June, 1990.

(C) Calculate the difference between 2008 and 2011 VOC emission factors calculated in Step B and multiply by 2002 VMT. The result is the VOC emissions reductions that will occur between 2008 and 2011 without the benefits of any post-1990 CAA measures. These are the non-creditable VOC reductions that occur over this period. Calculate the difference between 2002 and 2011 NO_X emission factors calculated in Step B and multiply by 2002 VMT. The result is the NO_X emissions reductions that will occur between 2002 and 2011 without the benefits of any post-1990 CAA measures. These are the non-creditable NO_X reductions that occur over this period.

(D) Subtract the non-creditable VOC reductions calculated in Step C from the 2008 VOC target level of emissions calculated previously. Subtract the non-creditable NO_X reductions calculated in Step C from the actual 2002 NO_X inventory of emissions calculated in Step A. These adjusted VOC and NO_X inventories are the basis for calculating the target level of emissions in 2011.

[119] These methods assume the use of EPA's on-road motor vehicle emissions model in all States other than California. All of the methods given here require the user to turn off all post-1990 CAA measures as part of the calculation. In EPA's current motor vehicle emissions model, MOBILE6.2, this is accomplished using the NO CLEAN AIR ACT command as described in the MOBILE6.2 User's Guide (found at *http://www.epa.gov/otaq/m6.htm*). Users of future versions of EPA's motor vehicle emissions model should consult the appropriate User's Guide for the version of the model they are using for instructions on what model command to use. For California nonattainment areas, the current motor vehicle emissions model is EMFAC2002. Users modeling California nonattainment areas should consult with the EPA Regional Office for information on doing equivalent calculations in that model and in future versions.

(E) The target level of VOC and NO_X emissions in 2011 needed to meet the 2011 ROP requirement is any combination of VOC and NO_X reductions from the adjusted inventories calculated in Step E that total 9 percent. For example, the target level of VOC emissions in 2011 could be a 4 percent reduction from the adjusted VOC inventory in Step C and a 5 percent reduction from the adjusted NO_X inventory in Step C. The actual projected 2011 VOC and NO_X inventories for all sources with all control measures in place and including projected 2011 growth in activity must be at or lower than the target levels of VOC and NO_X emissions.

(F) For subsequent 3-year periods until the attainment date, repeat the process for VOC. For subsequent 3-year periods, the adjusted NO_X inventory should be based on the difference in NO_X emissions during that 3-year period when all post-1990 CAA measures are turned off, subtracted from the previous NO_X target level of emissions. For example, for 2014, take the difference in NO_X emissions reductions that will occur between 2011 and 2014 without the benefits of any post-1990 CAA measures. This value is subtracted from the 2011 target level of NO_X emissions calculated in Step D to get the adjusted NO_X inventory to be used as the basis for calculating the target level of NO_X emissions in 2014.

(4) Method 4: For all areas that have used Method 2 above (and therefore do have a NO_X target level of emissions for 2008) and must meet an additional reduction VOC requirement of 9 percent every 3 years after 2008 with NO_X substitution allowed, following EPA's NO_X Substitution Guidance. Each subsequent target level of emissions should be calculated as an emissions reductions from the previous target.

(A) Using the same highway vehicle activity inputs used to calculate the actual 2002 inventory, run the appropriate emissions model for VOC and NO_X in 2008 (previously done in Step B in Method 2) and 2011 with all post-1990 CAA measures turned off. Any other local inputs for I/M programs should be set according to the program that was required to be in place in 1990. Fuel RVP should be set at 9.0 or 7.8 depending on the RVP required in the local area as a result of fuel RVP regulations promulgated in June 1990.

(B) Calculate the difference between 2008 and 2011 VOC emission factors calculated in Step A and multiply by 2002 VMT. The result is the VOC emissions reductions that will occur between 2008 and 2011 without the benefits of any post-1990 CAA measures. These are the non-creditable VOC reductions that occur over this period. Calculate the difference between 2008 and 2011 NO_X emission factors calculated in Step A and multiply by 2002 VMT. The result is the NO_X emissions reductions that will occur between 2008 and 2011 without the benefits of any post-1990 CAA measures. These are the non-creditable NO_X reductions that occur over this period.

(C) Subtract the non-creditable VOC reductions calculated in Step B from the 2008 VOC target level of emissions calculated previously. Subtract the non-creditable NO_X reductions calculated in Step B from the 2008 NO_X target level of emissions calculated previously. These adjusted VOC and NO_X inventories are the basis for calculating the target level of emissions in 2011.

(D) The target level of VOC and NO_X emissions in 2011 needed to meet the 2011 ROP requirement is any combination of VOC and NO_X reductions from the adjusted inventories calculated in Step E that total 9 percent. For example, the target level of VOC emissions in 2011 could be a 4 percent reduction from the adjusted VOC inventory in Step C and a 5 percent reduction from the adjusted NO_X inventory in Step C. The actual projected 2011 VOC and NO_X inventories for all sources with all control measures in place and including projected 2011 growth in activity must be at or lower than the target levels of VOC and NO_X emissions.

(E) Repeat entire process for subsequent 3-year periods until the attainment date.

Appendix B to Preamble—Glossary of Terms and Acronyms

ACT—Alternative Control Techniques
ARTBA—American Road and Transportation Builders Association
BACT—Best Available Control Technology
BART—Best Available Retrofit Technology
CAA—Clean Air Act
CAAAC—Clean Air Act Advisory Committee
CADCs—Clean Air Development Communities
CAIR—Clean Air Interstate Rule
CERR—Consolidated Emissions Reporting Rule
CFR—Code of Federal Regulations
CMAQ—Congestion Mitigation and Air Quality
CMSA—Consolidated Metropolitan Statistical Area
CO—Carbon Monoxide
CTG—Control Technique Guideline
DOT—Department of Transportation
EMFAC—EMissions FACtors (a mobile emissions model)
ESRP—Emissions Statement Reporting Program
CTG—Control Technique Guidelines
EGUs—Electricity Generating Units
EPA—Environmental Protection Agency
FIP—Federal Implementation Plan
FMVCP—Federal Motor Vehicle Control Program
HON—Hazardous Organic NESHAP
ICR—Information Collection Requirement
I/M—Inspection and Maintenance Area
km—Kilometers
LADCO—Lake Michigan Air Directors Consortium
LAER—Lowest Achievable Emission Rate
MACT—Maximum Achievable Control Technology
MCR—Mid-course Review
MPO—Metropolitan Planning Organization
MSA—Metropolitan Statistical Area
NAA—Nonattainment Area
NAAMS—National Ambient Air Modeling Strategy
NAAQS—National Ambient Air Quality Standards
NAMS/SLAMS—National Air Monitoring Stations/State and Local Air Monitoring Stations
NAS—National Academy of Sciences
NCore—National Core Monitoring Stations
NESHAP—National Emission Standards for Hazardous Air Pollutants
NO_X—Nitrogen Oxides
NO_y—Reactive Oxides of Nitrogen
NPRM—Notice of Proposed Rulemaking
NSR—New Source Review
NTAA—National Tribal Air Association
NTTAA—National Technology Transfer Advancement Act of 1995
OMB—Office of Management and Budget
OTAG—Ozone Transport Assessment Group
OTR—Ozone Transport Region
PAMS—Photochemical Assessment Monitoring Stations
PM—Particulate Matter
$PM_{2.5}$—Fine Particulate Matter
PM_{10}—Particulate Matter Having a Nominal Aerodynamic Diameter Less than or Equal to 10 Microns
ppb—Parts per Billion
ppm—Parts per Million
PSD—Prevention of Significant Deterioration
psi—Pounds Per Square Inch
RACM—Reasonably Available Control Measures
RACT—Reasonably Available Control Technology
RFASA—Regulatory Flexibility Act Screening Analysis
RFP—Reasonable Further Progress
RIA—Regulatory Impact Analysis
ROG—Reactive Organic Gases
ROP—Rate of Progress
RPOs—Regional Planning Organizations
RVP—Reid Vapor Pressure
SBA—Small Business Administration
SCR—Selective Catalytic Reduction
SIPs—State Implementation Plans
SO_2—Sulfur Dioxide
TAR—Tribal Authority Rule
TAS—(Treatment in the Same Manner as a State ''Treatment as State'')
TEA–21—Transportation Equity Act for the Twenty-first Century
TIPs—Tribal Implementation Plans
tpy—Tons Per Year
TSP—Total Suspended Particulates
TTN/SCRAM—Technical Transfer Network/Support Center for Regulatory Air Models

UMRA—Unfunded Mandates Reform Act of 1995
U.S. DOT—United States Department of Transportation
VCS—Voluntary Consensus Standards
VMT—Vehicle Miles Traveled
VOC—Volatile Organic Compound

List of Subjects

40 CFR Part 51

Air pollution control, Carbon monoxide, Intergovernmental relations, Ozone, Particulate matter, Transportation, Volatile organic compounds.

40 CFR Part 52

Air pollution control, Carbon monoxide, Intergovernmental relations, Ozone, Particulate matter.

40 CFR Part 80

Fuel additives, Gasoline, Motor vehicle pollution, Ozone.

Authority: 42 U.S.C. 7408; 42 U.S.C. 7410; 42 U.S.C. 7501–7511f; 42 U.S.C. 7601(a)(1); 42 U.S.C. 7401.

Dated: November 9, 2005.

Stephen L. Johnson,

Administrator.

■ For the reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 51 continues to read as follows:

Authority: 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

Subpart I—[Amended]

■ 2. Section 51.165 is amended as follows:
■ a. By revising paragraphs (a)(1)(iv)(A)(*1*) and (*2*).
■ b. By adding paragraph (a)(1)(iv)(A)(*3*).
■ c. By adding paragraphs (a)(1)(v)(E) and (F).
■ d. By revising paragraph (a)(1)(x).
■ e. By revising paragraph (a)(3)(ii)(C).
■ f. By adding paragraphs (a)(8), (a)(9), and (a)(10).

§ 51.165 Permit requirements.

(a) * * *
(1) * * *
(iv) * * *
(A) * * *

(*1*) Any stationary source of air pollutants that emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant, except that lower emissions thresholds shall apply in areas subject to subpart 2, subpart 3, or subpart 4 of part D, title I of the Act, according to paragraphs (a)(1)(iv)(A)(*1*)(*i*) through (*vi*) of this section.

(*i*) 50 tons per year of volatile organic compounds in any serious ozone nonattainment area.

(*ii*) 50 tons per year of volatile organic compounds in an area within an ozone transport region, except for any severe or extreme ozone nonattainment area.

(*iii*) 25 tons per year of volatile organic compounds in any severe ozone nonattainment area.

(*iv*) 10 tons per year of volatile organic compounds in any extreme ozone nonattainment area.

(*v*) 50 tons per year of carbon monoxide in any serious nonattainment area for carbon monoxide, where stationary sources contribute significantly to carbon monoxide levels in the area (as determined under rules issued by the Administrator).

(*vi*) 70 tons per year of PM–10 in any serious nonattainment area for PM–10;

(*2*) For the purposes of applying the requirements of paragraph (a)(8) of this section to stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, any stationary source which emits, or has the potential to emit, 100 tons per year or more of nitrogen oxides emissions, except that the emission thresholds in paragraphs (a)(1)(iv)(A)(*2*)(*i*) through (*vi*) of this section shall apply in areas subject to subpart 2 of part D, title I of the Act.

(*i*) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as marginal or moderate.

(*ii*) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as a transitional, submarginal, or incomplete or no data area, when such area is located in an ozone transport region.

(*iii*) 100 tons per year or more of nitrogen oxides in any area designated under section 107(d) of the Act as attainment or unclassifiable for ozone that is located in an ozone transport region.

(*iv*) 50 tons per year or more of nitrogen oxides in any serious nonattainment area for ozone.

(*v*) 25 tons per year or more of nitrogen oxides in any severe nonattainment area for ozone.

(*vi*) 10 tons per year or more of nitrogen oxides in any extreme nonattainment area for ozone; or

(*3*) Any physical change that would occur at a stationary source not qualifying under paragraphs (a)(1)(iv)(A)(*1*) or (*2*) of this section as a major stationary source, if the change would constitute a major stationary source by itself.

* * * * *

(v) * * *

(E) For the purpose of applying the requirements of (a)(8) of this section to modifications at major stationary sources of nitrogen oxides located in ozone nonattainment areas or in ozone transport regions, whether or not subject to subpart 2, part D, title I of the Act, any significant net emissions increase of nitrogen oxides is considered significant for ozone.

(F) Any physical change in, or change in the method of operation of, a major stationary source of volatile organic compounds that results in any increase in emissions of volatile organic compounds from any discrete operation, emissions unit, or other pollutant emitting activity at the source shall be considered a significant net emissions increase and a major modification for ozone, if the major stationary source is located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act.

* * * * *

(x)(A) *Significant* means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

Pollutant Emission Rate

Carbon monoxide: 100 tons per year (tpy)
Nitrogen oxides: 40 tpy
Sulfur dioxide: 40 tpy
Ozone: 40 tpy of volatile organic compounds or NO_X
Lead: 0.6 tpy
PM–10: 15 tpy PM–10

(B) Notwithstanding the significant emissions rate for ozone in paragraph (a)(1)(x)(A) of this section, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of volatile organic compounds that would result from any physical change in, or change in the method of operation of, a major stationary source locating in a serious or severe ozone nonattainment area that is subject to subpart 2, part D, title I of the Act, if such emissions increase of volatile organic compounds exceeds 25 tons per year.

(C) For the purposes of applying the requirements of paragraph (a)(8) of this section to modifications at major stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, the significant emission rates and other requirements for volatile organic compounds in paragraphs (a)(1)(x)(A),

(B), and (E) of this section shall apply to nitrogen oxides emissions.

(D) Notwithstanding the significant emissions rate for carbon monoxide under paragraph (a)(1)(x)(A) of this section, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of carbon monoxide that would result from any physical change in, or change in the method of operation of, a major stationary source in a serious nonattainment area for carbon monoxide if such increase equals or exceeds 50 tons per year, provided the Administrator has determined that stationary sources contribute significantly to carbon monoxide levels in that area.

(E) Notwithstanding the significant emissions rates for ozone under paragraphs (a)(1)(x)(A) and (B) of this section, any increase in actual emissions of volatile organic compounds from any emissions unit at a major stationary source of volatile organic compounds located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act shall be considered a significant net emissions increase.

* * * * *

(3) * * *

(i) * * *

(ii) * * *

(C)(*1*) Emissions reductions achieved by shutting down an existing emission unit or curtailing production or operating hours may be generally credited for offsets if they meet the requirements in paragraphs (a)(3)(ii)(C)(*1*)(*i*) through (*ii*) of this section.

(*i*) Such reductions are surplus, permanent, quantifiable, and federally enforceable.

(*ii*) The shutdown or curtailment occurred after the last day of the base year for the SIP planning process. For purposes of this paragraph, a reviewing authority may choose to consider a prior shutdown or curtailment to have occurred after the last day of the base year if the projected emissions inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emission units. However, in no event may credit be given for shutdowns that occurred before August 7, 1977.

(*2*) Emissions reductions achieved by shutting down an existing emissions unit or curtailing production or operating hours and that do not meet the requirements in paragraph (a)(3)(ii)(C)(*1*)(*ii*) of this section may be generally credited only if:

(*i*) The shutdown or curtailment occurred on or after the date the construction permit application is filed; or

(*ii*) The applicant can establish that the proposed new emissions unit is a replacement for the shutdown or curtailed emissions unit, and the emissions reductions achieved by the shutdown or curtailment met the requirements of paragraph (a)(3)(ii)(C)(*1*)(*i*) of this section.

* * * * *

(8) The plan shall provide that the requirements of this section applicable to major stationary sources and major modifications of volatile organic compounds shall apply to nitrogen oxides emissions from major stationary sources and major modifications of nitrogen oxides in an ozone transport region or in any ozone nonattainment area, except in ozone nonattainment areas or in portions of an ozone transport region where the Administrator has granted a NO_X waiver applying the standards set forth under section 182(f) of the Act and the waiver continues to apply.

(9)(i) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section for ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be as follows:

(A) In any marginal nonattainment area for ozone—at least 1.1:1;

(B) In any moderate nonattainment area for ozone—at least 1.15:1;

(C) In any serious nonattainment area for ozone—at least 1.2:1;

(D) In any severe nonattainment area for ozone—at least 1.3:1 (except that the ratio may be at least 1.2:1 if the approved plan also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and

(E) In any extreme nonattainment area for ozone—at least 1.5:1 (except that the ratio may be at least 1.2:1 if the approved plan also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and

(ii) Notwithstanding the requirements of paragraph (a)(9)(i) of this section for meeting the requirements of paragraph (a)(3) of this section, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1.15:1 for all areas within an ozone transport region that is subject to subpart 2, part D, title I of the Act, except for serious, severe, and extreme ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act.

(iii) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section for ozone nonattainment areas that are subject to subpart 1, part D, title I of the Act (but are not subject to subpart 2, part D, title I of the Act, including 8-hour ozone nonattainment areas subject to 40 CFR 51.902(b)), the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1:1.

(10) The plan shall require that the requirements of this section applicable to major stationary sources and major modifications of PM–10 shall also apply to major stationary sources and major modifications of PM–10 precursors, except where the Administrator determines that such sources do not contribute significantly to PM–10 levels that exceed the PM–10 ambient standards in the area.

* * * * *

■ 3. Section 51.166 is amended as follows:

■ a. By revising paragraph (b)(1)(ii).

■ b. By revising paragraph (b)(2)(ii).

■ c. By revising the entry for ''ozone'' in the list in paragraph (b)(23)(i).

■ d. By revising paragraph (b)(49)(i).

■ e. By revising footnote 1 to paragraph (i)(5)(i)(*e*).

§ 51.166 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(1) * * *

(ii) A major source that is major for volatile organic compounds or NO_X shall be considered major for ozone.

* * * * *

(2) * * *

(ii) Any significant emissions increase (as defined at paragraph (b)(39) of this section) from any emissions units or net emissions increase (as defined in paragraph (b)(3) of this section) at a major stationary source that is significant for volatile organic compounds or NO_X shall be considered significant for ozone.

* * * * *

(23)(i) * * *

* * * * *

Ozone: 40 tpy of volatile organic compounds or NO_X

* * * * *

(49) * * *

(i) Any pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for such pollutants identified by the Administrator (*e.g.*, volatile

organic compounds and NO_X are precursors for ozone);

* * * * *

(i) * * *

(5) * * *

(i) * * *

(e) * * *

[1] No *de minimis* air quality level is provided for ozone. However, any net emissions increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data.

Subpart X [Amended]

■ 4. Section 51.906 is added to read as follows:

§ 51.906 Redesignation to nonattainment following initial designations for the 8-hour NAAQS.

For any area that is initially designated attainment or unclassifiable for the 8-hour NAAQS and that is subsequently redesignated to nonattainment for the 8-hour ozone NAAQS, any absolute, fixed date applicable in connection with the requirements of this part is extended by a period of time equal to the length of time between the effective date of the initial designation for the 8-hour NAAQS and the effective date of redesignation, except as otherwise provided in this subpart.

■ 5. Section 51.908 is amended as follows:

■ a. By revising the section heading.

■ b. By designating the existing text as paragraph (d).

■ c. By adding paragraphs (a), (b), and (c).

§ 51.908 What modeling and attainment demonstration requirements apply for purposes of the 8-hour ozone NAAQS?

(a) *What is the attainment demonstration requirement for an area classified as moderate or higher under subpart 2 pursuant to § 51.903?* An area classified as moderate or higher under § 51.903 shall be subject to the attainment demonstration requirement applicable for that classification under section 182 of the Act, except such demonstration is due no later than 3 years after the area's designation for the 8-hour NAAQS.

(b) *What is the attainment demonstration requirement for an area subject only to subpart 1 in accordance with § 51.902(b)?* An area subject to § 51.902(b) shall be subject to the attainment demonstration under section 172(c)(1) of the Act and shall submit an attainment demonstration no later than 3 years after the area's designation for the 8-hour NAAQS.

(c) *What criteria must the attainment demonstration meet?* An attainment demonstration due pursuant to paragraph (a) or (b) of this section must meet the requirements of § 51.112; the adequacy of an attainment demonstration shall be demonstrated by means of a photochemical grid model or any other analytical method determined by the Administrator, in the Administrator's discretion, to be at least as effective.

* * * * *

■ 6. Section 51.910 is added to read as follows:

§ 51.910 What requirements for reasonable further progress (RFP) under sections 172(c)(2) and 182 apply for areas designated nonattainment for the 8-hour ozone NAAQS?

(a) *What are the general requirements for RFP for an area classified under subpart 2 pursuant to § 51.903?* For an area classified under subpart 2 pursuant to § 51.903, the RFP requirements specified in section 182 of the Act for that area's classification shall apply.

(1) *What is the content and timing of the RFP plan required under sections 182(b)(1) and 182(c)(2)(B) of the Act for an area classified as moderate or higher pursuant to § 51.903 (subpart 2 coverage)?*

(i) *Moderate or Above Area.* (A) Except as provided in paragraph (a)(1)(ii) of this section, for each area classified as moderate or higher, the State shall submit a SIP revision consistent with section 182(b)(1) of the Act no later than 3 years after designation for the 8-hour NAAQS for the area. The 6-year period referenced in section 182(b)(1) of the Act shall begin January 1 of the year following the year used for the baseline emissions inventory.

(B) For each area classified as serious or higher, the State shall submit a SIP revision consistent with section 182(c)(2)(B) of the Act no later than 3 years after designation for the 8-hour NAAQS. The final increment of progress must be achieved no later than the attainment date for the area.

(ii) *Area with Approved 1-hour Ozone 15 Percent VOC ROP Plan.* An area classified as moderate or higher that has the same boundaries as an area, or is entirely composed of several areas or portions of areas, for which EPA fully approved a 15 percent plan for the 1-hour NAAQS is considered to have met section 182(b)(1) of the Act for the 8-hour NAAQS and instead:

(A) If classified as moderate, the area is subject to RFP under section 172(c)(2) of the Act and shall submit no later than 3 years after designation for the 8-hour NAAQS a SIP revision that meets the requirements of paragraph (b)(2) of this section, consistent with the attainment date established in the attainment demonstration SIP.

(B) If classified as serious or higher, the area is subject to RFP under section 182(c)(2)(B) of the Act and shall submit no later than 3 years after designation for the 8-hour NAAQS an RFP SIP providing for an average of 3 percent per year of VOC and/or NO_X emissions reductions for

(*1*) the 6-year period beginning January 1 of the year following the year used for the baseline emissions inventory; and

(*2*) all remaining 3-year periods after the first 6-year period out to the area's attainment date.

(iii) *Moderate and Above Area for Which Only a Portion Has an Approved 1-hour Ozone 15 Percent VOC ROP Plan.* An area classified as moderate or higher that contains one or more areas, or portions of areas, for which EPA fully approved a 15 percent plan for the 1-hour NAAQS as well as areas for which EPA has not fully approved a 15 percent plan for the 1-hour NAAQS shall meet the requirements of either paragraph (a)(1)(iii)(A) or (B) below.

(A) The State shall not distinguish between the portion of the area that previously met the 15 percent VOC reduction requirement and the portion of the area that did not, and

(*1*) The State shall submit a SIP revision consistent with section 182(b)(1) of the Act no later than 3 years after designation for the 8-hour NAAQS for the entire area. The 6-year period referenced in section 182(b)(1) of the Act shall begin January 1 of the year following the year used for the baseline emissions inventory.

(*2*) For each area classified as serious or higher, the State shall submit a SIP revision consistent with section 182(c)(2)(B) of the Act no later than 3 years after designation for the 8-hour NAAQS. The final increment of progress must be achieved no later than the attainment date for the area.

(B) The State shall treat the area as two parts, each with a separate RFP target as follows:

(*1*) For the portion of the area without an approved 15 percent VOC RFP plan for the 1-hour standard, the State shall submit a SIP revision consistent with section 182(b)(1) of the Act no later than 3 years after designation for the 8-hour NAAQS for the area. The 6-year period referenced in section 182(b)(1) of the Act shall begin January 1 of the year following the year used for the baseline emissions inventory. Emissions reductions to meet this requirement may

come from anywhere within the 8-hour nonattainment area.

(*2*) For the portion of the area with an approved 15 percent VOC plan for the 1-hour NAAQS, the State shall submit a SIP as required under paragraph (b)(2)of this section.

(2) *What restrictions apply on the creditability of emission control measures for the RFP plans required under this section?* Except as specifically provided in section 182(b)(1)(C) and (D) and section 182(c)(2)(B) of the Act, all SIP-approved or federally promulgated emissions reductions that occur after the baseline emissions inventory year are creditable for purposes of the RFP requirements in this section, provided the reductions meet the requirements for creditability, including the need to be enforceable, permanent, quantifiable and surplus, as described for purposes of State economic incentive programs in the requirements of § 51.493 of this part.

(b) *How does the RFP requirement of section 172(c)(2) of the Act apply to areas subject to that requirement?* (1) An area subject to the RFP requirement of subpart 1 pursuant to § 51.902(b) or a moderate area subject to subpart 2 as covered in paragraphs (a)(1)(ii)(A) of this section shall meet the RFP requirements of section 172(c)(2) of the Act as provided in paragraph (b)(2) of this section.

(2) The State shall submit no later than 3 years following designation for the 8-hour NAAQS a SIP providing for RFP consistent with the following:

(i) For each area with an attainment demonstration requesting an attainment date of 5 years or less after designation for the 8-hour NAAQS, the attainment demonstration SIP shall require that all emissions reductions needed for attainment be implemented by the beginning of the attainment year ozone season.

(ii) For each area with an attainment demonstration requesting an attainment date more than 5 years after designation for the 8-hour NAAQS, the attainment demonstration SIP—

(A) Shall provide for a 15 percent emission reduction from the baseline year within 6 years after the baseline year.

(B) May use either NO_X or VOC emissions reductions (or both) to achieve the 15 percent emission reduction requirement. Use of NO_X emissions reductions must meet the criteria in section 182(c)(2)(C) of the Act.

(C) For each subsequent 3-year period out to the attainment date, the RFP SIP must provide for an additional increment of progress. The increment for each 3-year period must be a portion of the remaining emission reductions needed for attainment beyond those reductions achieved for the first increment of progress (e.g., beyond 2008 for areas designated nonattainment in June 2004). Specifically, the amount of reductions needed for attainment is divided by the number of years needed for attainment after the first increment of progress in order to establish an ''annual increment.'' For each 3-year period out to the attainment date, the area must achieve roughly the portion of reductions equivalent to three annual increments.

(c) *What method should a State use to calculate RFP targets?* In calculating RFP targets for the initial 6-year period and the subsequent 3-year periods pursuant to this section, the State shall use the methods consistent with the requirements of sections 182(b)(1)(C) and (D) and 182(c)(2)(B) to properly account for non-creditable reductions.

(d) *What is the baseline emissions inventory for RFP plans?* For the RFP plans required under this section, the baseline emissions inventory shall be determined at the time of designation of the area for the 8-hour NAAQS and shall be the emissions inventory for the most recent calendar year for which a complete inventory is required to be submitted to EPA under the provisions of subpart A of this part or a more recent alternative baseline emissions inventory provided the State demonstrates that the baseline inventory meets the CAA provisions for RFP and provides a rationale for why it is appropriate to use the alternative baseline year rather than 2002 to comply with the CAA's RFP provisions.

■ 7. Section 51.912 is added to read as follows:

§ 51.912 What requirements apply for reasonably available control technology (RACT) and reasonably available control measures (RACM) under the 8-hour NAAQS?

(a) *What is the RACT requirement for areas subject to subpart 2 in accordance with § 51.903?* (1) For each area subject to subpart 2 in accordance with § 51.903 of this part and classified moderate or higher, the State shall submit a SIP revision that meets the NO_X and VOC RACT requirements in sections 182(b)(2) and 182(f) of the Act.

(2) The State shall submit the RACT SIP for each area no later than 27 months after designation for the 8-hour ozone NAAQS.

(3) The State shall provide for implementation of RACT as expeditiously as practicable but no later than the first ozone season or portion thereof which occurs 30 months after the RACT SIP is due.

(b) *How do the RACT provisions apply to a major stationary source?* Volatile organic compounds and NO_X are to be considered separately for purposes of determining whether a source is a major stationary source as defined in section 302 of the Act.

(c) *What is the RACT requirement for areas subject only to subpart 1 pursuant to § 51.902(b)?* Areas subject only to subpart 1 pursuant to § 51.902(b) are subject to the RACT requirement specified in section 172(c)(1) of the Act.

(1) For an area that submits an attainment demonstration that requests an attainment date 5 years or less after designation for the 8-hour NAAQS, the State shall meet the RACT requirement by submitting an attainment demonstration SIP demonstrating that the area has adopted all control measures necessary to demonstrate attainment as expeditiously as practicable.

(2) For an area that submits an attainment demonstration that requests an attainment date more than 5 years after designation for the 8-hour NAAQS, the State shall submit a SIP consistent with the requirements of § 51.912(a) and (b) except the State shall submit the RACT SIP for each area with its request pursuant to Clean Air Act section 172(a)(2)(A) to extend the attainment date.

(d) *What is the Reasonably Available Control Measures (RACM) requirement for areas designated nonattainment for the 8-hour NAAQS?* For each nonattainment area required to submit an attainment demonstration under § 51.908, the State shall submit with the attainment demonstration a SIP revision demonstrating that it has adopted all RACM necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements.

■ 8. Section 51.913 is added to read as follows:

§ 51.913 How do the section 182(f) NO_X exemption provisions apply for the 8-hour NAAQS?

(a) A person may petition the Administrator for an exemption from NO_X obligations under section 182(f) for any area designated nonattainment for the 8-hour ozone NAAQS and for any area in a section 184 ozone transport region.

(b) The petition must contain adequate documentation that the criteria in section 182(f) are met.

(c) A section 182(f) NO_X exemption granted for the 1-hour ozone standard does not relieve the area from any NO_X

obligations under section 182(f) for the 8-hour ozone standard.

■ 9. Section 51.914 is added to read as follows:

§ 51.914 What new source review requirements apply for 8-hour ozone nonattainment areas?

The requirements for new source review for the 8-hour ozone standard are located in § 51.165 of this part.

■ 10. Section 51.915 is added to read as follows:

§ 51.915 What emissions inventory requirements apply under the 8-hour NAAQS?

For each nonattainment area subject to subpart 2 in accordance with § 51.903, the emissions inventory requirements in sections 182(a)(1) and 182(a)(3) of the Act shall apply, and such SIP shall be due no later 2 years after designation. For each nonattainment area subject only to title I, part D, subpart 1 of the Act in accordance with § 51.902(b), the emissions inventory requirement in section 172(c)(3) of the Act shall apply, and an emission inventory SIP shall be due no later 3 years after designation. For purposes of defining the data elements for the emissions inventories for these areas, the ozone-relevant data element requirements under 40 CFR part 51 subpart A apply.

■ 11. Section 51.916 is added to read as follows:

§ 51.916 What are the requirements for an Ozone Transport Region under the 8-hour NAAQS?

(a) In General. Sections 176A and 184 of the Act apply for purposes of the 8-hour NAAQS.

(b) RACT Requirements for Certain Portions of an Ozone Transport Region.

(1) The State shall submit a SIP revision that meets the RACT requirements of section 184 of the Act for each area that is located in an ozone transport region and that is—

(i) Designated as attainment or unclassifiable for the 8-hour standard;

(ii) Designated nonattainment and classified as marginal for the 8-hour standard; or

(iii) Designated nonattainment and covered solely under subpart 1 of part D, title I of the CAA for the 8-hour standard.

(2) The State is required to submit the RACT revision no later than September 16, 2006 and shall provide for implementation of RACT as expeditiously as practicable but no later than May 1, 2009.

■ 12. Section 51.917 is added to read as follows:

§ 51.917 What is the effective date of designation for the Las Vegas, NV, 8-hour ozone nonattainment area?

The Las Vegas, NV, 8-hour ozone nonattainment area (designated on September 17, 2004 (69 FR 55956)) shall be treated as having an effective date of designation of June 15, 2004, for purposes of calculating SIP submission deadlines, attainment dates, or any other deadline under this subpart.

■ 13. Section 51.918 is added to read as follows:

§ 51.918 Can any SIP planning requirements be suspended in 8-hour ozone nonattainment areas that have air quality data that meets the NAAQS?

Upon a determination by EPA that an area designated nonattainment for the 8-hour ozone NAAQS has attained the standard, the requirements for such area to submit attainment demonstrations and associated reasonably available control measures, reasonable further progress plans, contingency measures, and other planning SIPs related to attainment of the 8-hour ozone NAAQS shall be suspended until such time as: the area is redesignated to attainment, at which time the requirements no longer apply; or EPA determines that the area has violated the 8-hour ozone NAAQS.

Appendix S to Part 51—[Amended]

■ Appendix S to part 51 is amended as follows:

■ 1. By revising the second sentence of paragraph I and the the fourth sentence of paragraph.

■ 2. By revising paragraph II.A.4(i)(*a*) and (*b*).

■ 3. By adding paragraph II.A.4(i)(*c*).

■ 4. By revising paragraph II.A.4(ii).

■ 5. By revising paragraph II.A.5 (ii).

■ 6. By adding paragraphs II.A.5(iv) through (v).

■ 7. By revising paragraph II.A.6(v)(*c*).

■ 8. By revising the table in paragraph II.A.10(i).

■ 9. By adding paragraphs II.A.10(ii) through (v).

■ 10. By amending paragraph IV.A Condition 1 by removing footnote 5.

■ 11. By amending paragraph IV.A Condition 3 by redesignating footnote 6 as footnote 5 and by redesignating footnote 7 as footnote 6.

■ 12. By amending paragraph IV.A Condition 4 by removing footnote 8.

■ 13. By revising paragraph IV.C.3.

■ 14. By revising paragraph IV.D.

■ 15. By revising paragraph IV.E.

■ 16. By adding paragraphs IV.G through H.

■ 17. By amending paragraph V.A by redesignating footnote 10 as footnote 7.

■ 18. By revising the last sentence of paragraph VI and adding paragraphs VI.A, VI.B and VI.C.

The revisions and additions read as follows:

Appendix S to Part 51—Emission Offset Interpretative Ruling

I.

* * * A major new source or major modification which would locate in any area designated under section 107(d) of the Act as attainment or unclassifiable for ozone that is located in an ozone transport region or which would locate in an area designated in 40 CFR part 81, subpart C, as nonattainment for a pollutant for which the source or modification would be major may be allowed to construct only if the stringent conditions set forth below are met. * * *

For each area designated as exceeding a NAAQS (nonattainment area) under 40 CFR part 81, subpart C, or for any area designated under section 107(d) of the Act as attainment or unclassifiable for ozone that is located in an ozone transport region, this Interpretative Ruling will be superseded after June 30, 1979 (a) by preconstruction review provisions of the revised SIP, if the SIP meets the requirements of Part D, Title 1, of the Act; or (b) by a prohibition on construction under the applicable SIP and section 110(a)(2)(I) of the Act, if the SIP does not meet the requirements of Part D. * * *

* * * * *

II. * * *

A. * * *

4.(i) * * *

(*a*) Any stationary source of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any pollutant subject to regulation under the Act, except that lower emissions thresholds shall apply in areas subject to subpart 2, subpart 3, or subpart 4 of part D, title I of the Act, according to paragraphs II.A.4(i)(*a*)(*1*) through (*6*) of this Ruling.

(*1*) 50 tons per year of volatile organic compounds in any serious ozone nonattainment area.

(*2*) 50 tons per year of volatile organic compounds in an area within an ozone transport region, except for any severe or extreme ozone nonattainment area.

(*3*) 25 tons per year of volatile organic compounds in any severe ozone nonattainment area.

(*4*) 10 tons per year of volatile organic compounds in any extreme ozone nonattainment area.

(*5*) 50 tons per year of carbon monoxide in any serious nonattainment area for carbon monoxide, where stationary sources contribute significantly to carbon monoxide levels in the area (as determined under rules issued by the Administrator)

(*6*) 70 tons per year of PM–10 in any serious nonattainment area for PM–10;

(*b*) For the purposes of applying the requirements of paragraph IV.H of this Ruling to stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, any stationary source which emits, or has the potential to emit, 100 tons per year or more of nitrogen oxides emissions, except that the emission thresholds in paragraphs II.A.4(i)(*b*)(*1*) through (*6*) of this Ruling apply in areas

subject to subpart 2 of part D, title I of the Act.

(*1*) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as marginal or moderate.

(*2*) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as a transitional, submarginal, or incomplete or no data area, when such area is located in an ozone transport region.

(*3*) 100 tons per year or more of nitrogen oxides in any area designated under section 107(d) of the Act as attainment or unclassifiable for ozone that is located in an ozone transport region.

(*4*) 50 tons per year or more of nitrogen oxides in any serious nonattainment area for ozone.

(*5*) 25 tons per year or more of nitrogen oxides in any severe nonattainment area for ozone.

(*6*) 10 tons per year or more of nitrogen oxides in any extreme nonattainment area for ozone; or

(*c*) Any physical change that would occur at a stationary source not qualifying under paragraph II.A.4(i)(*a*) or (*b*) of this Ruling as a major stationary source, if the change would constitute a major stationary source by itself.

(ii) A major stationary source that is major for volatile organic compounds or nitrogen oxides is major for ozone.

* * * * *

5. * * *

(ii) Any net emission increase that is considered significant for volatile organic compounds shall be considered significant for ozone.

* * * * *

(iv) For the purpose of applying the requirements of paragraph IV.H of this Ruling to modifications at major stationary sources of nitrogen oxides located in ozone nonattainment areas or in ozone transport regions, whether or not subject with respect to ozone to subpart 2, part D, title I of the Act, any significant net emissions increase of nitrogen oxides is considered significant for ozone.

(v) Any physical change in, or change in the method of operation of, a major stationary source of volatile organic compounds that results in any increase in emissions of volatile organic compounds from any discrete operation, emissions unit, or other pollutant emitting activity at the source shall be considered a significant net emissions increase and a major modification for ozone, if the major stationary source is located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act.

6. * * *

(v) * * *

(*c*) The reviewing authority has not relied on it in issuing any permit under regulations approved pursuant to 40 CFR 51.165;

* * * * *

10. (i) * * *

Pollutant and Emissions Rate

Carbon monoxide: 100 tons per year (tpy)
Nitrogen oxides: 40 tpy
Sulfur dioxide: 40 tpy
Ozone: 40 tpy of volatile organic compounds or NO_X
Lead: 0.6 tpy
Particulate matter: 25 tpy of particulate matter emissions
PM–10: 15 tpy PM–10

(ii) Notwithstanding the significant emissions rate for ozone in paragraph II.A.10(i) of this Ruling, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of volatile organic compounds that would result from any physical change in, or change in the method of operation of, a major stationary source locating in a serious or severe ozone nonattainment area that is subject to subpart 2, part D, title I of the Act, if such emissions increase of volatile organic compounds exceeds 25 tons per year.

(iii) For the purposes of applying the requirements of paragraph IV.H of this Ruling to modifications at major stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, the significant emission rates and other requirements for volatile organic compounds in paragraphs II.A.10(i), (ii), and (v) of this Ruling shall apply to nitrogen oxides emissions.

(iv) Notwithstanding the significant emissions rate for carbon monoxide under paragraph II.A.10(i) of this Ruling, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of carbon monoxide that would result from any physical change in, or change in the method of operation of, a major stationary source in a serious nonattainment area for carbon monoxide if such increase equals or exceeds 50 tons per year, provided the Administrator has determined that stationary sources contribute significantly to carbon monoxide levels in that area.

(v) Notwithstanding the significant emissions rates for ozone under paragraphs II.A.10(i) and (ii) of this Ruling, any increase in actual emissions of volatile organic compounds from any emissions unit at a major stationary source of volatile organic compounds located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act shall be considered a significant net emissions increase.

* * * * *

IV. * * *

C. * * *

3. Emission Reduction Credits from Shutdowns and Curtailments.

(i) Emissions reductions achieved by shutting down an existing source or curtailing production or operating hours may be generally credited for offsets if they meet the requirements in paragraphs IV.C.3.i.1. through 2 of this section.

(1) Such reductions are surplus, permanent, quantifiable, and federally enforceable.

(2) The shutdown or curtailment occurred after the last day of the base year for the SIP planning process. For purposes of this paragraph, a reviewing authority may choose to consider a prior shutdown or curtailment to have occurred after the last day of the base year if the projected emissions inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emission units. However, in no event may credit be given for shutdowns that occurred before August 7, 1977.

(ii) Emissions reductions achieved by shutting down an existing source or curtailing production or operating hours and that do not meet the requirements in paragraphs IV.C.3.i.1. through 2 of this section may be generally credited only if:

(1) The shutdown or curtailment occurred on or after the date the new source permit application is filed; or

(2) The applicant can establish that the proposed new source is a replacement for the shutdown or curtailed source, and the emissions reductions achieved by the shutdown or curtailment met the requirements of paragraphs IV.C.3.i.1. through 2 of this section.

D. *Location of offsetting emissions.* The owner or operator of a new or modified major stationary source may comply with any offset requirement in effect under this Ruling for increased emissions of any air pollutant only by obtaining emissions reductions of such air pollutant from the same source or other sources in the same nonattainment area, except that the reviewing authority may allow the owner or operator of a source to obtain such emissions reductions in another nonattainment area if the conditions in IV.D.1 and 2 are met.

1. The other area has an equal or higher nonattainment classification than the area in which the source is located.

2. Emissions from such other area contribute to a violation of the national ambient air quality standard in the nonattainment area in which the source is located.

E. *Reasonable further progress.* Permits to construct and operate may be issued if the reviewing authority determines that, by the time the source is to commence operation, sufficient offsetting emissions reductions have been obtained, such that total allowable emissions from existing sources in the region, from new or modified sources which are not major emitting facilities, and from the proposed source will be sufficiently less than total emissions from existing sources prior to the application for such permit to construct or modify so as to represent (when considered together with the plan provisions required under CAA section 172) reasonable further progress (as defined in CAA section 171).

* * * * *

G. *Offset Ratios.* 1. In meeting the emissions offset requirements of paragraph IV.A, Condition 3 of this Ruling for ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be as follows:

(i) In any marginal nonattainment area for ozone—at least 1.1:1;

(ii) In any moderate nonattainment area for ozone—at least 1.15:1;

(iii) In any serious nonattainment area for ozone—at least 1.2:1;

(iv) In any severe nonattainment area for ozone—at least 1.3:1 (except that the ratio may be at least 1.2:1 if the State also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and

(v) In any extreme nonattainment area for ozone—at least 1.5:1 (except that the ratio may be at least 1.2:1 if the State also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and

2. Notwithstanding the requirements of paragraph IV.G.1 of this Ruling for meeting the requirements of paragraph IV.A, Condition 3 of this Ruling, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1.15:1 for all areas within an ozone transport region that is subject to subpart 2, part D, title I of the Act, except for serious, severe, and extreme ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act.

3. In meeting the emissions offset requirements of paragraph IV.A, Condition 3 of this Ruling for ozone nonattainment areas that are subject to subpart 1, part D, title I of the Act (but are not subject to subpart 2, part D, title I of the Act, including 8-hour ozone nonattainment areas subject to 40 CFR 51.902(b)), the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1:1.

H. *Additional provisions for emissions of nitrogen oxides in ozone transport regions and nonattainment areas.* The requirements of this Ruling applicable to major stationary sources and major modifications of volatile organic compounds shall apply to nitrogen oxides emissions from major stationary sources and major modifications of nitrogen oxides in an ozone transport region or in any ozone nonattainment area, except in ozone nonattainment areas where the Administrator has granted a NO_X waiver applying the standards set forth under 182(f) and the waiver continues to apply.

* * * * *

VI. Policy Where Attainment Dates Have Not Passed

* * * In such cases, a new source locating in an area designated in 40 CFR 81.300 *et seq.* as nonattainment (or, where section III of this Ruling is applicable, a new source that would cause or contribute to a NAAQS violation) may be exempt from the Conditions of section IV.A if the conditions in paragraphs VI.A through C are met.

A. The new source meets the applicable SIP emission limitations.

B. The new source will not interfere with the attainment date specified in the SIP under section 110 of the Act.

C. The Administrator has determined that conditions A and B of this section are satisfied and such determination is published in the **Federal Register**.

PART 52—[Amended]

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

Subpart A—[Amended]

■ 2. Section 52.21 is amended as follows:

■ a. By revising paragraph (b)(1)(ii).

■ b. By revising paragraph (b)(2)(ii).

■ c. By revising the entry for ''ozone'' in list to paragraph (b)(23)(i).

■ d. By revising paragraph (b)(50)(i).

■ e. By revising the second sentence of footnote 1 to paragraph (i)(5)(i).

§ 52.21 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(1) * * *

(ii) A major source that is major for volatile organic compounds or NO_X shall be considered major for ozone.

* * * * *

(2) * * *

(ii) Any significant emissions increase (as defined at paragraph (b)(40) of this section) from any emissions units or net emissions increase (as defined in paragraph (b)(3) of this section) at a major stationary source that is significant for volatile organic compounds or NO_X shall be considered significant for ozone.

* * * * *

(23)(i) * * *

* * * * *

Ozone: 40 tpy of volatile organic compounds or NO_X

* * * * *

(50) * * *

(i) Any pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for such pollutants identified by the Administrator (e.g., volatile organic compounds and NO_X are precursors for ozone);

* * * * *

(i) * * *

(5) * * *

(i) * * *

[1] No *de minimis* air quality level is provided for ozone. However, any net emissions increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of ambient air quality data.

* * * * *

■ 3. Section 52.24 is revised to read as follows:

§ 52.24 Statutory restriction on new sources.

(a) Any area designated nonattainment pursuant to section 107(d) of the Act to which, immediately prior to the enactment of the Amendments to the Act of 1990 (November 15, 1990), a prohibition of construction or modification of major stationary sources was applied, shall retain that prohibition if such prohibition was applied by virtue of a finding of the Administrator that the State containing such an area:

(1) Failed to submit an implementation plan meeting the requirements of an approvable new source review permitting program; or

(2) Failed to submit an implementation plan that provided for timely attainment of the national ambient air quality standard for sulfur dioxide by December 31, 1982. This prohibition shall apply until the Administrator approves a plan for such area as meeting the applicable requirements of part D of title I of the Act as amended (NSR permitting requirements) or subpart 5 of part D of title I of the Act as amended (relating to attainment of the national ambient air quality standards for sulfur dioxide), as applicable.

(b) Permits to construct and operate as required by permit programs under section 172(c)(5) of the Act may not be issued for new or modified major stationary sources proposing to locate in nonattainment areas or areas in a transport region where the Administrator has determined that the applicable implementation plan is not being adequately implemented for the nonattainment area or transport region in which the proposed source is to be constructed or modified in accordance with the requirements of part D of title I of the Act.

(c) Whenever, on the basis of any information, the Administrator finds that a State is not in compliance with any requirement or prohibition of the Act relating to the construction of new sources or the modification of existing sources, the Administrator may issue an order under section 113(a)(5) of the Act prohibiting the construction or modification of any major stationary source in any area to which such requirement applies.

(d) The restrictions in paragraphs (a) and (b) of this section apply only to major stationary sources of emissions that cause or contribute to concentrations of the pollutant (or precursors, as applicable) for which the transport region or nonattainment area was designated such, and for which the applicable implementation plan is not being carried out in accordance with, or does not meet, the requirements of part D of title I of the Act.

(e) For any transport region or any area designated as nonattainment for any national ambient air quality standard, the restrictions in paragraphs (a) and (b) of this section shall apply to any major stationary source or major modification that would be major for the pollutant (or precursors, where applicable) for which the area is designated nonattainment or a transport region, if the stationary source or major

modification would be constructed anywhere in the designated nonattainment area or transport region.

(f) The provisions in § 51.165 of this chapter shall apply in interpreting the terms under this section.

(g) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then:

(1) If the construction moratorium imposed pursuant to this section is still in effect for the nonattainment area or transport region in which the source or modification is located, then the permit may not be so revised; or

(2) If the construction moratorium is no longer in effect in that area, then the requirements of § 51.165 of this chapter shall apply to the source or modification as though construction had not yet commenced on the source or modification.

(h) This section does not apply to major stationary sources or major modifications locating in a clearly defined part of a nonattainment area or transport region (such as a political subdivision of a State), where EPA finds that a plan which meets the requirements of part D of title I of the Act is in effect and is being implemented in that part.

(i) [Reserved]

(j) [Reserved]

(k) For an area designated as nonattainment after July 1, 1979, the Emission Offset Interpretative Ruling, 40 CFR part 51, appendix S shall govern permits to construct and operate applied for during the period between the date of designation as nonattainment and the date the NSR permit program meeting the requirements of part D is approved. The Emission Offset Interpretative Ruling, 40 CFR part 51, appendix S, shall also govern permits to construct and operate applied for in any area designated under section 107(d) of the CAA as attainment or unclassifiable for ozone that is located in an ozone transport region prior to the date the NSR permitting program meeting the requirements of part D is approved.

PART 80—[AMENDED]

■ 1. The authority citation for part 80 continues to read as follows:

Authority: 42 U.S.C. 7414, 7545, and 7601(a).

Subpart D—[Amended]

■ 2. Section 80.70 is amended as follows:

■ a. In the second sentence of paragraph (m) introductory text remove the words ''included in'' and add in their place the words ''identified pursuant to''.

■ b. In the third sentence of paragraph (m) introductory text remove the words ''listed in'' and add in their place the words ''identified pursuant to''.

■ c. By revising paragraphs (m)(1) and (2).

§ 80.70 Covered areas.

* * * * *

(m) * * *

(1) An area identified as a covered area pursuant to this paragraph (m), whose classification as a severe nonattainment area under the 1-hour ozone NAAQS is removed as a result of removal of the 1-hour ozone NAAQS, remains a covered area as follows:

(i) Prior to redesignation as attainment for the 8-hour ozone NAAQS the area remains a covered area;

(ii) After redesignation as attainment for the 8-hour ozone NAAQS—[RESERVED].

(2) An area identified as a covered area pursuant to this paragraph (m), whose classification as a severe nonattainment area under the 1-hour ozone NAAQS is removed as a result of redesignation to attainment for the 1-hour ozone NAAQS, remains a covered area as follows: [RESERVED]

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INDIANA 2002 EMISSIONS INVENTORY

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
100 NORTH SENATE AVENUE
INDIANAPOLIS, INDIANA

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1) Point Sources

a) Data Collection Method

(1) Indiana requires certain sources to report their emissions annually (326 IAC 2-6). These are generally large industrial sources, utilities, and other assorted source types. Data is collected either electronically or through hardcopy submittals.

ii) Who Reports

(1) Under Indiana rules major sources of emissions must annually report criteria pollutant emissions. Major sources are defined as the following:

(2) any source located in Clark, Elkhart, Floyd, Lake, Marion, Porter, Saint Joseph, or Vanderburgh Counties that has the potential to emit more than ten (10) tons per year of volatile organic compounds (VOC) or oxides of nitrogen (NOx), or

(3) Any source located in the state that has the potential to emit more than one hundred (100) tons per year of carbon monoxide (CO), VOC, NOx, particulate matter smaller than ten (10) microns (PM10), or sulfur dioxide (SO2), or

(4) .Any source that has the potential to emit five (5) or more tons per year of lead (Pb).

iii) What is reported

(1) The Indiana Emission Statement Rule requires some specific information be reported in each emissions statement. The following lists information required from the most general facility (a.k.a., plant or source) level to the most specific process (a.k.a., segment) level.

(2) Source Identification Information
   - (a) Full Name
   - (b) Physical Location
   - (c) Mailing address
   - (d) Latitude and longitude
   - (e) Standard Industrial Code (SIC)

(3) Operating data
   - (a) Percent annual throughput by quarter
   - (b) Days per week of the normal operating procedure
   - (c) Hours per day of the normal operating procedure
   - (d) Annual fuel or process weight and units

(4) Emissions Information
   - (a) Estimated actual criteria pollutant emissions
   - (b) Code identifying the emissions estimation methodology
   - (c) Calendar year of the emissions
   - (d) Emission Factor

(i) One established in the "Compilation of Air Pollutant Emission Factors" (AP-42), or
(ii) A site specific value accepted by IDEM

(e) Source Classification Code
(f) Control Equipment Information
(i) Control Equipment Identification codes
(ii) Control efficiency of the equipment
(g) Certification from the legally responsible plant employee stating that the emissions estimates are accurate to the best of their knowledge.

(5) Sources with completed Title V permits are also required to Hazardous Air Pollutants (HAPs) for emissions fee billing purposes. Under this requirement it has been determined that only the HAPs that are neither a PM nor a VOC must be reported. The following is a list of those HAPs;
(a) Mercury (CAS # 7439976)
(b) Methylene Chloride (CAS # 75092)
(c) Hydrochloric Acid (CAS # 7647010)
(d) Chlorine (CAS # 7782505)
(e) Methyl Chloroform (CAS # 71556)
(f) Phosphine (CAS # 7803512)
(g) Hydrofluoric Acid (CAS # 7664393)

b) When must the reports be submitted

Emission statements from sources located in Clark, Elkhart, Floyd, Lake, Marion, Porter, Saint Joseph, or Vanderburgh Counties must be received by April 15 of the year following the reporting year (e.g.: Sources reporting their calendar year 2000 emissions must submit by April 15, 2001). Sources located elsewhere in the state must submit their emissions statement by July 1.Summary Data

c) How the data is collected

i) Data Disk Creation

Starting in December data disks are created for each company that reported during the previous cycle. These disks will be either sent to the sources or used by IDEM staff to update source data.

ii) Report packages are prepared and sent.

(1) Packages should be sent to sources located in Clark, Elkhart, Floyd, Lake, Marion, Porter, Saint Joseph, and Vanderburgh Counties by the end of the first week of February.
(2) Packages should be sent to sources located in the rest of state by the end of the first week of March.

iii) The packages include the following;

(1) A diskette containing the source's information or hardcopy reporting forms.
(2) Instructions for filling out either the electronic or hardcopy forms.

(3) Any special instructions .
(4) Any special data requests.
(5) A Form ES for voluntary HAPs reporting.
(6) A self adhesive mailing label with the address where the statement should be sent.

iv) Completeness Determination

(1) If it is determined that the submittal is not complete, the source will be contacted and the emission statement returned according to the SOP.
(2) If it is determined that the submittal is complete, the emission statement will be logged as received.

v) Entered into the emission statement database

(1) If the submittal is electronic, the data is uploaded to the main database.
(2) If the submittal is in hardcopy form, the data will be entered into an electronic form and then uploaded to the main database.

vi) No submission

In the event of a source not submitting the emission statement a violation letter will be prepared giving the source 30 days from the date of receipt to submit their emission statement. After that time if the source has not yet reported an enforcement referral will be made.

d) Ensuring the quality of the data

i) Staff Review

(1) Staff will determine where the changes have occurred.
(2) Staff will review any other information for inconsistencies (e.g.: Acid Rain Program, TRI)
(3) Staff will then contact the source about any significant changes.
(4) Staff will then request the source to resubmit their emissions or will make changes at their request.
(5) Notes made about the contact with the source will be filed

ii) Summary

After the QA review is complete a summary will be made of changes made, and any recommendations for the next year's emissions collection effort.

e) Submitting the data to EPA.

After completing the quality assurance checks, data will be exported from the state emissions database and submitted to EPA per the requested methodology for incorporation into the National Emissions Inventory

2) Area Sources

Area sources are a collection of emissions that are not calculated in point source inventories. This data is compiled every three years as mandated by EPA. The guidance that is followed is located in the EIIP[1].Emissions from area sources are calculated at the county levels and consist of individual sources that are small, numerous and that have not been inventoried as specific point, mobile, or biogenic according to EIIP. One of the main reasons not to calculate some of these individual sources as point source is that the emissions are usually small.

a) Stationary Fuel Combustion

i) Industrial Fuel Combustion

Source Classification Codes: 2102002000, 2102004000, 2102005000, 2102006000,2102007000

To calculate for industrial fuel combustion the statewide industrial combustion from the Energy Information Administration for Indiana[2] and the employment numbers from the County Business Patterns[3] was used. To avoid double calculating, the point source totals are subtracted from the statewide totals for industrial fuel combustion. For industrial residual oil category consumption was accounted for in the point source inventory.

For the remaining area sources that were not included in the point source inventory, the remaining fuel was distributed to the county level. The ratio of county to state employment for the manufacturing sector was used. This was done by dividing number of Manufacturing Employees for each county by number of manufacturing employees statewide. In following equation is an example of how the ratio between county to state employment is calculated.

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[1] Introduction to Area Source Emission Inventory Development, Revised Final, Prepared by Eastern Research Group, Inc., for the Area Sources Committee Emission Inventory Improvement Program, January 2001. (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii01_apr2001.pdf)

[2] Energy Information Administration, National Energy Information Center, October 2003 (http://www.eia.doe.gov/emeu/states/main_in.html)

[3] County Business Patterns: Indiana 2001, U.S. Department of Commerce, Economics and Statistics Administration, U.S Census Bureau, Issued April 2003 (www.census.gov)

Equation 2-1 Ratio of Industrial Employment

$$\frac{\#\text{ of industrial employees in Randolph County}}{\#\text{ of employees Statewide}}$$

$$\frac{3{,}150\text{ employees}}{604{,}255\text{ statewide}}$$

$$0.00521$$

Table 2-1 Randolph County VOC Emissions for Industrial Natural Gas Usage

Fuel Type	Statewide Consumption Estimates	Point Source Consumption	Area Source Consumption (Total – Point)	Employment Ratio	Estimated Randolph County Consumption
Coal (tons)	5,196,000	3,407,623	1,788,377	0.00521	9,323
Distillate Fuel Oil (gallons)	263,886,000	24,836,351	239,049,649	0.00521	1,246
Residual Fuel Oil (gallons)	All Reported in Point Source				
Natural Gas (million cubic feet)	251,000	135,219	115,781	0.00521	604
LPG (gallons)	75,516,000	774,000	74,742,000	0.00521	390

The emissions from each fuel type were then estimated by multiplying by the emission factors taken from (AP-42).[4]

Equation 2-2 Randolph County VOC Emissions for Industrial Natural Gas Usage

$$\text{Industrial Natural Gas Combusted} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$604\text{ MMcf} \times \frac{5.5\text{ lb}}{\text{MMcf}} \times \frac{1\text{ ton}}{2000\text{ lb}}$$

$$1.66\text{ tons VOC}$$

ii) Commercial/Institutional Fuel Combustion

Source Classification Codes:2103004000, 2103005000, 2103006000, 2103007000

[4] AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume 1: Chapter 1, External Combustion Sources, Office of Air Quality Planning Standards, U.S. EPA (http://www.epa.gov/ttn/chief/ap42/ch01/)

To calculate for commercial/institutional fuel combustion the statewide fuel consumption for commercial/institutional from the Energy Information Administration[5], the employment numbers from the County Business Patterns[6], and reported point source fuel consumption was used in the distribution of combustion to the county level. To avoid double calculating the point source totals are subtracted from the statewide totals. The remainder is the area consumption for commercial/institutional fuel combustion for the state.To distribute the remaining fuel to the county level, the ratio of county to state employment for the commercial/institutional sector was used. This was done by dividing sum of employment in wholesale trade, retail trade, finance, insurance, real estate, and services for each county by number of statewide commercial/institutional employees. The ratio is then multiplied by the area source consumption to distribute the fuel to the county level.The following equation demonstrates how the commercial employment ratio is calculated. The following table shows how the commercial/institutional fuels were distributed.

Equation 2-3 Ratio of Commercial Employment

$$\frac{\#\text{ of commercial/institutional employees in Fulton County}}{\#\text{ of commercial/institutional employees statewide}}$$

$$\frac{2{,}583\text{ Fulton County}}{1{,}577{,}507\text{ statewide}}$$

$$0.00163$$

Table 2-2 Commercial/Institutional Fuel Consumption in Fulton County

Fuel Type	Statewide Consumption Estimates	Point Source Consumption	Area Source Consumption (Total – Point)	Employment Ratio	Estimated Fulton County Consumption
Distillate Fuel Oil **(gallons)**	**68,040,000**	**413,329**	**67,626,671**	**0.00163**	**111**
Residual Fuel Oil **(gallons)**	**42,000**	**36,000**	**0**	**0.00163**	**0**
Natural Gas **(MMcf)**	**78,000**	**4,815**	**73,185**	**0.00163**	**119**

[5] Energy Information Administration, National Energy Information Center, October 2003 (http://www.eia.doe.gov/emeu/states/main_in.html

[6] County Business Patterns: Indiana 2001, U.S. Department of Commerce, Economics and Statistics Administration, U.S Census Bureau, Issued April 2003 (www.census.gov)

LPG **(gallons)**	**27,468,000**	**61,000**	**21,407,000**	**0.00163**	**44.876**

To calculate the emission for each fuel type the estimated consumption is then multiplied by the emission factor from AP-42[7].

Equation 2-4 Commercial/Institutional LP VOC in Fulton County

$$\text{Liquid Petroleum Gas x emission factor x conversion factor}$$

$$44{,}876\ \text{gallons} \times \frac{0.5\ \text{lb}}{1{,}000\ \text{gallon}} \times \frac{1\ \text{ton}}{2{,}000\ \text{lb}}$$

$$0.011219\ \text{tons VOC}$$

iii) Residential Fuel Combustion

Source Classification Codes: 2104002000, 2104004000, 2104006000, 2104007000

Residential fuel combustion is calculated by finding a ratio of county to state. The U.S Census Bureau[8] gives a breakdown of fuels used county by county in each household based on 2000 data. This information can be used to calculate ratios between county and state for each fuel type. The following equation demonstrates how the ratio for coal usage is calculated for Lagrange County.

Equation 2-5 Ratio of Lagrange County Residential Coal Usage

$$\frac{\#\ \text{of Households Using Coal in Lagrange County}}{\#\ \text{of Households Using Coal Statewide}}$$

$$\frac{658\ \text{Lagrange County}}{2077\ \text{statewide}}$$

$$0.3168$$

Table 2-3 Residential Fuel Combustion in Lagrange County

Fuel Type	# of Households in Lagrange County	# of Households in State	Ratio of County to State	Statewide Residential Fuel Usage	Estimated Lagrange County Usage

[7] AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume 1: Chapter 1, External Combustion Sources, Office of Air Quality Planning Standards, U.S. EPA (http://www.epa.gov/ttn/chief/ap42/ch01/)

[8] American Fact Finder, Indiana House Heating Fuel, U.S. Census Bureau, January 16, 2004 (http://factfinder.census.gov/servlet/DTSubjectShowTablesServlet?_lang=en&_ts=102002057218)

Coal	**658**	**2077**	**0.316**	**30,000**	**9504**
Distillate Fuel Oil	**676**	**60,264**	**0.011**	**47,754,000**	**535**
Natural Gas	**4915**	**1,510,378**	**0.003**	**147,000**	**478**
LPG	**3040**	**209,401**	**0.014**	**155,610,000**	**2259**

iv) Residential Heating Using Wood

Source Classification Code: 2104008001, 2104008002, 2104008003, 2104008004, 2104008010
2104008030 and 2104008050

Residential heating with wood is calculated by first finding the total estimates of wood consumption for Indiana. The total amount of wood burned was found for 2000 at the Energy Information Administration[9]. The amount of wood is reported in cord consumed and was converted to tons by multiplying the total cord consumed by 1.25. To adjust to the amount of wood consumed for 2002, a ratio of energy consumption by energy source[10] for 2000 and 2002 was multiplied by the total amount of wood consumed for 2000. These calculations are demonstrated in the following equations. That tonnage is then broken out into three categories (fireplaces: without inserts, fireplaces: inserts and woodstoves) by using the ratio of the estimates performed by EPA[11]. The estimates for each category are then allocated to equipment types designated by SCC. This is shown in the EPA document by taking the percent of total wood consumption for each SCC code shown in the following table.

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[9] Residential Energy Consumption Estimates, 1960-2000, Indiana, from the Energy Information Administration (http://www.eia.doe.gov/emeu/states/sep_use/res/use_res_in.html#footnotes)

[10] Biomass Energy Consumption by Energy Source and Energy Use Sector, 1998-2002, from the Energy Information Administration (http://www.eia.doe.gov/cneaf/solar.renewables/page/rea_data/table7.html)

[11] Appendix A- Criteria and HAP Emissions Estimation Methodology, January 2004, Prepared for Emission Factor and Inventory Group Emissions, Monitoring and Analysis Division Office of Air Quality Planning and Standards, U.S. EPA, By E.H. Pechan & Associates, Inc., March 2004 (ftp://ftp.epa.gov/pub/EmisInventory/prelim2002nei/nonpoint/documentation/2002prelimneinonpt_032004.pdf

Equation 2-6 Tons Firewood Consumed

$$305{,}000 \text{ Indiana cord consumed} \times \frac{1.25 \text{ ton}}{Cord}$$

$$381{,}250 \text{ tons of wood}$$

Equation 2-7 Consumption Adjustment

$$381{,}250 \text{ tons} \times \frac{350 \text{ (2002 energy consumption)}}{433 \text{ (2000 energy consumption)}}$$

$$308{,}170 \text{ tons}$$

Table 2-4 Wood Consumption by Device

Types of Device	SCC's for Fireplaces with Inserts	SCC's for Woodstoves	Percent of Total Wood Combustion
Non-certified	**2104008002**	**2104008010**	**92**
Certified non-catalytic	**2104008003**	**2104008050**	**5.7**
Certified catalytic	**2104008004**	**2104008030**	**2.3**

Once the total wood consumed for each category is calculated for the state, a ratio of county to state is calculated. This is done by finding a ratio of the statewide total of households and the county total of households that burn wood from the U.S. Census Bureau[12]. The latest estimates available are from the 2000 census.

Equation 2-8 Ratio Wood Heating in Huntington County

$$\frac{\text{\# of Households in Huntington County using wood for heat}}{\text{\# of Households in state using wood for heat}}$$

$$\frac{152}{33{,}075}$$

$$0.0045$$

The ratio is then multiplied by the residential fuel consumption as allocated for each of the SCC codes as shown in the following table.

[12] American Fact Finder, Indiana House Heating Fuel, U.S. Census Bureau, January 16, 2004 (http://factfinder.census.gov)

Table 2-5 Huntington County Wood Consumption by SCC

Description	SCC	Huntington County Ratio	Indiana Fuel Consumed	Huntington Throughput
Fireplaces: Without Inserts	2104008001	0.0045	36,299.90	166.82
Fireplaces: Inserts – Catalytic	2104008002	0.0045	115,569.02	531.11
Fireplace: Inserts – Non-catalytic	2104008003	0.0045	7,160.25	32.90
Fireplaces: Inserts – Catalytic. EPA certified	2104008004	0.0045	2,889.23	13.27
Woodstoves – Conventional	2104008010	0.0045	134,551.23	618.34
Woodstoves – Catalytic	2104008030	0.0045	8,336.33	38.31
Woodstoves –Non-catalytic	2104008050	0.0045	3,363.78	15.45

The throughput is then multiplied by the emission factors for wood taken from the Criteria and HAP Emissions Estimation Methodology Document.

Table 2-6 Huntington County Estimated PM2.5 Emissions

SCC	Throughput	PM2.5 Factor	PM2.5 Estimated Emissions (tons/yr)
2104008001	166.82	11.8	0.985
2104008002	531.11	30.6	8.124
2104008003	32.90	19.6	0.323
2104008004	13.27	20.4	0.132
2104008010	618.34	30.6	9.455
2104008030	38.31	20.4	0.387
2104008050	15.45	19.6	0.147

b) Industrial Processes

i) Bakeries

Source Classification Code: 2302050000

The calculation for bakery emissions is located in the EIIP document "Area Source Category Method Abstract – Bakeries"[13]. The document suggests finding a per capita consumption factor. The per capita consumption factor is calculated by finding the reported weight of yeast –raised products reported under bread, cake, and frozen bakery products from the only data that is available at this time the 1997 Economic Census[14] and the 1997 U.S. population[15]. The per capita consumption factor is multiplied by the Indiana population for 2002. This number is from the U.S. Census Bureau[16]. The reported point source throughput for both the straight-dough and sponge-dough is subtracted from the total state throughput. The remainder is the area throughput for the state. The area throughput is then multiplied by the straight-dough emission factor of 0.5 lbs/1,000 pounds baked. It is assumed that sponge-dough is reported in the point source inventory. The remainder is then divided by the Indiana Population to calculate a per capita factor to be applied to each county.

Equation 2-9 Bakery Emission Factor

$$\frac{\text{State population} \times 71\,\text{lb/person}}{2000\,\text{lbs}} = \text{tons consumed statewide}$$

$$\frac{6{,}159{,}068 \text{ x } 71}{2000} = 218{,}646.9 \text{ tons}$$

$$\text{tons consumed statewide - reported point source} = \text{area source activity}$$

$$218{,}646.9 - 136{,}814 \text{ (straight \& sponge dough)} = 81{,}832.9 \text{ tons}$$

$$81{,}832.9 \text{ tons} \times 2000 \text{ lbs} = 163{,}665{,}800 \text{ lbs}$$

$$163{,}665{,}800 \text{ lbs} \times \frac{0.5 \text{ lbs}}{1000 \text{ lbs baked}} = 81{,}832.9 \text{ lbs}$$

$$\frac{81{,}832.9 \text{ lbs}}{6{,}159{,}068 \text{ population}} = 0.0133 \text{ lbs/person}$$

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[13] Area Source Category Method Abstract –Bakeries, July 1999, Emission Inventory Improvement Program, Volume III, U.S. EPA.(http://www.epa.gov/ttn/chief/eiip/techreport/volume03/index.html)

[14] The 1997 Economic Census, Manufacturing, Subject Series, Issued August 2001 (http://www.census.gov/prod/ec97/97m31s-ms.pdf))

[15] Population Estimates Program, Population Division, U.S. Census Bureau, June 28, 2000 (http://eire.census.gov/popest/archives/pre1980/popclockest.txt)

[16] Population Division, U.S. Census Bureau, April 17, 2003 (http://eire.census.gov/popest/data/counties/tables/CO-EST2002/CO-EST2002-01-18.php)-

Equation 2-10 Marion County VOC Emissions for Bakery Processes

$$863{,}429\ \text{people} \times \frac{0.0133\ \text{lbs}}{\text{person}} \times \frac{1\ \text{ton}}{2000\ \text{lbs}} = 5.74\ \text{tons}$$

c) Solvent Utilization

i) Architectural Coatings

Source Classification Code: 2401001000

To estimate the emissions for Architectural Coatings a specific emission factor is developed each year. The reason this is done is the amount of paint sales decrease each year. The emission factor is calculated by adding both the solvent-based paints for architectural coatings and the water based paints for architectural coatings. This data is found at the Census Bureau[17].

Table 2-7 2002 National Solvent Coating Sales

Solvent Type	1,000 gallons
Exterior Solvent Type	**70,967,000**
Interior Solvent Type	**48,947,000**
Architectural Lacquers	**5,808,000**
Architectural Coating N.S.K.	**1,981,000**
Total Solvents	**127,703,000**

Table 2-8 2002 National Water Based Coating Sales

Water Type	1,000 gallons
Exterior Water Type	**182,423,000**
Interior Water Type	**407,104,000**
Total Water Type	**589,527,000**

[17] U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, Issued July 2003 (http://www.census.gov/industry/1/ma325f02.pdf)

Once the coatings are calculated the solvent- based coatings are multiplied by the average solvent-based coating content and for the water-based coating, the number is multiplied by the average water-based coating content found in the EIIP document[18].

Table 2-9 VOC Content of Coatings

Coating Type	VOC Content lb/gal
Solvent Based	3.87
Water Based	0.74

In the equation 2.2.2.1-1 and 2.2.2.1-2, the total national emissions for solvent-based and water-based architectural surface coating are calculated. In table 2.2.2.1-4, these two numbers are added together for the total national emissions.

Equation 2-11 Solvent Based Architectural VOC Emissions

$$\text{Total solvents} \times \text{solvent emission factor} = \text{national emissions}$$

$$127{,}703{,}000\ \text{gal} \times \frac{3.87\ \text{lb}}{\text{gal}} = 494{,}210{,}610\ \text{lbs VOC}$$

Equation 2-12 Water Based Architectural VOC Emissions

$$\text{Total waterbased} \times \text{waterbased emission factor}$$

$$589{,}527{,}000\ \text{gal} \times \frac{0.74\ \text{lb}}{\text{gal}} = 436{,}249{,}980\ \text{lbs VOC}$$

Table 2-10 National Architectural Surface Coating VOC Emissions

National VOC Emissions from
Architectural Surface Coating

Coating Type	VOC (lb)
Solvent Based	**494,210,610**
Water Based	**436,294,980**
Total	**930,460,590 lbs VOC**

[18] Emission Inventory Improvement Program, Volume III, Chapter 3 Architectural Surface Coating , November 1995 (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/archsfc.pdf)

The total national VOC emissions from architectural surface coating is divided by the total national population as seen is the following equation. Population is from the "Annual Population Estimates 2000-2002" U.S. Census Bureau[19].

Equation 2-13 Architectural Surface Coating Emission Factor Calculation

$$\frac{\text{National VOC Emissions}}{\text{National Population}} = \text{Average Emission Per Person}$$

$$\frac{930{,}460{,}590\ \text{lbs}}{288{,}368{,}698} = 3.2266\ \text{lb/person}$$

Equation 2-14 Architectural Surface Coating VOC Emissions - Marion County

$$863{,}429\ \text{people} \times \frac{3.2266\ \text{lb}}{\text{person}} \times \frac{1\ \text{ton}}{2000\ \text{lb}} = 1{,}392.97\ \text{tons}$$

ii) Automobile Refinishing

Source Classification Code: 2401005000

The guidance used in calculating the area emissions for automobile refinishing is found in the EIIP document[20]. It suggests using an emission factor of 3,519 pounds per employee and the number of employees for SIC 7532 – Body Repair and Paint Shops found in the 2001 County Business Patterns[21]. To avoid double calculating automobile refinishing the point source employees was subtracted from total employment for each county. The following equation shows how the automobile refinishing in Sullivan County is calculated.

Equation 2-15 Estimated Automobile Refinishing Emissions for Sullivan County

$$\#\ \text{of employees} \times \frac{3{,}519\ \text{lb}}{\text{employee}} \times \frac{1\ \text{ton}}{2000\ \text{lb}} = \text{Tons of VOC}$$

$$17\ \text{employees} \times \frac{3{,}519\ \text{lb}}{\text{employee}} \times \frac{1\ \text{ton}}{2000\ \text{lb}} = 29.1\ \text{tons of VOC}$$

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[19] Annual Population Estimates 2000-2002, Population Division, U.S. Census Bureau, July 2003 (http://eire.census.gov/popest/data/national/tables/NA-EST2002-01.php)

[20] Emission Inventory Improvement Program, Volume III, Chapter 13 Auto Body Refinishing , (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/archsfc.pdf)

[21] County Business Patterns, U.S. Census Bureau , 2001 (http://censtats.census.gov/cgi-bin/cbpnaic/cbpdetl.pl)

iii) Traffic Markings

Source Classification Codes: 2401008000

The guidance followed in calculating the area emissions for traffic marking is in the Volume III, Chapter 14 final draft of the EIIP document[22]. First, the national emissions are calculated and this is done by finding the amount of sales for traffic marking paints in the U.S. Census Bureau[23]. This number is then multiplied by the national average VOC content for water and solvent-based paints located in the EIIP document. The following equation shows how the national emissions were calculated.

Equation 2-16 National Estimated Emissions for Traffic Markings

$$\text{National Sales of Traffic Markings} \times \text{Average VOC Content} = \text{National Emissions}$$

$$39{,}397{,}000 \text{ gallons} \times \frac{3.36 \text{ lb}}{\text{gallon}}$$

$$132{,}373{,}920 \text{ lb VOC}$$

The national emissions is then allocated to the state level by finding the amount of money spent in Indiana and nationally on highway maintenance and the following equations shows how this is done.

Equation 2-17 Estimated Indiana Emissions for Traffic Markings

$$\text{National Emissions} \times \frac{\text{Indiana Sales}}{\text{National Sales}} = \text{State Level Emissions}$$

$$132{,}373{,}920 \text{ Lb/VOC} \times \frac{\$1{,}975{,}066{,}000}{\$104{,}918{,}811{,}000}$$

$$2{,}491{,}900 \text{ lb VOC}$$

The emission factor for traffic markings is calculated by dividing the state level emissions by the total number of roadway miles in Indiana. The total number of roadway miles was from the information that was given by Leah Snow in the Program Development Division, Highway Statistics, Indiana Department of Transportation.

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[22] Traffic Markings, Volume III: Chapter 14, Prepared by the Eastern Research Group for the Area Sources Committee of the Emission Inventory Improvement Program, May 1997 (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii14.pdf)

[23] "Paint and Allied Products Information", Economics and Statistics Administration, U.S. Census Bureau (http://www.census.gov/industry/1/ma325f02.pdf)

Equation 2-18 Indiana Emission Factor for Traffic Markings

$$\frac{\text{State level emissions}}{\text{Indiana Roadway Miles}} = \text{emission factor}$$

$$\frac{2{,}491{,}900\ \text{lbs}}{94{,}288\ \text{miles}}$$

$$26.42\ \text{lb/mile}$$

The emission factor is then multiplied by the total number of roadway miles in each county to distribute the emissions to each county as shown in the following equation.

Equation 2-19 Estimated VOC from Traffic Markings for Carroll County

$$\text{County Roadway Miles} \times \text{emission factor} \times \text{conversion factor} = \text{VOC emissions}$$

$$914.13\ \text{miles} \times \frac{26.42\text{lb}}{\text{mile}} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

$$12.07\ \text{tons}$$

iv) Industrial Surface Coating

Source Classification Codes: 2401015000, 2401020000, 2401030000, 2401040000, 2401045000, 2401055000, 2401060000, 2401065000, 2401070000, 2401075000, 2401080000, 2401090000, 2401100000, 2401200000

The Guidance followed to calculate for Industrial Surface Coating was from the EIIP guidance document[24], either an employment based emission factor was calculated, population based emission factor was calculated or a national default emission factor was used. The following table shows how each category for industrial surface coating was calculated.

Table 2-11 Employment Based Emission Factor for Industrial Surface Coating

SCC	Description	SIC's	Statewide Employment	Point Source Employment	Point Source Emissions (tons)	Emission Factor (ton/employee)
2401015000	**Factory Finished Wood**	**2426-2429, 243-245, 2492,**	**13,186**	**5794**	**3,727**	**.643**

[24] Industrial Surface Coating, Chapter 8, Volume III, Prepared by TRC Environmental Corporation for the Area Source Committee of the Emission Inventory Improvement Program, September 1997 (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii08.pdf)

SCC	Description	SIC's	Statewide Employment	Point Source Employment	Point Source Emissions (tons)	Emission Factor (ton/employee)
		2499				
2401020000	**Wood Furniture**	**25**	**14,653**	**13257**	**3470**	**.265**
2401030000	**Paper Coating**	**26**	**7571**	**5114**	**2797**	**.546**
2401040000	**Metal Cans ***	**341**	**401**	**NA**	**NA**	**3.015**
2401045000	**Metal Coils ***	**3479**	**2644**	**2019**	**NA**	**1.439**
2401055000	**Machinery and Equipment**	**35**	**40327**	**8520**	**357**	**.0415**
2401060000	**Appliances ***	**363**	**1805**	**1400**	**NA**	**.2315**
2401065000	**Electronic and Other Electrical**	**3612, 3357**	**1884**	**1809**	**NA**	**.145**
2401070000	**New Motor Vehicles ****	**3711**	**49799**	**47929**	**NA**	**Emissions Reported in Point Sources**
2401075000	**Other Transportation**	**37 (not 3711, 373)**	**60,694**	**54,991**	**3,662**	**.063**
2401080000	**Marine Coatings**	**373**	**3048**	**4263**	**NA**	**.154**

*** The National default emission factor used because the percent of reporting sources was low.**

**** Emissions reported in point source.**

Once the emission factors for the employee based factors were calculated for industrial surface coating, they were multiplied by the employees for each county. The following equation shows an example of how the emission for wood furniture in Elkhart County is calculated.

Equation 2-20 Elkhart County Wood Furniture Manufacturing Emissions

$$\#\text{ of area source employees} \times \text{emission factor} \times \text{conversion factor} = \text{Estimated Emissions}$$

$$836 \text{ area source employees} \times \frac{530 \text{ lbs}}{\text{employee}} \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

$$221.54 \text{ tons VOC}$$

Table 2-12 Population Based Emission Factors Used for Industrial Surface Coating

SCC	Description	Emission Factor (lb/person)
2401090000	**Miscellaneous Manufacturing**	**0.600**
2401100000	**Industrial Maintenance Coatings**	**0.800**
2401200000	**Other Special Purpose Coatings**	**0.800**

The estimated emissions for industrial surface coating using the default emission factor based on population are multiplied by the 2002 county population. The numbers are found at the U.S. Census Bureau[25]. The following equation shows an example of industrial maintenance coatings in Delaware County.

Equation 2-21 Industrial Maintenance Coating VOC Emissions - Delaware County

$$\text{County population x default emission factor x conversion factor} = \text{estimated emissions}$$

$$8{,}197 \text{ population} \times \frac{0.8 \text{ lb}}{\text{person}} \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

$$47.27 \text{ tons VOC}$$

v) Degreasing

Source Classification Code: 2415230000, 2415245000, 2415345000, 2415360000

To estimate the emissions for degreasing a default emission factor is used. The factor from the EIIP document[26] is used because not all degreasing activities are reported. The following table lists the Source Classification Codes and the industries that are affected.

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[25] Population Division, U.S. Census Bureau, April 2003 (http://eire.census.gov/popest/data/counties/tables/CO-EST2002/CO-EST2002-01-18.php)

[26] Solvent Cleaning, Prepared by the Eastern Research Group, for the Area Sources Committee, Emission Inventory Improvement Program Volume III, September 1997 (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii06fin.pdf

Table 2-13 Source Classification Codes and Industries Associated with Degreasing

SCC	SIC	Description
2415230000	**36**	**Electronic and other electronic equipment**
2415245000	**25**	**Furniture and fixtures**
	33	**Primary metal industries**
	34	**Fabricated metal products**
	35	**Industrial machinery and equipment**
	37	**Transportation equipment**
	38	**Instruments and related products**
	39	**Miscellaneous manufacturing industries**
	417	**Bus Terminal and Service Facilities**
	423	**Trucking terminal facilities**
	551	**New and used car dealers**
	552	**Used car dealers**
	554	**Gasoline service stations**
	555	**Boat dealers**
	556	**Recreational vehicle dealers**
	753	**Automotive repair shops**
2415345000	**25**	**Furniture and fixtures**
	33	**Primary metal industries**
	34	**Fabricated metal products**

SCC	SIC	Description
	35	**Industrial machinery and equipment**
	36	**Electronic and other electronic equipment**
	37	**Transportation equipment**
	38	**Instruments and related products**
	39	**Miscellaneous manufacturing industries**
2415360000	**417**	**Bus Terminal and Service Facilities**
	423	**Trucking terminal facilities**
	551	**New and used car dealers**
	552	**Used car dealers**
	554	**Gasoline service stations**
	555	**Boat dealers**
	556	**Recreational vehicle dealers**
	753	**Automotive repair shops**

Table 2-14 Emission Factors and Emissions for Huntington County

SCC	Description	Emission Factor (lb/employee)	Employment	VOC (Tons/yr)
2415230000	**Electronic Vapor & In-Line Cleaning**	**29**	**440**	**6.38**
2415245000	**Miscellaneous Manufacturing Vapor & In-Line**	**9.8**	**1066**	**5.22**

2415345000	**Miscellaneous Manufacturing**	**24**	**1002**	**12.02**
2415360000	**Cold Cleaning- Automotive Repair**	**270**	**402**	**54.27**

vi) Dry Cleaners

Source Classification Code: 2420010370

The method used in calculating the emission factor for dry cleaning is from Volume III: Chapter 4 of the EIIP document. The emission factor is calculated by finding the number of employees county wide and statewide for SIC 7216 (Laundry and Garment Services). The numbers used in this method are from the 2001 County Business Pattern[27]. This method takes the sum of employment from the counties and divides by the statewide total. This is shown in the following equation.

Equation 2-22 Dry Cleaner Emission Factor

$$\frac{3554\,(\text{County Total})}{4224\ \ (\text{State Total})} \times 2000 = \frac{1683\,\text{lb}}{\text{employee}}$$

Equation 2-23 Dry Cleaner Emissions for Delaware County

$$74\,\text{employees} \times \frac{1683\,\text{lb}}{\text{employee}} \times \frac{2000\,\text{lbs}}{\text{ton}} = 62.27\ \text{tons}$$

vii) Graphic Arts

Source Classification Code: 2425000000

The Graphic Arts emissions were calculated by following several steps from the EIIP document[28]. A per capita factor of 1.3 lb/person is multiplied by state population to give total emissions for the state. The total state emissions is then distributed to each county by developing an emission factor by subtracting the point source emissions from the total state emissions and dividing by state population as shown in the following equation.

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[27] 2001 County Business Patterns, Economics and Statistics Administration, U.S. Census Bureau, Issued April 2003

[28] Graphic Arts prepared by Eastern Research Group for the Area Sources Committee Emission Inventory Improvement Program Final Report, Volume III: Chapter 7, November 1996 (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii07.pdf)

Equation 2-24 Graphic Arts Emission Factor

$$6{,}159{,}068\ \text{population} \times \frac{1.3\text{lb}}{\text{person}} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

$$4003.39\ \text{Tons}$$

$$4003.39\ \text{total tons} - 527.43\ \ \text{point source emissions}$$

$$3475.96\ \text{tons Area Source Emissions}$$

$$\frac{3475.96\ \text{Tons}}{6{,}159{,}068\ \text{population}} \times \frac{2000\ \text{lb}}{\text{ton}}$$

$$\frac{1.13\ \text{lb}}{\text{person}}$$

Equation 2-25 Graphic Art Emissions for Hancock County

$$58{,}343\ \text{population} \times \frac{1.13\text{lb}}{\text{person}} \times \frac{\text{ton}}{2000\ \text{lb}}$$

$$32.96\ \text{tons}$$

viii) Rubber and Plastics

Source Classification Code: 2430000000

To calculate the emissions for the Rubber and Plastics category an emission factor is developed by finding the point source emissions for SIC 30 and dividing this number by point source employment. The point source employment is found in the 2001 County Business Patterns[29].

Equation 2-26 Rubber and Plastics Emission Factor

$$\frac{2656\ \text{tons VOC}}{17546\ \text{employees}} \times \frac{2000\ \text{lb}}{\text{ton}}$$

$$\frac{303\ \text{lb}}{\text{employee}}$$

[29] 2001 County Business Patterns, Economics and Statistics Administration, U.S. Census Bureau, Issued April 2003

Equation 2-27 Rubber and Plastics VOC emissions for Elkhart County

$$1089\ \text{employees} \times \frac{303\ \text{lb}}{\text{employee}} \times \frac{2000\ \text{lb}}{\text{ton}}$$
$$164.845\ \text{tons}$$

ix) Miscellaneous Industrial Adhesives

Source Classification Code: 2440020000

The emissions for Miscellaneous Industrial Adhesives was developed using the guidance in the Air Pollutant Emission Trends Document[30]. Using the total National Emissions from Industrial Adhesives and the National Manufacturing Employment a per employee emission factor was developed.

Equation 2-28 Miscellaneous Industrial Adhesives Emission Factor

$$\frac{160{,}000\ \text{tons national emissions}}{15{,}950{,}424\ \text{manufacturing employment}} = \frac{20.06\ \text{lb}}{\text{employee}}$$

The activity that was used was the manufacturing employment obtained from the 2001 County Business Patterns. The employment from point source facilities that report using industrial adhesives was removed to avoid double counting of the VOC emissions. The remaining employment was then distributed to each county. The following equation shows how the VOC emissions for Cass County were estimated.

Equation 2-29 Miscellaneous Adhesive Emissions for Cass County

$$5840\ \text{employees} \times \frac{20.06\ \text{lb}}{\text{employee}} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$
$$58.75\ \text{tons}$$

x) Commercial/Consumer Solvents

Source Classification Codes: 2460100000, 2460200000, 2460400000, 2460500000, 2460600000, 2460800000, 2460900000

[30] National Emission Inventory (NEI), Air Pollutant Emission Trends, U.S. Environmental Protection Agency, Updated August 2003 (http://www.epa.gov/ttn/chief/trends/)

The guidance followed to estimate the emissions for the commercial/consumer solvents is from the EIIP document[31]. To calculate the emissions the population for each county is needed and this is obtained from the U.S. Census Bureau[32]. The following table shows the emission factors that are used in the emission calculations.

Table 2-15 Emission Factors for Commercial/Consumer Solvents

Source Classification Codes	Product Category	Per Capita Emission Factor (lb VOC/person)
2460100000	**Personal Care Products**	**2.32**
2460200000	**Household Products**	**0.79**
2460400000	**Automotive Aftermarket Products**	**1.36**
2460500000	**Coatings and Related Products**	**0.95**
2460600000	**Adhesives and Sealants**	**0.57**
2460800000	**FIFRA-Regulated Products**	**1.78**
2460900000	**Miscellaneous Products**	**0.07**

Table 2-16 Commercial/Consumer Solvents Emissions for Randolph County

Source classification Code	Product Category	Emission Factor (lb VOC/person)	Population	VOC Emissions (tons/yr)
2460100000	**Personal Care Products**	**2.32**	**27,191**	**31.54**
2460200000	**Household Products**	**0.79**	**27,191**	**10.74**

[31] "Consumer and Commercial Solvent Use", Final Report, Prepared by the Eastern Research Group, Inc. for the Area Sources Committee, Emissions Inventory Improvement Program, August 1996 (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii05.pdf)

[32] "Indiana County Population Estimates, April 1, 2000 to July 1, 2002" (http://eire.census.gov/popest/data/counties/tables/CO-EST2002/CO-EST2002-01-18.php)

2460400000	**Automotive Aftermarket Products**	**1.36**	**27,191**	**18.48**
2460500000	**Coatings and Related Products**	**0.95**	**27,191**	**12.91**
2460600000	**Adhesives and Sealants**	**0.57**	**27,191**	**7.74**
2460800000	**FIFRA-Regulated Products**	**1.78**	**27,191**	**24.19**
2460900000	**Miscellaneous Products**	**0.07**	**27,191**	**.95**

xi) Asphalt Emulsions

Source Classification Code: 2461022000

To calculate the amount of asphalt emissions for each county the amount of asphalt used for the state is obtained from the 2001 State Energy Data Report[33] and the Indiana Department of Transportation supplied the amount of roadway miles. The following equation shows how the asphalt was distributed for Crawford County.

Equation 2-30 Asphalt Usage in Crawford County

$$\frac{983.91\,\text{County Miles}}{94{,}288.11\,\text{Statewide Miles}} \times 5{,}512{,}000\ \text{Barrels}$$

$$34{,}135\ \text{tons}$$

Once the total usage is found, the emission factor from the EIIP document is then applied to the county total to calculate the emissions for VOC.

[33] Petroleum Energy Consumption Estimates by Source, 1960-2001, Indiana, Energy Information Administration, National Energy Information Center, October 2003 (http://www.eia.doe.gov/emeu/states/sep_use/pet/use_pet_in.html)

Equation 2-31 Asphalt Emissions in Crawford County

$$\text{County usage} \times \text{emission factor} = \text{County VOC emissions}$$

$$34{,}135\ \text{tons} \times \frac{9.2\ \text{lb}}{\text{barrel}} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

$$157.02\ \text{tons}$$

xii) Pesticide Usage

Source Classification Code: 2461800000

Pesticide usage was calculated by using a state specific emission factor. The emission factor was developed using a methodology that included the retrieval of information about pesticides used, an emission factor for each, a calculation about the inert ingredients in each, and an estimate of the amount of crop oil concentrate (an adjuvant used for the application of herbicides) used in the state of Indiana. In calculating this factor more state and pesticide specific information is used, and this method is considered a better estimate than relying on the national default.

The Indiana Agriculture Statistics Service has published the amount of active ingredients from herbicides and insecticides applied to Indiana fields. This list of herbicides and their corresponding brand names are given. Using this information an estimate of the amount of herbicide applied and the amount of the inert ingredients that were VOC estimated. The following tables demonstrate the calculations that were preformed to estimate the emissions from herbicide and insecticide application.

Table 2-17 VOC Emissions from Herbicides applied to Soybeans

Agricultural Chemical	Total Reported Applied (1,000 lbs)	Estimated Total Applied (lbs)	Active Ingredient Applied Indiana (lb)	Emission Factor (lb/ton)	Active Ingredient (%)	Inert Content (%)	VOC Content of Inert (%)	Herbicide Emissions (tons)	Inert Emissions (tons)
Soybeans									
2,4-D	2,802	3,592,308	486000	700	95.0%	5.0%	56.0%	85.05	7.16
2,4-DB	24	30,769							
Acifluorfen	1,346	1,725,641	84000	700	20.1%	79.9%	21.0%	14.70	35.06
Alachlor	5,036	6,456,410							
Bentazon	4,562	5,848,718	191000	700	53.0%	47.0%	21.0%	33.43	17.78
Chlorimuron-ethyl	143	183,333	22000	700	56.3%	43.7%	25.0%	3.85	2.13
Clethodim	398	510,256	28000	700	12.6%	87.4%	66.0%	4.90	64.09
Clomazone	928	1,189,744							
Dimethenamid	320	410,256	143000	700	63.1%	36.9%	56.0%	25.03	23.37
Ethalfluralin	215	275,641							
Fenoxaprop	246	315,385	14000	700	12.5%	87.5%	66.0%	2.45	32.34
Fluazifop-P-butyl	342	438,462	115000	700	46.5%	53.5%	66.0%	20.13	43.66
Flumetsulam	54	69,231							
Flumiclorac Pentyl	24	30,769							
Fomesafen	716	917,949	186000	700	22.8%	77.2%	0.0%	32.55	0.00
Glyphosate	8,687	11,137,179	1727000	700	41.0%	59.0%	66.0%	302.23	820.11
Imazaquin	688	882,051	171000	700	17.6%	82.4%	66.0%	29.93	264.20
Imazethapyr	1,229	1,575,641	95000	700	70.0%	30.0%	56.0%	16.63	11.40
Lactofen	355	455,128							

Agricultural Chemical	Total Reported Applied (1,000 lbs)	Estimated Total Applied (lbs)	Active Ingredient Applied Indiana (lb)	Emission Factor (lb/ton)	Active Ingredient (%)	Inert Content (%)	VOC Content of Inert (%)	Herbicide Emissions (tons)	Inert Emissions (tons)
Linuron	225	288,462							
Metolachlor	4,221	5,411,538	238000	700	86.4%	13.6%	100.0%	41.65	18.73
Metribuzin	1,460	1,871,795	140000	700	75.0%	25.0%	28.0%	24.50	6.53
Paraquat	340	435,897							
Pendimethalin	13,810	17,705,128	1198000	700	42.3%	57.7%	90.1%	209.65	424.88
Quizalofop-ethyl	190	243,590	18000	700	10.3%	89.7%	56.0%	3.15	43.89
Sethoxydim	1,158	1,484,615	50000	700	18.0%	82.0%	100.0%	8.75	113.89
Thifensulfuron	15	19,231	1000	700	25.0%	75.0%	28.0%	0.18	0.42
Trifluralin	10,008	12,830,769							
Unclassified	1087	1,393,590	938000	700				164.15	224.01
Subtotal	60,629	77,729,487	5,845,000					1,022.87	2,153.67

Table 2-18 VOC Emissions from Herbicides Applied to Corn

Agricultural Chemical	Total Reported Applied (1,000 lbs)	Estimated Total Applied (lbs)	Active Ingredient Applied Indiana (lb)	Emission Factor (lb/ton)	Active Ingredient (%)	Inert Content (%)	VOC Content of Inert (%)	Herbicide Emissions (tons)	Inert Emissions (tons)
Corn									
2,4-D	3,237	3,661,765	289,000	700	95.0%	5.0%	56.0%	50.58	4.26
Acetochlor	29,850	33,766,968	3,052,000	700	74.8%	25.2%	56.0%	534.10	287.90
Alachlor	10,188	11,524,887	586,000	700	73.0%	27.0%	56.0%	102.55	60.69
Atrazine	53,466	60,481,900	6,672,000	700	43.0%	57.0%	21.0%	1,167.60	928.65

Agricultural Chemical	Total Reported Applied (1,000 lbs)	Estimated Total Applied (lbs)	Active Ingredient Applied Indiana (lb)	Emission Factor (lb/ton)	Active Ingredient (%)	Inert Content (%)	VOC Content of Inert (%)	Herbicide Emissions (tons)	Inert Emissions (tons)
Bentazon	806	911,765							
Bromoxynil	1,345	1,521,493							
Butylate	2,475	2,799,774							
Clopyralid	29	32,805							
Cyanazine	20,795	23,523,756	1,859,000	700	43.0%	57.0%	10.0%	325.33	123.21
Dicamba	5,545	6,272,624	163,000	700	48.2%	39.8%	21.0%	28.53	14.13
Dimethenamid	4,110	4,649,321	260,000	700	63.1%	36.9%		45.50	42.50
EPTC	5,117	5,788,462							
Flumetsulam	49	55,430							
Glyphosate	2,200	2,488,688	161,000	700	41.0%	59.0%	66.0%	28.18	76.46
Halosulfuron	46	52,036							
Imazethapyr	20	22,624							
Metolachlor	41,135	46,532,805	3,744,000	700	86.4%	13.6%	100.0%	655.20	294.67
Metribuzin	38	42,986							
Nicosulfuron	245	277,149	20,000	700	83.8%	16.2%	25.0%	3.50	0.48
Paraquat	637	720,588	211,000	0	37.0%	63.0%	21.0%	0.00	37.72
Pendimethalin	2,631	2,976,244							
Primisulfuron	106	119,910	5,000	700	43.0%	57.0%	25.0%	0.88	0.83
Propachlor	337	381,222							
Prosulfuron	59	66,742							
Rimsulfuron	6	6,787							
Simazine	2,059	2,329,186							
Thifensulfuron	3	3,394							
Unclassified	443	501,131	1,834,000	700	44.3%	32.0%	38.7%	320.95	212.6

Agricultural Chemical	Total Reported Applied (1,000 lbs)	Estimated Total Applied (lbs)	Active Ingredient Applied Indiana (lb)	Emission Factor (lb/ton)	Active Ingredient (%)	Inert Content (%)	VOC Content of Inert (%)	Herbicide Emissions (tons)	Inert Emissions (tons)
Subtotal	186,977	211,512,443	18,856,000					3,262.88	2,084.1
Grand Total		289,241,931	24,701,000					4,285.75	4237.77

Table 2-19 VOC Emissions from Pesticides

Agricultural Chemical	Total Reported Applied (1,000 lbs)	Estimated Total Applied (lbs)	Active Ingredient Applied Indiana (lb)	Emission Factor (lb/ton)	Active Ingredi ent (%)	Inert Content (%)	VOC Content of Inert (%)	Herbicide Emissions (tons)	Inert Emissions (tons)
Corn									
Insecticides									
Bifenthrin									
Bt (Bacillus thur.) 2/									
Carbofuran		0							
Chlorpyrifos	291	291,000	730,000	700	41.7%	58.3%	25.0%	127.75	127.57
Cyfluthrin	2	2,000							
Dimethoate		0							
Esfenvalerate		0							
Fonofos		0							
Fipronil	48	48,000							
Lambdacyhalothrin		0							
Methyl parathion		0							
Permethrin		0							
Phorate		0							

Agricultural Chemical	Total Reported Applied (1,000 lbs)	Estimated Total Applied (lbs)	Active Ingredient Applied Indiana (lb)	Emission Factor (lb/ton)	Active Ingredi ent (%)	Inert Content (%)	VOC Content of Inert (%)	Herbicide Emissions (tons)	Inert Emissions (tons)
Phostebupirim		0							
Tebupirimphos	47	47,000							
Tefluthrin	66	66,000	15,000	700	3.0%	97.0%	10.6%	2.63	25.65
Terbufos	0	0	544,000	1160	15.0%	85.0%	25.0%	157.76	385.33
Unclassified			177000	700	30.0%	70.0%	24.8%	30.98	51.32
			1,466,000					319.11	589.88

The first column in both tables contains information about the chemicals used from the U.S. Department of Agriculture[34]. To estimate the amount of pesticides applied it was assumed that farmers in the unreported areas used pesticides to the same degree as those in the reporting states. In the second column the surveyed amount was divided by the percent of acreage reported with the result being an estimate of the pesticides applied to corn and soybeans for the entire nation.

The third column contains the amount of active ingredient applied to Indiana farm fields as reported by the Indiana Agricultural Statistics Service. The tables for the amount of pesticides in Indiana also contained the popular name brands for the pesticides used. The brand names were then used to retrieve material safety data sheets (MSDS) from the Crop Management Systems, Inc website[35]. The MSDS's contained information on the amount of active ingredients, and the physical properties of the pesticide.

Columns with information about the emission factor of the pesticide and the percent of inert ingredient that is VOC were obtained from the Emission Inventory Improvement Program (EIIP)[36]. EIIP documentation contained a vapor pressure for most of the active ingredients listed, and for the remaining the corresponding MSDS was used. A table in the EIIP document (Table 9.4-4) contained emission factors for the active ingredients based upon a range of vapor pressures. Table 9.4-3 of the EIIP document contained a list of the percent of VOC in the inert portion pesticide. By referencing the physical properties section of the MSDS, determinations of the formulation type of the pesticide were made. In some cases, the MSDS contained better information about the VOC content than the EIIP document, in those instances the information from the MSDS was used.

There are some problems in these calculations. First it is assumed that all of the VOCs in the inert portion evaporate. This is incorrect, some of these would be absorbed by the plants and soil, and there is some biodegradation. Assumptions on the amount of VOC's absorbed or degraded were foregone due to many of the pesticides MSDS's not containing information on the specific solvent used. Another shortfall is that the total amount of pesticides used does not match the sum of the pesticide reported. Since this was the case the most used emission factor for the pesticide was used. To find the percent of active and inert ingredients and the percent of inert solvent in the unclassified pesticides, a weighted average of the known percentage of active ingredients applied was used.

Another factor to consider in calculating the emission of VOCs from agricultural pesticide application is the amount of crop oil concentrate (COC) used. Crop oil concentrate is a common adjuvant for increasing the efficacy of an herbicide. It comes in two forms, nonionic and ionic. Ionic COC's are generally petroleum derivatives and nonionic are vegetable oils. To find the amount of COC's used in the state of Indiana a report on the marketability of soybean products was used[37]. This report stated that the amount of COC used nationally is estimated to be 7 to 10 million gallons annually. The product of the ratio of Indiana to national

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[34] Fertilizers and pesticides usage, Agricultural Statistics 2002, National Agricultural Statistics Service, U.S. Department of Agriculture (http://www.usda.gov/nass/pubs/agr02/acro02.htm)

[35] http://www.cdms.net/manuf/manuf.asp?t=1, May 2004

[36] Pesticides – Agricultural and Nonagricultural, Volume III, Chapter 9. Prepared by Eastern Research Group for the Area Source Committee Emission Inventory Improvement Program, June 2001. (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii09_jun2001.pdf)

[37] *Soybean Product Market Survey*. Omni Tech International, Ltd. http://www.omnitechintl.com/soybean_product_market_study/index.html . April 16, 1998.

herbicide use and the 10 million gallons of COC used nationally was assumed to a good estimate of the amount used in Indiana. The density of the COC was assumed to be similar to that of distillate oil, 7.05 pounds per gallon.

Equation 2-32 VOC Emissions from Crop Oil Concentrate

$$10{,}000{,}000\ \text{gallons} \times 7.54\%\ \ \text{Indiana use} \times \frac{7.05\ \text{lb}}{\text{gallon}} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

$$2{,}657.54\ \text{tons VOC Emissions}$$

The total emissions from crop oil concentrates, pesticides, and their solvent carriers were added together and then divided by the total number of acres of corn and soybeans in Indiana. The result of this was a pound per acre emission factor that could be applied in each county in the state of Indiana to estimate VOC emissions from agricultural pesticide application. The following equations present how the emission factor was calculated and an example of how it was applied.

Equation 2-33 Emission Factor Calculation for Agricultural Pesticide Use

$$\frac{\text{Herbicide A.I.} + \text{Herbicide S.C.} + \text{COC} + \text{Insecticide A.I.} + \ \text{Insecticide S.C.}}{\text{Acres of Corn} + \text{Acres of Soybeans}}$$

$$\frac{3{,}361.40 + 4{,}921.72 + 2{,}657.54 + 319.11 + 589.88}{5{,}800{,}000 + \ 5{,}600{,}000}$$

$$\frac{2.08\ \text{lb}}{\text{acre}}$$

Equation 2-34 Agricultural Pesticide Emissions in Fountain County

$$\left(97{,}500\ \text{corn acreage} + 95{,}500\ \text{soybean acreage}\right) \times \frac{2.08\ \text{lb}}{\text{acre}} \times \frac{1\ \text{ton}}{2{,}000\ \text{lb}}$$

$$200.72\ \text{tons VOC}$$

d) Petroleum Marketing

To calculate for each of the categories for Petroleum Marketing, the amount of fuel sold in Indiana was needed to estimate the emissions. This information was obtained from the Federal Highway Administration‘s 2002 Highway Statistics Report[38]. According to the report, the amount of gas sold in Indiana for 2002 was 3,156,150,000 gallons. The amount of sales in each county was from the 1997 Economic Census[39]. By dividing the amount of sales in each

[38] U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2002, Motor Fuel, (http://www.fhwa.dot.gov/policy/ohim/hs02/mf21.htm)

[39] U.S. Census Bureau, 1997 Economic Census, Retail Trade, (http://www.census.gov/epcd/ec97/in/IN000_44.HTM#N447)

county by statewide sales, a ratio was developed that allowed an apportionment of statewide gasoline consumption to a county level. The following equation shows how this was done.

Equation 2-35 Gasoline Allocation Calculation for Floyd County

$$\frac{\text{Sales in Floyd County}}{\text{Sales Statewide}} \times \text{\# of Gallons sold statewide}$$

$$\frac{\$69{,}557{,}000}{\$5{,}275{,}609{,}000} \times 2{,}430{,}240{,}000$$

$$32{,}041{,}837 \text{ gallons sold in Floyd County}$$

i) Bulk Terminals

Source Classification Code: 2501050120

The Procedures Document[40] states that "Nationally, about 25% of all gasoline consumed goes through bulk plants…" Each county's gasoline consumption was multiplied by 25% to estimate the amount of fuel being transferred through bulk terminals. To estimate the emissions the factor used was from "Gasoline Vapor and Benzene Emission Factors for a Typical Bulk Plant[41]. Table 6.16 of the emission document gives the emission factors for a typical plant.

Table 2-20 Typical Bulk Station Emission Factors

Source	Emission Factor (lb/1000) gal
Storage Tanks- Breathing Loss	**5.0**
Storage Tanks- Working Loss	
Filling	**9.6**
Emptying	**3.8**
Gasoline Loading Racks	**11.9**
(Vapor balance controlled)	**(0.3)**

[40] Procedures for the Preparation of Emission Inventories for Carbon Monoxide and Precursors of Ozone, Volume I, Office of Air Quality Planning Standards, U.S. EPA, May 1991

[41] Locating and Estimating Air Emissions from Sources of Benzene, Office of Air Quality Planning and Standards, U.S. EPA, March 2003. (http://www.epa.gov/ttn/chief/le/benzene/benz_c6a.pdf)

Total	**30.3**

Bulk Plants also have controls due to the Indiana Rule (326 IAC 8-4). It says that any source of this type that was new after January 1, 1980 is required to make sure that any transfer between a tank and transport uses a submerged pipe and vapor balance system. A control efficiency (CE) of 38%, a rule effectiveness (RE) of 80%, and rule penetration (RP) of 13% was applied. The rule effectiveness is based on U.S. EPA's default rule effectiveness.The following equations demonstrate how the emissions were estimated.

Equation 2-36 Floyd County Bulk Station Throughput

$$\text{Gallons sold county wide} \times 25\% = \text{Area Total}$$

$$32{,}041{,}837 \text{ gallons sold} \times 0.25 = 8{,}010{,}459 \text{ gallons or } 8{,}010.45\ 1{,}000 \text{ gallons}$$

Equation 2-37 Estimated VOC from Bulk Terminals in Floyd County

$$\text{Throughput} \times \text{emission factor} \times \left(1 - \left(\text{CE} \times \text{RE} \times \text{RP}\right)\right) \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

$$8{,}010.45\ 1{,}000 \text{ gallons} \times 30.3 \times \left(1 - \left(0.38 \times 0.80 \times 0.13\right)\right) \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

$$91.84 \text{ tons}$$

ii) Portable Fuel Containers

SCC	Description
~~2501011010~~	~~Residential Portable Fuel Containers - Vapor Losses~~
2501011011	Residential Portable Fuel Containers - Permeation
2501011012	Residential Portable Fuel Containers - Diurnal
~~2501011015~~	~~Residential Portable Fuel Containers - Spillage~~
2501011016	Residential Portable Fuel Containers - Transport
~~2501012010~~	~~Commercial Portable Fuel Containers - Vapor Losses~~
2501012011	Commercial Portable Fuel Containers - Permeation
2501012012	Commercial Portable Fuel Containers - Diurnal
~~2501012015~~	~~Commercial Portable Fuel Containers - Spillage~~
2501012016	Commercial Portable Fuel Containers - Transport

Following a method developed by the California Environmental Protection Agency[42] emissions were calculated for Commercial and Residential gas cans. The emissions estimated were permeation, diurnal, and transport. Both Spillage and Vapor losses are estimated in the nonroad emissions inventory by EPA models.

The following tables contain data used in the following estimates. These were compiled by the California Environmental Protection Agency. They surveyed residential and commercial populations to gather the data.

Table 2-21 Portable Fuel Container Survey Results

Residential Survey Results	
Percentage of households with at least one gas can	**46%**
Number of gas cans per household	**1.8**
Percentage of plastic cans/metal cans	**76% / 24%**
Weighted average gas can capacity (gal)	**2.34**
Percentage of gas cans stored with fuel	**70%**
Weighted average stored fuel volume (% of capacity)	**49%**
Percentage of all gas cans that are plastic and stored open/closed	**23% / 53%**
Percentage of all gas cans that are metal and stored open/closed	**11% / 13%**
Percent of all cans stored open/closed	**34% / 66%**
Commercial Survey Results	
Percentage of businesses with at least one gas can	**80%**
Number of gas cans per business	**6.9**
Percentage of plastic cans/metal cans	**72% / 28%**
Weighted average gas can capacity (gal)	**3.43**
Weighted average stored fuel volume (% of capacity)	**49%**

[42] Public Meeting To Consider Approval Of California's Portable Gasoline-Container Emissions Inventory, California Environmental Protection Agency, Air Resources Board, Mobile Source Control Division, September 1999

Percentage of all gas cans that are plastic and stored open/closed	**39% / 33%**
Percentage of all gas cans that are metal and stored open/closed	**10% / 18%**
Percent of all cans stored open/closed	**49% / 51%**

The first step in estimating these emissions is developing a population of the number of fuel containers in the state for both the residential and commercial categories. Residential population is based upon the number of occupied households. Commercial population is based upon the number of identified businesses.

Equation 2-38 Residential Gas Can Population

$$POP_R = (N_R)(A)(Count_R)$$
$$POP_R = 2{,}615{,}834$$

where: POP_R = Statewide Residential Gas Can Population
N_R = Number of Occupied-Housing Units
A = Percentage of Households with Gas Cans - 46%
$Count_R$ = Average Number of Residential-Gas Cans per Household - 1.8

Equation 2-39 Commercial Gas Can Population

$$POP_C = (N_C)(Count_C)$$

where: POP_C = Statewide Commercial-Gas-Can Population
N_C = Number of Occupied Businesses
$Count_C$ = Average Number of Gas Cans per Business (6.9)

Table 2-22 Commercial Gas Can Population

Category	# of Bus.	NAICS
Agricultural	158	115
Automotive Club and Towing Services	132	48841
Service Stations	3666	8111
Lawn and Garden Maintenance Services	194	81141
General Contractors	15824	23
Construction and Rental Yards	193	5324
Total # of Businesses	20167	
# of non-Landscaping Gas Cans	139,152	
Landscaping Services	1567	561730
# of Landscaping Gas Cans*	10,812	

Category	# of Bus.	NAICS
Total Commercial Gas Cans	149,965	

*Landscaping is separated due to use for the transport emissions estimate

Permeable emissions are the result of molecules of the stored fuel saturating the material the container is made of, and then evaporating. The emission rates given in the documentation are 1.57g/gal-day for plastic and 0.06 g/gal-day for metal. The following equation must be performed separately for residential and commercial emissions. The percentage of cans stored in respect to material (see B below) is different for residential and commercial.

Equation 2-40 Permeable Gas Can Emissions Formula

$$HC_P = \Sigma\{(POP)(EF_P)(S)(B)(Size)(Level)\}$$

where: HC_P = Permeation Emissions in tons per day
POP = Statewide Residential-Gas-Can Population
EF_P = Appropriate Permeation-Emission Factor (Plastic = 1.57 and Metal = 0.06 g/gal-day)
S = Percentage of Gas Cans Stored with Fuel (70%)
B = Percentage of Cans Stored in Closed Condition with respect to Material (Residential: Plastic = 53%, Metal = 13%; Commercial: Plastic = 33%, Metal 18%)
Size = Weighted Average Capacity of Residential-Gas Cans (Residential =2.34 and Commercial = 3.43 gal.)
Level = Weighted Average Amount of Stored Fuel (49%)

Equation 2-41 Residential Plastic Can Permeable Emissions

$$\left(2{,}165{,}911 \times 1.57 \times 70\% \times 53\% \times 2.34 \times 49\% \times \frac{1\,\text{ton}}{908{,}000\,\text{gram}}\right) \times \frac{365\,\text{days}}{\text{year}}$$

$$581.48\,\text{tons}$$

Diurnal emissions are the result of evaporative emissions that can escape through any vent or nozzle. The estimate in this case is dependent upon whether the can is open or closed, metal or plastic, and residential or commercial.

Equation 2-42 Diurnal Gas Can Emissions Formula

$$HC_D = (POP)(S)(EF_D)(B)(Size)(Level)$$

where: HC_D = Diurnal Emissions (tpd) for Gas Cans with respect to Storage Condition (Open or Closed) and Material (Plastic or Metal)
Pop = Statewide Residential-Gas-Can Population

S = Percentage of Gas-Can Population Stored with Fuel (70%)
EF_D = Appropriate Diurnal-Emission Factor with respect to Storage Condition and Material (g/gal-day or g/day)
B = Percentage of Gas-Can Population with respect to Storage Condition and Material
Size = Weighted Average Capacity of Gas Cans (Residential = 2.34 and Commercial = 3.43 gal.)
Level = Weighted Average Amount of Stored Fuel (49%)

Equation 2-43 Open Plastic Gas Can Diurnal Emissions

$$\left(2{,}165{,}911 \times 70\% \times 21.8 \times 23\% \times 0.49 \times \frac{1\,\text{ton}}{908{,}000\,\text{grams}}\right) \times \frac{365\,\text{days}}{\text{year}}$$

$$1497.36\,\text{tons}$$

Transit-Spillage emissions occur during the transporting of fuel containers, not to be confused with spillage at the gas pump.

Equation 2-44 Transit-Spillage Gas Can Emissions Formula

$$HC_T = (POP)(S)(\text{Refill})(EF_T)(B)$$

HC_T = Gas-Can-Transport-Spillage Emissions (tpd)
Pop = Statewide Residential (or Commercial Lawn and Garden or Other Commercial) Gas Can Population
S = Percentage of Gas Cans Stored with Fuel (70%)
Refill = Average Number of Gas Cans Pump Refills per Day per Can (Residential, 0.0174; Commercial Lawn and Garden, 0.964, Other Commercial, 0.12 refill/day)
EF_T = Transport-Emission Factor with respect to Storage Condition (g/refill)
B = Percentage of Gas Cans with respect to Storage Condition and Material

Equation 2-45 Transport-Spillage Emissions from Residential Open Plastic Gas Cans

$$\left(2{,}165{,}911 \times 70\% \times 0.0174 \times 32.5 \times 23\% \times \frac{1\,\text{ton}}{908{,}000\,\text{grams}}\right) \times \frac{365\,\text{days}}{\text{year}}$$

$$79.27\,\text{tons}$$

Category	Permeable	Diurnal	Transport Spillage	Total
Residential	586.93	2,764.57	278.16	3,629.65
Commercial	37.51	795.51	211.74	1,044.76
Total	624.44	3,560.08	489.90	4,674.41

iii) Service Station Tank Loading or Tank Truck Unloading (Stage 1)

Source Classification Codes: 2501060052 (uncontrolled), 2501060053 (controlled)

By dividing the amount of sales in a county by statewide sales, a ratio is developed which allows for the apportionment of statewide gasoline consumption to county level. Once the gallons for each county have been apportioned, the amount of balanced tanks is found. This is done by finding the number of tanks that were constructed after 1985 through 2002. This information was obtained from the Indiana Department of Environmental Management[43]. In 2002, there were 10,147 tanks that were operating and out of that, 8,034 of those tanks were balanced. This would leave only 21% of the total consumed for each of the counties uncontrolled and 79% of the total consumed for each of the counties controlled. The controlled emission factor was applied only in those counties identified in 326 IAC 8-4 as requiring controls: Boone, Clark, Dearborn, Elkhart, Hamilton, Hancock, Harrison, Hendricks, Johnson, Lake, Marion, Morgan, Porter, Saint Joseph, and Shelby. The emission factors used for the stage 1 controlled and uncontrolled were found in the U.S. EPA EIIP document[44].

iv) Vehicle Fueling (Stage II) – Vapor Displacement

Source Classification Codes: 2501060101 (uncontrolled), 2501060102 (controlled)

Vapor displacement happens during vehicle refueling, displacement of tank vapors by incoming fuel. The emission factors were calculated by MOBILE6 by using input files that are included in Appendix A. The following table shows an example of how the emission factor for January and July for the Southern Counties were calculated and by using these two months, the other months are distributed. The average of all months is then used as the emission factor for the Southern Counties. This methodology is done also for the Northern Counties, Central Counties, Clark/Floyd, and Lake/Porter.

Table 2-23 Stage II January MOBILE6 Results for Southern Counties

VTYPE	GM_MILE	MPG	% VMT	G/GAL	Month	Factor
1	0.0628	23.89	0.463793	0.322719	1	1.01
2	0.1058	18.77	0.070491	0.009868	2	1.14
3	0.1058	18.77	0.234672	0.109364	3	1.28
4	0.1486	14.31	0.071379	0.010834	4	1.41
5	0.1486	14.31	0.032825	0.002291	5	1.55
6	0.2152	9.88	0.028896	0.001775	6	1.69

[43] Underground Storage Tank data files, Office of Land Quality, Indiana Department of Environmental Management, March 2003 (http://www.in.gov/idem/land/ust/ust.html)

[44] Gasoline Marketing (Stage I and Stage II) Volume III: Chapter 11, Prepared by: Eastern Research Group, Inc., Prepared for: Area Sources Committee Emission Inventory Improvement Program, January 2001, U.S. EPA (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii11_apr2001.pdf)

VTYPE	GM_MILE	MPG	% VMT	G/GAL		Month	Factor
7	0.2342	9.08	0.001027	2.24E-06		7	1.82
8	0.2465	8.63	0.000522	5.8E-07		8	1.69
9	0.2719	7.82	0.001164	2.88E-06		9	1.55
10	0.2733	7.78	0.002489	1.32E-05		10	1.41
11	0.2972	7.15	0.001132	2.72E-06		11	1.28
12	0.3169	6.71	0.000004	3.4E-11		12	1.14
25	0.3421	6.22	0.000496	5.23E-07		Sum	16.97
				0.456873	g/gal	Average	1.41
				1.007222	lb/E3gal		

Table 2-24 Stage II July MOBILE6 Results for Southern Counties

VTYPE	GM_MILE	MPG	% VMT	G/GAL	
1	0.1144	23.9	0.456768	0.570447	
2	0.1955	18.75	0.071404	0.018689	
3	0.1955	18.75	0.237712	0.207133	
4	0.2882	14.3	0.072838	0.021865	
5	0.2882	14.3	0.033496	0.004624	
6	0.4164	9.9	0.029201	0.003515	
7	0.4529	9.1	0.001038	4.44E-06	
8	0.4763	8.66	0.000509	1.07E-06	
9	0.5264	7.83	0.00116	5.55E-06	
10	0.5283	7.8	0.002482	2.54E-05	
11	0.5749	7.17	0.001122	5.19E-06	
12	0.6128	6.73	0.000004	6.6E-11	
25	0.6629	6.22	0.000485	9.7E-07	
				0.826316	g/gal
				1.821697	lb/E3gal

The following equation shows how one vehicle type was calculated for the Southern Counties. Once all the vehicle types are calculated then the sum of grams/gallon is converted to lb/gallon.

Equation 2-46 Stage II Emission Factor for Vehicle Type 1 for January

$$\left(\frac{\text{Gram}}{\text{mile}} \times \%\,\text{Miles Traveled}\right) \times \left(\frac{\text{Miles}}{\text{Gallon}} \times \%\,\text{Miles Traveled}\right) \times \frac{0.022046\,\text{lb}}{\text{Gallon}}$$

$$(0.0628 \times 0.463793) \times (23.89 \times 0.463793) \times 0.022046$$

$$\frac{0.0071146\,\text{lb}}{\text{gallon}}$$

Equation 2-47 Stage II VOC Emissions for Ripley County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$11{,}766.85\,\text{Thousand Gallons} \times \frac{1.41\,\text{lb}}{\text{Thousand Gallon}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$8.29\,\text{tons}$$

v) Vehicle Fueling (Stage II) Spillage

Source Classification Code: 2501060103

Spillage happens at both the beginning and at the end of vehicle refueling. The emission factor 0.7 lb/1000 gallons of throughput used is from AP-42[45]. The emission factor is applied to each county's estimated gasoline throughput. This is shown in the following equation.

Equation 2-48 Stage II Fuel Spillage in Delaware County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$64982.37\ \text{Thousand Gallons} \times \frac{0.7\,\text{lb}}{\text{Thousand Gallon}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$2.27\,\text{tons}$$

vi) Underground Tank Breathing

Source Classification Code: 2501060200

Emissions from underground tank breathing are from the result of the evaporation of gasoline and changes in the barometric pressure. The emission factor 1.0 lb/1000 gallons used is from AP-42[46].

Equation 2-49 Underground Tank Breathing for Bartholomew County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$42{,}955.79\ \text{Thousand Gallons} \times \frac{1.0\,\text{lb}}{\text{Thousand Gallon}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$21.47\,\text{tons}$$

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[45] AP-42, Fifth Edition, Volume I, Chapter 5: Petroleum Industry, Transportation and Marketing of Petroleum Liquids, January 1995 (http://www.epa.gov/ttn/chief/ap42/ch05/final/c05s02.pdf)

[46] AP-42, Fifth Edition, Volume I, Chapter 5: Petroleum Industry, Transportation and Marketing of Petroleum Liquids, January 1995 (http://www.epa.gov/ttn/chief/ap42/ch05/final/c05s02.pdf)

vii) Tank Trucks in Transit

Source Classification Code: 2505030120

The guidance followed in estimating the emissions for tank trucks in transit was found in the U.S. EPA EIIP document[47]. A national default activity rate was applied to the amount of gasoline sold in the county to estimate the amount of gasoline transported in that county. The default applied is 1.25 times the amount of gasoline sold in each county. A composite emission factor was created by adding together the transit loading and unloading to estimate the amount of emissions round trip. The emission factor used is 0.06 lb/1000 gallons transported found in the EIIP document.

Equation 2-50 Tank Trucks in Transit for Jefferson County

$$\text{Throughput} \times \text{Activity Adjustment} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$14{,}066.20 \text{ Thousand Gallons} \times 1.25 \times \frac{0.06 \text{ lb}}{\text{Thousand Gallon}} \times \frac{1 \text{ ton}}{2{,}000 \text{ lb}}$$

$$0.528 \text{ tons}$$

e) Waste Management Practices

i) Solid Waste Incineration

(1) Industrial Solid Waste Incineration

Source Classification Code: 2601010000

To estimate the emissions for on-site industrial solid waste incineration a default fuel-loading factor of 420 tons/ 1,000 manufacturing employees from U.S. EPA was used in the calculation and the amount of manufacturing employees from the U.S. Census Bureau[48].

Equation 2-51 Estimated Industrial Waste Incinerated in Howard County

$$16{,}021 \text{ Manufacturing Employees} \times \frac{420 \text{ Tons}}{1{,}000 \text{ Manufacturing Employees}}$$

$$6{,}728 \text{ Tons Industrial Waste}$$

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[47] Gasoline Marketing (Stage I and Stage II) Volume III: Chapter 11, Prepared by: Eastern Research Group, Inc., Prepared for: Area Sources Committee Emission Inventory Improvement Program, January 2001, U.S. EPA (http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii11_apr2001.pdf)

[48] County Business Patterns 2001, United States Department of Commerce, U.S. Census Bureau April 2003, (http://censtats.census.gov/cgi-bin/cbpnaic/cbpsel.pl)

Equation 2-52 Industrial Waste Incineration VOC for Howard County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$6{,}728\,\text{tons} \times \frac{3\,\text{lb}}{\text{ton}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$10.092\,\text{tons}$$

(2) Commercial Solid Waste Incineration

Source Classification Code: 2601020000

To estimate the emissions for commercial solid waste incineration an estimate of the amount of waste incinerated was needed. A default factor of 0.65lb/person/day found in the U.S. EPA Municipal Solid Waste Report[49] and the population for each Indiana County from the U.S. Census Bureau[50] was used in this calculation. The Solid Waste Report based on 2001 data states that about 40% of waste incinerated is commercial solid waste.

Equation 2-53 Commercial Solid Waste Incinerated in Johnson County

$$121{,}604\,\text{Population} \times \frac{0.65\,\text{lb}}{\text{Person/Day}} \times \frac{365\,\text{days}}{\text{Year}} \times 40\%\,\text{Incinerated} \times \frac{1\,\text{Ton}}{2{,}000\,\text{lb}}$$

$$5{,}770.1\,\text{Tons of Waste}$$

Equation 2-54 Commercial Solid Waste Incineration VOC for Johnson County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$5{,}770.1\,\text{tons} \times \frac{3\,\text{lb}}{\text{ton}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$8.655\,\text{tons}$$

(3) Residential Solid Waste Incineration

Source Classification Code: 2601030000

To estimate the emission for industrial solid waste incineration an estimate of the amount of waste incinerated was needed. A default factor of 0.65 lb/person/day found in the

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[49] Municipal Solid Waste in the United States: 2001 Facts and Figures, Office of Solid Waste and Emergency Response, U.S. EPA, October 2003 (http://www.epa.gov/garbage/pubs/msw2001.pdf)

[50] Population Estimates 2002, Population Division, U.S. Census Bureau , April 2003 (http://eire.census.gov/popest/data/counties/tables/CO-EST2002/CO-EST2002-01-18.php)

U.S. EPA Municipal Solid Waste Report[51] and the population for each Indiana County from the U.S. Census Bureau was used in this calculation. The Solid Waste Report based on 2001 data states that about 60% of waste incinerated is residential solid waste.

Equation 2-55 Residential Solid Waste Incinerated in Johnson County

$$121{,}604\,\text{Population} \times \frac{0.65\,\text{lb}}{\text{Person/Day}} \times \frac{365\,\text{days}}{\text{Year}} \times 60\%\,\text{Incinerated} \times \frac{1\,\text{Ton}}{2{,}000\,\text{lb}}$$

$$8{,}655.16\,\text{Tons of Waste}$$

Equation 2-56 Residential Solid Waste Incineration VOC Emissions

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$8{,}655.16\,\text{tons} \times \frac{3\,\text{lb}}{\text{ton}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$12.98\,\text{tons}$$

ii) Residential Open Burning

(1) Leaf and Brush Burning

Source Classification Code: 2610000100 and 2610000400

To calculate for leaf and brush burning, a per capita factor of 0.54lb/person/day was used. This was found in EPA's Solid Waste Report[52]. Of the total generated only 25% was assumed leaves and 25 % brush. Of the total waste generated only 28% was assumed to burn. Once all these factors are taken into consideration, the per capita factor is 0.0068985 ton/person/year.

Equation 2-57 Leaf Waste Burned in Dearborn County

$$31{,}541\,\text{Population} \times \frac{0.0068985\,\text{ton}}{\text{Person/year}}$$

$$217.586\,\text{Tons of Waste}$$

The amount of waste generated for each county was then adjusted to account for the percentage of forests in each county. The percent of forests for each county was found in a

[51] Municipal Solid Waste in the United States: 2001 Facts and Figures, Office of Solid Waste and Emergency Response, U.S. EPA, October 2003 (http://www.epa.gov/garbage/pubs/msw2001.pdf)

[52] Municipal Solid Waste in The United States: Facts and Figures, Office of Solid Waste and Emergency Response, U.S. EPA, October 2003, (http://www.epa.gov/epaoswer/non-hw/muncpl/pubs/msw2001.pdf)

report done in 2000 based on 1998 data by the Department of Agriculture[53]. The following table shows the ranges that are used to adjust the amount of yard waste that is generated per county.

Table 2-25 Forested Acres Adjustment Factor

Percent Forested Acres per County	Adjusted for Yard Waste Generated
< 10%	**0% generated**
>= 10%, and < 50%	**50% generated**
>= 50%	**100% generated**

Equation 2-58 Adjusted Leaf Waste Burned in Dearborn County

$$50\%\,\text{Forested} \times 217.586\,\text{Tons} = 108.793\,\text{tons of leaves}$$

The amount of leaves burned and amount of brush burned for each county is then multiplied by the emission factors that are found in National Emission Inventory documentation done by EPA.

Table 2-26 Leaf and Brush Burning VOC Emissions for Dearborn County

SCC	Description	Emission Factor	Waste Generated	VOC (Tons/Year)
2610000100	**Leaves Burned**	**28 lbs/ton**	**108.793**	**1.523**
2610000400	**Brush Burned**	**19 lbs/ton**	**108.793**	**1.033**

(2) Residential Waste Burning

Source Classification Code: 2610030000

The calculation for residential waste is calculated by using a 2001 fuel-loading factor of 4.41lb/person/day of the total amount generated subtracting out 0.99 that is recycled and 0.32 that is composted. This information was from a Solid Waste Report from EPA[54]. The remainder is 3.10 lb/person/day that is actual waste discarded. The amount of combustibles is

[53] Forest of Indiana: A 1998 Overview, Forest Service, United States Department of Agriculture, September 2000, (http://www.na.fs.fed.us/spfo/pubs/misc/in98forests/webversion/index.htm)

[54] Municipal Solid Waste in The United States: Facts and Figures, Office of Solid Waste and Emergency Response, U.S. EPA, October 2003, (http://www.epa.gov/epaoswer/non-hw/muncpl/pubs/msw2001.pdf)

then subtracted out leaving the total waste available for burning 1.86 lbs/person/day. An e-mail from LADCO suggests that 28% is total amount of solid waste burned in rural areas and 49% is actually combusted leaving the default fuel loading 0.0465 tons/person/year.

Equation 2-59 Residential Waste Incineration Fuel Loading Calculation

$$\frac{4.41\,\text{lb created}}{\text{person/day}} - \frac{0.99\,\text{lb recycled}}{\text{person/day}} - \frac{0.32\,\text{lb composted}}{\text{person/day}} = \frac{3.10\,\text{lb discarded}}{\text{person/day}}$$

$$\frac{3.10\,\text{lb discarded}}{\text{person/day}} - \frac{0.186\,\text{lb glass}}{\text{person/day}} - \frac{0.217\,\text{lb metal}}{\text{person/day}} - \frac{0.248\,\text{lb yard trim min gs}}{\text{person/day}} - \frac{0.589\,\text{lb other}}{\text{person/day}}$$

$$\frac{1.86\,\text{lb Waste Available for Burning}}{\text{person/day}}$$

$$\frac{1.86\,\text{lb Waste Available for Burning}}{\text{person/day}} \times 28\% \times 49\% \times 365 \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$\frac{0.0465\,\text{ton Waste Burned}}{\text{person/year}}$$

The default fuel-loading factor of 0.0465 ton/person/year is then applied to the rural population for each county. The rural population number was from the U.S. Census Bureau[55]. The amount of residential waste is then calculated by the emission factors found in the EIIP document[56].

Equation 2-60 Estimated Residential Waste Burned in Franklin County

$$\text{Population} \times \text{Fuel Loading Factor} = \text{Tons Waste}$$

$$16{,}759\,\text{Population} \times \frac{0.0465\,\text{Ton}}{\text{Person/Year}} = 780.5\,\text{Tons}$$

Equation 2-61 Residential Open Burning NOx Emissions for Franklin County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor} \times (1 - (\text{CE} \times \text{RE} \times \text{RP}))$$

$$780.5\,\text{tons} \times \frac{6\,\text{lb}}{\text{ton}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}} \times (1 - (80\% \times 80\% \times 100\%))$$

$$0.84\,\text{tons}$$

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55 Population Estimates, Population Division, U.S. Census Bureau, July 2003 (http://eire.census.gov/popest/data/cities/subtab10.php

56 Open Burning: Chapter 16 , Emission Inventory Improvement Program Volume III, U.S. EPA, April 2001, http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii16_apr2001.pdf

iii) Municipal Solid Waste Landfills

Source Classification Code: 2620030000

Emissions for landfills are included in the point source inventory.

iv) Public Owned Treatment Works (POTW's)

Source Classification Code: 2630020000

The emissions for POTW's were calculated by finding the amount of annual flow provided by the IDEM Office of Water Quality. They provided a report based on monthly flow from POTW's . From this report, the annual flow for each county was calculated.

Equation 2-62 VOC Emissions from POTW's in Marion County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor}$$

$$65{,}991.928\,\text{Million Gallon} \times \frac{8.9\,\text{lb}}{\text{Million Gallon}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}}$$

$$293.66\,\text{tons}$$

v) Treatment, Storage and Disposal Facilities

Source Classification Code: 2640000004

To calculate the emissions for Treatment, Storage and Disposal Facilities (TSDF's) the amount of treatment facilities and the amount of ignitable waste was provided by the IDEM Office of Land Quality. Once the amount of ignitable waste is collected then point source waste is subtracted leaving the amount of area source ignitable waste. The emission factors used in calculating the TSDF's emissions are from AP-42[57].

Table 2-27 Emission Factors for Treatment, Storage and Disposal Facilities

Emission Source	Emission Factor in AP-42 (lb VOC/Ton)	Emission Factor Used (lb VOC/Ton)
Storage Tank Vent	**0.004-0.09**	**0.09**
Spillage (filling)	**0.20**	**0.20**

[57] Waste Solvent Reclamation Table 4.7-1, Chapter 4: Evaporation Loss Sources, AP-42, Fifth Edition, Volume 1, February 1980 (http://www.epa.gov/ttn/chief/ap42/ch04/final/c4s07.pdf)

Loading (filling)	**0.00024-1.42**	**1.42**
Spillage (emptying)	**0.20**	**0.20**
Loading (emptying)	**0.00024-1.42**	**1.42**
Combined Emission Factor		3.33

Table 2-28 Estimated VOC Emissions from TSDFs in Marion County

$$\text{Throughput} \times \text{Emission Factor} \times \text{Conversion Factor} \times (1-(\text{CE} \times \text{RE} \times \text{RP}))$$

$$5{,}818.27\,\text{tons} \times \frac{3.3\,\text{lb}}{\text{ton}} \times \frac{1\,\text{ton}}{2{,}000\,\text{lb}} \times (1-(95\% \times 80\% \times 80\%))$$

$$2.32\,\text{tons}$$

f) Miscellaneous Area Sources

i) Fugitive Dust from Agricultural Tilling

Source Classification Code: 2801000003

To estimate the emissions for fugitive dust from agricultural tilling the county silt content needs to be calculated. This is done by finding the weighted average silt content by soil types. The different types of soil and silt percentages were found in the United States Department of Agriculture[58].

Equation 2-63 Weighted Silt Content

$$\sum\left[\frac{\text{Acres of Soil Type}}{\text{Total Acres}} \times \%\,\text{Silt content of Soil Type}\right] = \text{Weighted}\,\%\,\text{Silt Content}$$

Table 2-29 Total % of Silt for Each Soil Type for Adams County

Total Acres = 217,531

Soil Types	Total Acres for Each Soil Type	% of Silt Content for Soil Type	% of Total Silt for Adams County

[58] United States Department of Agriculture, Natural Resources Conservation Center , November 7, 2003 (http://efotg.nrcs.usda.gov/efotg_locator.aspx?map=IN)

Pm	**79,545**	**45%**	**16%**
BcA	**51,031**	**58%**	**14%**
BcB	**42,250**	**58%**	**11%**
GoB	**12,550**	**53%**	**3%**
Na	**4,410**	**61%**	**2%**
Sc	**4,310**	**47%**	**1%**
Mh	**4,210**	**55%**	**1%**
	Total % of Weighted Silt Content		**48%**

Once the total percentage of weighted silt content is calculated the amount of acres for each crop type in Indiana were used. The total acreage for both corn and soybeans for Indiana was obtained from the Indiana Agricultural Statistics Service[59]. Once the total of acres for corn and soybeans were found, the percent for no-till and tilled were calculated by using the map based on 2000 data for corn found at the Conservation Technology Information Center[60] and soybeans found at the Conservation Technology Information Center[61]. The percentage was multiplied by the amount of acres times a mid-point for both no-till and till for each county.

Equation 2-64 Tillage Estimates for Corn in Adams County

$$66{,}000\,\text{Acres Corn} \times 6.5\%\,\text{Using Conservation Tillage} = 4{,}290$$

$$66{,}000\,\text{Acres Corn} \times 93.5\%\,\text{Using Conventional Tillage} = 61{,}710$$

Equation 2-65 Tillage Estimates for Soybeans in Adams County

$$89{,}000\,\text{Acres Corn} \times 56.5\%\,\text{Using Conservation Tillage} = 50{,}285$$

$$89{,}000\,\text{Acres Corn} \times 43.5\%\,\text{Using Conventional Tillage} = 38{,}715$$

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[59] United States Department of Agriculture, National Agricultural Statistics Service, Indiana Agricultural Statistics Service, November 7, 2oo3 (http://www.nass.usda.gov/in/cntest/cntyest.htm)

[60] Conservation Technology Information Center, June 10, 2002 (http://www.ctic.purdue.edu/CTIC/BuffersProject/IN/County/NT_CRN_IN.gif)

[61] Conservation Technology Information Center, June 10, 2002 (http://www.ctic.purdue.edu/CTIC/BuffersProject/IN/County/NT_SOY_IN.gif)

To calculate the emissions for PM for both conservation and conventional tillage and emission factor supplied by the EIIP document[62] were used. Also used in the calculation is the number of tillings for each crop type and this information was supplied by the Mid-Atlantic Regional Air Management Association[63].

Equation 2-66 Emissions from Conservation Tillage of Corn in Adams County

$$(\text{Silt Content})^{0.6} \times \text{Number of Tillings} \times \text{Acreage} \times \text{emission factor}$$

$$(48)^{0.6} \times 2 \times 4{,}290 \times 4.8$$

$$210 \text{ tons of Total Particulate Matter}$$

$$\text{PM10} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$210 \times 0.21$$

$$44 \text{ tons PM10}$$

$$\text{PM2.5} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$210 \times 0.042$$

$$9 \text{ tons PM2.5}$$

Equation 2-67 Emissions from Conventional Tillage of Corn in Adams County

$$(\text{Silt Content})^{0.6} \times \text{Number of Tillings} \times \text{Acreage} \times \text{emission factor}$$

$$(48)^{0.6} \times 6 \times 61{,}710 \times 4.8$$

$$9{,}066 \text{ tons of Total Particulate Matter}$$

$$\text{PM10} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$9{,}066 \times 0.21$$

$$1{,}904 \text{ tons PM10}$$

$$\text{PM2.5} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$9{,}066 \times 0.042$$

$$380 \text{ tons PM2.5}$$

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62 Emission Inventory Improvement Program, Volume IX, U.S. Environmental Protection Agency, February 11, 2003 (http://www.epa.gov/ttn/chief/eiip/techreport/volume09/agtilling.pdf)

63 Mid-Atlantic Regional Air Management Association, Agriculture – Crops - Tilling Area Source Category Calculation Methodology Sheet, September 2003 (http://www.marama.org/visibility/Calculation_Sheets/Ag_Tilling.pdf)

Equation 2-68 Emissions from Conservation Tillage of Soybeans in Adams County

$$(\text{Silt Content})^{0.6} \times \text{Number of Tillings} \times \text{Acreage} \times \text{emission factor}$$

$$(48)^{0.6} \times 1 \times 50{,}285 \times 4.8$$

$$1{,}231 \text{ tons of Total Particulate Matter}$$

$$\text{PM10} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$1{,}231 \times 0.21$$

$$259 \text{ tons PM10}$$

$$\text{PM2.5} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$1{,}231 \times 0.042$$

$$52 \text{ tons PM2.5}$$

Equation 2-69 Emissions from Conventional Tillage of Soybeans in Adams County

$$(\text{Silt Content})^{0.6} \times \text{Number of Tillings} \times \text{Acreage} \times \text{emission factor}$$

$$(48)^{0.6} \times 6 \times 38{,}715 \times 4.8$$

$$5{,}688 \text{ tons of Total Particulate Matter}$$

$$\text{PM10} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$5{,}688 \times 0.21$$

$$1{,}194 \text{ tons PM10}$$

$$\text{PM2.5} = \text{Total} \times \text{Size Distribution Multiplier}$$

$$5{,}688 \times 0.042$$

$$238 \text{ tons PM2.5}$$

3) Mobile Sources

a) Onroad

i) Lake and Porter Counties

Lake and Porter County emissions are provided by the Northwest Indiana Regional Planning Commission

ii) Remaining Counties

The inventory was obtained from the EPA generated National Emissions Inventory.

b) Nonroad

i) National Mobile Inventory Model (NMIM)

In coordination with LADCO various updates were made to the default population and parameter files within the NMIM model. The model was then run to get the emissions for the various lengths of times. To see the work done on the inputs please see the appendices.

ii) Commercial Marine and Railroad Categories

These categories are not addressed within the NMIM. They were estimated by contractor through LADCO. To review the methodologies please refer to the appendices.

iii) Aircraft

Emissions from this category were taken directly from the National Emissions Inventory.

4) Biogenic Emissions

Biogenic emissions were taken directly from the National Emissions Inventory.

5) Summary Tables

a) Statewide Annual Emissions

All emissions in this section are in Tons per year.

i) Totals

Table 5-1 Statewide Total Annual Emissions

Sector	CO	NH3	NOX	PM10-PRI	PM25-PRI	SO2	VOC
AREA	59,673	111,963	29,710	613,650	122,587	60,955	133,327
BIOGENIC	51,088	99,088	21,940				342,014
NONROAD	520,163	103	106,089	7,587	6,948	9,126	51,825
ON-ROAD	1,765,610	14,005	212,033	5,814	4,346	9,767	126,658
POINT	380,058	3,643	367,856	37,175	17,938	934,312	57,949
Totals	2,776,592	228,802	737,629	664,226	151,819	1,014,160	711,774

ii) Point Sources

Table 5-2 Annual Point Source Emissions

FIPS	State ID	Facility Name	CO	NOX	VOC
18001	00005	CENTRAL SOYA COMPANY INC	128.50	277.64	469.59
18001	00015	GILPIN IRONWORKS INC.			62.90
18001	00022	ELKHART PRODUCTS CORP	0.29	0.34	0.02
18001	00023	BING ASSEMBLY SYSTEMS, LLC	2.70	3.77	101.95
18001	00025	FLEETWOOD MOTOR HOMES OF AMERICA-OLD		0.49	49.81

FIPS	State ID	Facility Name	CO	NOX	VOC
18001	00031	THUNDERBIRD PRODUCTS, INC.			100.81
18001	00043	GOLD SHIELD OF INDIANA, INC.			247.10
18001	00049	ALL AMERICAN HOMES OF INDIANA, LLC			8.04
18003	00003	DANA TORQUE-TRACTION MANUF. TECH. INC	20.48	36.16	6.62
18003	00007	FORT WAYNE FOUNDRY-LIMA ROAD DIVISION	3.28	3.90	8.31
18003	00008	UNIROYAL GOODRICH TIRE MFG.	38.73	114.79	54.18
18003	00013	PHELPS DODGE MAGNET WIRE COMPANY	18.71	22.27	130.89
18003	00014	REA MAGNET WIRE CO, INC	4.16	4.96	39.94
18003	00017	TOKHEIM CORPORATION	2.23	2.66	1.14
18003	00031	GE INDUSTRIAL SYSTEMS (GEIS)	8.36	9.46	61.33
18003	00032	MTI INSULATED PRODUCTS, INC.	0.21	0.25	8.94
18003	00036	GENERAL MOTORS - FORT WAYNE ASSEMBLY	62.87	88.88	1,568.80
18003	00038	GRABILL CABINET COMPANY	0.09	0.40	38.94
18003	00045	PEPL - EDGERTON STATION	59.96	812.84	24.51
18003	00046	LINCOLN FOODSERVICE PRODUCTS, INC.	2.05	2.44	95.46
18003	00057	OMNISOURCE CORPORATION	1.34	1.87	1.19
18003	00059	MERIDIAN AUTOMOTIVE SYSTEMS 1	6.10	7.31	167.31
18003	00064	KARL SCHMIDT UNISIA, INC.	0.73	2.55	10.89
18003	00069	TETRA PAK MATERIALS LP	0.42	0.51	14.58
18003	00070	FORT WAYNE FOUNDRY-PONTIAC DIVISION	8.54	10.29	47.38
18003	00071	FORT WAYNE POOLS, INC.			19.42
18003	00072	PLASTIC COMPOSITES CORPORATION	0.10	0.12	12.37
18003	00169	WIELAND FURNITURE	0.06	0.28	12.33
18003	00177	HARRIS KAYOT INC.			11.12
18003	00196	AVERY DENNISON-FASSON ROLL DIV.	3.24	9.41	56.53
18003	00198	WARD CORPORATION	1.15	2.28	3.72
18003	00205	ELITE ENTERPRISES*			103.39
18003	00224	OTTENWELLER COMPANY, INC.	0.56	0.67	13.59
18003	00225	FOAMEX, L.P.	21.86	1.63	104.86
18003	00232	POLAR KING INTERNATIONAL			12.79
18003	00249	MASTER SPAS, INC.			72.33
18003	00257	MCBETH ROAD LANDFILL	41.01	7.54	9.18
18003	00269	ESSEX GROUP INC; FORT WAYNE & CHEM. PROC	6.92	11.88	68.64
18003	00272	PARKVIEW MEMORIAL HOSPITAL	4.99	11.68	2.25
18003	00275	PRECISION PRODUCTS GROUP, INC.	0.08	0.09	1.42
18003	00284	GE SPECIALTY INDUSTRIAL SYSTEMS	6.47	2.68	25.44
18003	00286	SUPERIOR ALUMINUM ALLOYS	16.35	23.79	13.07
18003	00291	UNITED REFUSE COMPANY, INC.			3.43
18003	00302	FORT WAYNE LIQUID COATINGS, INC	0.02	0.02	0.10
18003	03212	WAYNE ASPHALT & CONST	31.96	30.28	23.55
18003	05204	BUNN EXCAVATING, INC.	0.68	1.13	0.33
18005	00002	CUMMINS ENGINE CO #5	21.86	167.69	6.70
18005	00006	GOLDEN CASTING CORPORATION	665.73	3.19	107.23
18005	00008	ARVINMERITOR, INC., 17TH STREET PLANT	6.50	7.74	27.24
18005	00015	CUMMINS, INC. (COLUMBUS ENGINE PLANT)	55.55	231.54	41.76
18005	00040	TOYOTA IEM, INC.	3.07	3.66	32.74
18005	00042	ENKEI AMERICA, INC.	6.91	12.68	13.40
18005	00047	CUMMINS MIDRANGE ENGINE PLANT - COLUMBUS	8.78	31.27	22.15

FIPS	State ID	Facility Name	CO	NOX	VOC
18005	00048	RIGHTWAY FASTENERS INC	0.88	1.04	0.06
18005	00066	NTN DRIVESHAFT, INC.	4.28	5.10	21.88
18005	00067	DSE, INC. DBA SCREEN TECH DESIGNS, INC.			7.84
18005	00068	VENTRA CORPORATION	0.42	0.50	5.19
18005	00080	ARVINMERITOR, INC., TECHNICAL CENTER	22.61	7.01	8.48
18005	00086	BARTHOLOMEW CO. LANDFILL	0.34		1.56
18005	00087	MACTAC			27.77
18007	00010	SMURFIT STONE CONTAINER CORPORATION			1.78
18007	00014	T G C - AMBIA STATION	4.31	43.09	3.76
18009	00002	BRC RUBBER & PLASTICS, INC.- MONTPELIER	0.75	0.90	23.19
18009	00004	3 M CO. HARTFORD CITY	8.77	11.15	68.16
18009	00008	VENTURE INDUSTRIES (HC)	1.39	1.65	12.41
18009	00018	KEY PLASTICS L.L.C.	0.57	2.87	23.10
18009	00023	INDIANA VENEER PRODUCT DIV. OF HARRIS-TA	31.01	11.37	10.46
18011	00004	MARATHON ASHLAND PIPE LINE - LEBANON STA			6.77
18011	00037	HENDRICKSON TRAILER SUSPENSION SYSTEMS			1.53
18015	00011	GLOBE VALVE CORP	1.98	2.35	4.64
18015	00021	PETERS REVINGTON FURNITURE			377.80
18017	00004	LOGANSPORT STATE HOSPITAL	5.34	3.75	0.35
18017	00005	ESSROC CEMENT CORP.	1,916.74	1,711.72	68.66
18017	00006	LOGANSPORT MUNICIPAL LIGHT & POWER	254.26	560.09	3.61
18017	00014	TRELLEBORG AUTOMOTIVE	0.25	0.30	160.96
18017	00021	CARLISLE INDUSTRIAL BRAKE AND FRICTION	1.36	1.62	72.26
18017	00027	TEXTRON FASTENING SYSTEMS, PSD			25.00
18017	00028	COLE HARDWOOD	11.85	4.90	0.72
18017	00033	TRANSCO RAILWAY PRODUCTS, INC.			5.00
18017	00034	TYSON FRESH MEATS, INC.	23.13	27.52	8.59
18017	00035	OAK RIDGE RECYCLING & DISPOSAL FACILITY	6.00	1.58	2.31
18019	00002	FLEXCEL - BORDEN	0.59	3.39	114.57
18019	00003	COLGATE-PALMOLIVE	11.76	14.00	16.22
18019	00006	JEFFBOAT			77.90
18019	00007	KITCHEN KOMPACT INC			537.40
18019	00008	ESSROC CEMENT CORP.	1,520.51	1,528.25	58.71
18019	00009	INDIANA ARMY AMMUNITION PLANT	0.10	0.12	0.01
18019	00012	MARATHON ASHLAND PET., CLARKSVILLE TERM.			32.88
18019	00015	ALTEC, L.L.C.	2.36	2.81	23.54
18019	00016	HAAS CABINET CO. INC.			148.80
18019	00018	THE PQ CORPORATION	10.60	88.47	3.17
18019	00019	HORIZON TERRA, INC.			11.25
18019	00041	ADPLEX-RHODES, INC.	0.02	4.70	20.99
18019	00043	CLARK MEMORIAL HOSPITAL	1.82	2.19	0.12
18019	00046	GEORGE PFAUS SONS COMPANY, INC.	2.58	3.07	0.17
18019	00049	APOLLO AMERICA CORP.	1.12	1.34	0.07
18019	00050	THE DALLAS GROUP OF AMERICA	2.45	2.91	0.16
18019	00054	VOSS INDUSTRIES DBA PGP CORPORATION	3.29	3.92	0.22
18019	00071	KOETTER WOODWORKING, INC.			19.00
18019	00075	G.F. MUNICH WELDING			5.41
18019	00079	KOETTER WOODWORKING INC.	10.18	6.78	2.78

FIPS	State ID	Facility Name	CO	NOX	VOC
18019	00080	ORICA USA INC.	0.18	0.88	0.01
18019	00088	CARMAN INDUSTRIES INC.			0.64
18019	00094	INDIANA AMERICAN WATER CO., INC.	0.06	0.27	0.01
18019	00095	INDIANA AMERICAN WATER CO., INC.	0.02	0.07	0.00
18019	00097	CLARK-FLOYD LANDFILL			1.60
18019	00103	D.A. INC.			16.99
18019	00104	TANCO CLARK MARITIME, L.L.C.	0.41	0.48	0.03
18019	00105	JEFFERSON YACHTS			3.65
18019	01332	RIETH-RILEY1332 PORTABLE CONCRETE PLANT	1.48	6.90	0.37
18019	03109	SELLERSBURG STONE CO.	12.02	6.24	10.60
18019	03321	ASPHALT SUPPLY CO., INC.	0.84	9.93	0.05
18019	05191	FORMER DAIRY MART STORES #173			0.01
18021	00008	GREAT DANE TRAILERS			68.41
18023	00011	ADM FRANKFORT	34.79	41.42	298.28
18023	00020	FRITO-LAY, INC.	52.48	105.05	1.27
18023	00021	THE KAY COMPANY, INC.			51.63
18023	00024	DONALDSON COMPANY, INC.			39.73
18023	00026	SONOCO CRELLIN			42.16
18027	00006	RESCAR INDUSTRIES, INC.			0.74
18027	00046	GRAIN PROCESSING CORPORATION	61.80	82.68	169.44
18027	03270	ROGERS GROUP,INC.-WASHINGTON ASPHALT	1.37	0.10	0.59
18029	00001	AURORA CASKET CO INC	2.69	3.20	316.61
18029	00002	AMERICAN ELECTRIC POWER-TANNERS CREEK	631.31	17,750.69	108.64
18029	00005	PERNOD RICARD USA	16.37	507.42	365.27
18029	00007	ANCHOR GLASS CONTAINER CORPORATION	18.34	520.90	11.08
18029	00008	TEXAS GAS TRANSMISSION - DILLSBORO	499.15	485.45	20.44
18029	00011	AURORA CASKET CO-VANGUARD PLT	0.92	1.10	76.59
18029	00014	TRANS AGG,INC. DBA GIBBCO, INC.	0.78	0.92	0.05
18029	03187	PAUL H. ROHE	0.25	1.01	0.01
18029	03326	DAVE O MARA CONTRACTOR PLANT 2	0.61	2.92	2.05
18031	00001	PRINTPACK INC.	4.33	5.16	577.50
18031	00014	VALEO, INC. ENGINE COOLING AUTO. DIV.			30.30
18031	00023	DECATUR HILLS, INC.	27.02	1.44	0.33
18031	03141	HOT MIX INC.	0.26	1.04	0.01
18033	00002	AUBURN FOUNDRY PLANT 1	298.53	31.42	95.85
18033	00013	COOPER TIRE & RUBBER CO., ENG.PROD.DIV	3.91	4.66	268.53
18033	00017	ASHLEY INDUSTRIAL MOLDING, INC.	3.30	3.93	104.35
18033	00019	THERMA-TRU CORPORATION	0.84	1.00	46.37
18033	00022	GUARDIAN INDUSTRIES	1.11	1.31	62.50
18033	00023	RIEKE PACKAGING SYSTEMS			63.71
18033	00027	NUCOR VULCRAFT GROUP, ST. JOE DIVISION			131.90
18033	00040	FLEETWOOD HOMES OF INDIANA, INC. #55			6.20
18033	00042	AUBURN FOUNDRY PLANT 2		0.46	36.67
18033	00043	STEEL DYNAMICS, INC.	559.42	570.22	81.87
18033	00044	DURA AUTOMOTIVE SYSTEMS, BUTLER JACK OPS			33.30
18033	00046	PARAGON PLASTICS, L.L.C.			0.13
18033	00047	FOAMEX L.P.	5.72	3.42	14.56
18033	00055	API CONSTRUCTION CORP.	1.20	1.42	1.75

FIPS	State ID	Facility Name	CO	NOX	VOC
18033	00072	NEW MILLENNIUM BUILDING SYSTEMS, LLC			147.76
18035	00002	BALL STATE UNIV	88.93	111.41	1.48
18035	00009	JEFFERSON SMURFIT CORPORATION	6.72	8.00	193.36
18035	00015	MANUAL TRANSMISSIONS OF MUNCIE LLC	24.80	32.90	62.93
18035	00020	BORGWARNER DTP INC.	46.19	15.77	25.70
18035	00041	ROCK-TENN COMPANY	15.33	18.25	3.80
18035	00046	ARROWHEAD PLASTIC ENGINEERING, INC.			12.87
18037	00002	JASPER MUNICIPAL ELECTRIC UTILITY	106.47	234.27	1.07
18037	00005	JASPER CHAIR CO	3.22	1.00	36.18
18037	00006	JASPER CORPORATION			24.30
18037	00007	JASPER DESK COMPANY, INC.	1.68	0.73	32.59
18037	00010	JASPER SEATING CO	3.05	0.70	135.20
18037	00012	INWOOD OFFICE FURNITURE			39.40
18037	00015	MASTERBRAND CABINETS PLANT #2 & #3A	0.04	0.04	221.30
18037	00016	DMI FURNITURE	1.19	0.21	62.72
18037	00017	JASPER SEATING COMPANY - FERDINAND			26.76
18037	00023	DUBOIS WOOD PRODUCTS, INC	2.48	1.77	33.36
18037	00028	INDIANA DESK-DUBOIS	0.50	0.60	51.43
18037	00031	ANR PIPELINE CELESTINE STATION	34.20	579.25	37.70
18037	00048	F-JASPER 11TH AVE	9.05	1.63	63.84
18037	00051	MASTERBRAND CABINETS, INC. PLANT 4/22	0.30	0.35	549.19
18037	00052	MASTERBRAND PLANT #3	0.10	0.12	218.21
18037	00058	DMI FURNITURE			9.31
18037	00071	WOODMASTER, INC.	0.37	0.45	94.52
18037	00081	MOBEL, INC	0.08	0.31	124.12
18037	00085	KIMBALL INTERNATIONAL COMBO 37-30,50,53*			53.08
18037	00089	JASPER ENGINE EXCHANGE, INC.	8.21	54.92	36.50
18037	00100	KIMBALL INTERNATIONAL*	110.56	13.63	330.44
18037	00102	Styline Industries	13.95	8.10	162.50
18037	00104	INDIANA FURNITURE INDUSTIRES *	0.46	0.55	5.93
18037	00107	JOFCO PLT 1 & 2 COMBO (037-9 & 24)*	3.31	3.42	85.47
18039	00001	MASTER FAB INC.			57.92
18039	00002	OWENS CORNING FABRICATING SOLUTIONS			309.64
18039	00005	CANA INC.			119.59
18039	00009	BAYER HEALTHCARE LLC	13.93	45.96	3.59
18039	00010	CONN-SELMER, INC., VINCENT BACH DIVISION			2.74
18039	00011	STARCRAFT BUS & MOBILITY, DIV FR	0.21	0.25	39.50
18039	00012	VITCO INC	3.21	3.82	0.12
18039	00014	HOME-CREST CORPORATION	1.06	1.12	243.11
18039	00017	MONACO COACH CORPORATION - WAKARUSA	3.33	3.96	298.61
18039	00018	JOHNSON CONTROLS, INC.	0.76	0.90	1.97
18039	00027	PARKER HANNIFIN	2.31	2.75	2.28
18039	00030	H.B. FULLER CO	0.29	0.35	8.22
18039	00035	LOUISIANA-PACIFIC CORP.			23.60
18039	00036	ELKHART PRODUCTS CORPORATION	1.65	1.96	0.11
18039	00039	FOREST RIVER, INC. CEDAR CREEK DIVISION	0.33	0.39	4.26
18039	00050	APG, INC			0.02
18039	00051	ELKHART FOUNDRY & MACHINE CO., INC.		0.01	1.50

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00055	FLEXIBLE FOAM PRODUCTS, INC.			11.59
18039	00058	BY-PASS PAINT SHOP INC			5.87
18039	00062	COACHMEN RECREATIONAL VEHICLE CO.,LLC			54.03
18039	00063	CTS CORPORATION AUTOMOTIVE PRODUCTS	0.69	0.83	0.05
18039	00065	PRODESIGN COMPOSITES			18.29
18039	00066	SYNDICATE SYSTEMS, INC.	6.75	8.03	0.85
18039	00067	MILLENNIUM PRODUCTS, INC.			34.86
18039	00069	ANCO PRODUCTS, INCORPORATED			2.83
18039	00070	PHILIPS PRODUCTS/VENTLINE DIV	0.55	0.65	4.91
18039	00072	ELKHART BRASS MANUFACTURING CO. INC.	4.60	0.34	2.82
18039	00073	SMOKER-CRAFT INC			71.63
18039	00076	20TH CENTURY FIBERGLASS	0.93	1.11	131.82
18039	00077	GASKA TAPE, INC.		0.32	70.89
18039	00081	BISON MANUFACTURING			22.20
18039	00082	PATRICK INDUSTRIES			66.82
18039	00086	CARPENTER CO.	1.04	1.24	0.59
18039	00087	MONACO COACH CORPORATION - NAPPANEE			72.23
18039	00094	FOUR SEASONS HOUSING			6.21
18039	00096	UNITED EXPRESSLINE, INC.	0.66	1.78	42.15
18039	00097	TRUCK ACCESSORIES GROUP - LEER MIDWEST	0.93	1.11	136.35
18039	00098	BENNINGTON MARINE CORP.			2.30
18039	00099	EFP, CORP	2.85	3.39	35.52
18039	00103	SUPREME CORPORATION	0.00	0.00	76.56
18039	00104	JASON INDUSTRIES, INC.			81.37
18039	00105	PATRIOT HOMES INC.			10.88
18039	00109	20TH CENTURY FIBERGLASS PLANT #4	0.23	0.28	20.64
18039	00110	RANCH FIBERGLAS, INC.			34.49
18039	00118	ELKHART GENERAL HOSPITAL	0.40	0.48	0.03
18039	00122	THE ART OF DESIGN, INC.	0.01	0.02	1.63
18039	00126	GLAVAL CORPORATION			5.96
18039	00130	VENTURE WELDING, INC.	0.37	0.44	56.12
18039	00135	DADON CORP DBA MERHOW INDUSTRIES			1.35
18039	00137	COVERMASTER, INC.			90.89
18039	00141	BETTER WAY PRODUCTS, INC.			218.59
18039	00145	GULF STREAM COACH, INC.	0.75	0.09	41.17
18039	00147	EPS, INC. D/B/A VALSPAR COATINGS			4.41
18039	00152	FIBER-TRON, INC.			8.16
18039	00154	EK BLESSINGS COMPANY, INC.	0.11	0.14	5.25
18039	00155	MILLER DOOR & TRIM INC	0.09	0.10	31.05
18039	00157	NEWMAR CORPORATION			164.72
18039	00166	BECK INDUSTRIES	2.32	2.76	67.16
18039	00170	ET AND T FRAMES, INC.	0.67	1.66	24.89
18039	00172	DOORS PLUS, INC.	0.47	0.54	38.66
18039	00174	NICKELL MOULDING CO., INC.			29.00
18039	00177	STEELCASE, INC., STOW DAVIS DIV.	0.95	1.13	43.97
18039	00178	ROBERT WEED PLYWOOD CORPORATION			15.51
18039	00182	MONACO COACH CORPORATION-ELKHART			107.57
18039	00185	VENTURE WELDING	0.16	0.19	0.01

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00187	ENVIRONMENTAL TEST SYSTEMS, INC			5.08
18039	00188	ALTEC ENGINEERING, INC.	0.17	0.20	37.81
18039	00189	DOORS AND DRAWERS, INC.			5.04
18039	00191	HAYES LEMMERZ INTERNATIONAL - BRISTOL	21.93	43.90	19.24
18039	00192	CONSOLIDATED LEISURE INDUSTRIES, LLC			21.32
18039	00195	D&W INC.	0.31	0.37	18.70
18039	00198	SUPERIOR LAMINATING, INC.	0.05	0.06	3.16
18039	00200	ACCRA FORM COMPOSITES			5.14
18039	00206	M AND M FABRICATORS CORPORATION	0.76	0.16	1.94
18039	00215	QUALITY FRAMES, INC	0.69	0.76	5.25
18039	00220	FOUR WINDS INTERNATIONAL CORPORATION	0.71	0.85	39.75
18039	00229	LITHOTONE	0.19	0.23	12.52
18039	00230	CREATION WINDOWS	1.13	1.24	22.02
18039	00235	HULL LIFT TRUCK, INCORPORATED			5.85
18039	00242	BAYER HEALTHCARE LLC	0.56	0.66	9.13
18039	00245	MIDDLEBURY HARDWOOD PRODUCTS, INC.			113.19
18039	00246	CROWN AUDIO, INC.			2.75
18039	00248	ELPACO COATINGS CORPORATION	0.15	0.18	26.43
18039	00249	GOSHEN STAMPING COMPANY, INC.	0.16	0.18	0.01
18039	00251	BULL MOOSE TUBE COMPANY, INC			3.85
18039	00253	HAULMARK INDUSTRIES, INC.			6.71
18039	00254	HAULMARK INDUSTRIES, INC.			69.19
18039	00255	AMERICAN CARGO CORPORATION	0.24	0.27	9.35
18039	00257	IMPRESSIONS, INC.	0.01	0.05	2.42
18039	00258	WIELAND DESIGN, INC.	0.47	0.55	5.14
18039	00265	JAYCO INC. (00265)			64.86
18039	00267	GODFREY CONVEYOR COMPANY INC.			64.81
18039	00268	FLEXSTEEL INDUSTRIES, INC.	0.47	0.55	1.15
18039	00269	TRUTH PUBLISHING COMPANY, INC.			1.73
18039	00271	WALTER PIANO COMPANY, INC.			14.08
18039	00272	PACE AMERICAN	7.12	8.48	38.47
18039	00273	HERR CUSTOM PAINTING	0.06	0.07	13.61
18039	00274	ELKHART COUNTY LANDFILL	24.32	1.29	0.74
18039	00276	CUSTOM WOODCRAFT, INC.	0.12	0.13	7.45
18039	00277	MARK LINE INDUSTRIES			3.17
18039	00282	MOULDING DIVISION OF ROBERT WEED PLYWOOD	1.64	0.28	45.88
18039	00283	WELLS CARGO, INC.			30.57
18039	00285	DAMON CORPORATION-BRECKENRIDGE DIV.			5.73
18039	00295	FOREST RIVER INC, CARDINAL DIVISION	2.59	3.08	17.68
18039	00296	SPECIALIZED WOOD PRODUCTS			23.42
18039	00297	PRESTIGIOUS PRINTING	0.23	0.28	3.36
18039	00299	NORTH AMERICAN MOULDING, INC.	0.27	0.33	2.33
18039	00302	FOAMEX			0.08
18039	00306	SKYLINE CORPORATION- PLT 616			4.37
18039	00307	SKYLINE CORPORATION- PLT 812			4.05
18039	00308	SKYLINE CORPORATION- PLT 111			2.35
18039	00309	LIPPERT COMPONENTS, INC.			15.91
18039	00310	SKYLINE CORPORATION- PLT 112			3.41

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00318	HARTSON KENNEDY CABINET TOP COMPANY, INC			94.49
18039	00320	PRODESIGN PAINT PLANT 820			11.50
18039	00324	ADORN, L.L.C.	0.63	0.75	205.38
18039	00326	CARRERA DESIGNS - PLANT 1	0.13	0.15	37.80
18039	00327	AMERICAN MILLWORK	0.11	0.13	1.81
18039	00332	EZ LOADER	0.19	0.22	0.04
18039	00336	PREMIER FIBERGLASS			5.92
18039	00337	J.E.J. MOULDING			4.37
18039	00338	DAIRY FARMERS OF AMERICA	9.24	11.00	0.63
18039	00343	T.P.C. & COMPANY, INC.	0.04	0.05	2.94
18039	00349	MONOGRAM CONVERSIONS, INC.			9.00
18039	00350	CONQUEST MINI-HOMES/GULFSTREAM COACH,			12.70
18039	00353	VICTORIAN HOMES			4.95
18039	00362	WEVAC PLASTICS CORPORATION, LLC.			16.03
18039	00363	KEYSTONE RV COMPANY			38.59
18039	00364	AUTOSPORT PAINTED ACCESSORIES	0.21	0.25	5.07
18039	00370	BFI WASTE SYSTEMS			0.02
18039	00373	OMEGA INDUSTRIES, INC.			24.60
18039	00376	DUTCHMEN MFG. - 376	0.74	0.88	33.64
18039	00377	DUTCHMENT MFG. - MIDDLEBURY	0.20	0.24	28.28
18039	00379	BEHLEN MANUFACTURING COMPANY	3.07	3.65	0.20
18039	00380	DUTCHMEN MFG. - 380	0.36	0.42	21.48
18039	00393	R D FINISHING, INC.			1.19
18039	00395	COPPES CABINETS	1.30	0.22	2.37
18039	00400	BRISTOL LAMINATING, INC.	0.21	0.25	3.27
18039	00402	R AND R CUSTOM WOODWORKING, INC.	1.08	4.25	17.75
18039	00407	DAMON COPORATION PLANTS 1,2,3 AND 9	0.25	0.30	18.21
18039	00415	BTC CABINET			1.83
18039	00416	ROYAL COACH, DIVISION OF MONACO COACH CO			3.20
18039	00423	SWARTZENDRUBER HARDWOOD CREATIONS, LLC			4.73
18039	00424	VAHALA FOAM, INC.	0.04	0.05	14.54
18039	00427	CHEM TECH, INC.			1.90
18039	00433	MILLER'S WOOD-N-THINGS	0.00	0.01	1.51
18039	00434	ACCRA PAC, INC.			70.07
18039	00437	HOOSIER WOOD CREATIONS, INC..	0.00	0.00	17.76
18039	00443	THE COMMODORE CORPORATION			9.94
18039	00444	SUNNYBROOK RV, INC.	0.84	0.92	29.19
18039	00448	INDEPENDENT PROTECTION COMPANY, INC			19.26
18039	00454	COULTER & SON, INC.			11.07
18039	00455	DEXTER AXLE CO.	0.55	2.72	11.36
18039	00456	CARRIAGE, INC. COMBO 039-179&039-00205	0.04	0.05	16.40
18039	00458	FOUR SEASONS HOUSING INC			8.30
18039	00460	NATIVE HARDWOODS INC.			29.47
18039	00461	EARTHMOVERS LANDFILL	30.40	15.20	4.45
18039	00468	CRYSTAL VALLEY HOMES			5.00
18039	00469	FOREST RIVER, INC	2.10	2.50	12.18
18039	00470	FOREST RIVER, INC	0.34	0.40	1.50
18039	00471	FOREST RIVER, INC	2.34	2.79	12.02

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00472	MICA SHOP, INC.			11.91
18039	00481	CMG, INC.	0.18	0.22	4.14
18039	00483	NU-WOOD COMPANY			8.60
18039	00487	SUPERIOR2 SOLVENTS AND CHEMICALS, INC.			1.74
18039	00489	INDIANA BUILDING SYSTEMS, L.L.C.			36.66
18039	00491	ODYSSEY BOAT DIVISION	0.25	0.29	0.33
18039	00493	GLOBAL GLASS INC.			98.79
18039	00498	VENTURE TECHNOLOGIES, LLC	1.55	1.85	13.60
18039	00499	J AND L CARGO EXPRESS, INC.			24.54
18039	00504	ALPHA SYSTEMS, INC.	0.50	0.55	19.88
18039	00505	DUTCH MILLS			6.68
18039	00508	VSV GROUP DBA MCCOY MILLER/GOSHEN COACH			39.29
18039	00509	FAIRMONT & KUSTOM (COMBO 039-00334&219)	0.40	0.05	119.88
18039	00510	CARGOMATE/CONTINENTAL CARGO/WEHAUL	1.55	1.84	8.19
18039	00514	COACHMEN REC. VEHICLE PLANT NO.900			9.82
18039	00518	KOUNTRY WOOD PRODUCTS, L.L.C.			47.59
18039	00519	ALTEC ENGINEERING, LLC			16.89
18039	00528	JAYCO, INC.(00528)			13.81
18039	00530	UTILIMASTER CORPORATION	0.92	1.09	32.10
18039	00531	EMTEC COMPOSITES, INC.			6.61
18039	00532	ROADMASTER, LLC	0.49	0.55	10.63
18039	00534	LIPPERT COMPONENTS, INC.			0.48
18039	00536	DYNAMAX CORPORATION			12.56
18039	00537	SCHMIDT FURNITURE AND MUSIC, LLC			0.65
18039	00538	VIM RECYCLING	4.12	19.13	1.55
18039	00542	PERFORMANCE PAINTING			33.88
18039	00543	HOOSIER HOUSE FURNITURE, INC.	0.00	0.00	0.48
18039	00548	NORFOLK SOUTHERN RAILWAY COMPANY	1.12	4.52	1.01
18039	00550	STOUTCO, INC.			6.65
18039	00551	MEDTEC AMBULANCE CORPORATION (MEDTEC)	0.21	0.26	6.90
18039	00552	SUPERIOR ENVIRONMENTAL REMEDIATION, INC.			3.67
18039	00554	FOREST RIVER, INC. WILDCAT DIVISION	0.42	0.50	4.35
18039	00556	NOBLE COMPOSITES, INC.	0.23	0.27	89.35
18039	00557	DELIVERY CONCEPTS, INCORPORATED			2.48
18039	00559	FINAL FINISH, LLC	0.03	0.04	2.97
18039	00560	KEYSTONE RV COMPANY			3.31
18039	00561	D & S INDUSTRIES	0.03	0.09	4.16
18039	00570	ORBIT COMPOSITES & BETTER WAY PRODUCTS			5.93
18039	03173	RIETH-RILEY3173 ASPHALT PLANT #375	0.95	3.78	0.19
18039	03296	NIBLOCK EXCAVATING	3.88	3.68	24.23
18041	00004	VISTEON SYSTEMS, LLC	9.47	11.28	66.85
18041	00009	PSI - ENERGY CONNERSVILLE PEAKING STA.	0.35	1.56	0.11
18041	00012	C.P. INCORPORATED			23.40
18041	00015	RECLAIMED ENERGY COMPANY, INC.	1.09	1.30	5.56
18043	00004	PSI ENERGY - GALLAGHER	355.48	6,133.00	49.17
18043	00010	TRANSMONTAIGNE TERMINAL INC.			8.98
18043	00012	FLINT INK NORTH AMERICA CORPORATION	1.00	1.19	42.00
18043	00014	FOAM FABRICATORS, INC.	1.05	1.25	88.23

FIPS	State ID	Facility Name	CO	NOX	VOC
18043	00016	FLOYD MEMORIAL HOSPITAL AND HEALTH SERVS	2.89	3.44	0.19
18043	00023	HITACHI CABLE INDIANA, INC.	0.96	1.15	0.06
18043	00024	CAMEO MARBLE	0.11	0.25	33.43
18043	00026	FIREKING INTERNATIONAL, INC.	2.27	2.70	0.39
18043	00029	PRINT XCEL DBA DISCOUNT LABELS			33.99
18043	00035	BRUCE FOX, INC.			6.84
18043	00039	PRODUCT SPECIALTIES			24.14
18043	00043	FIRE KING SECURITY PRODUCTS, LLC			7.03
18043	00049	PADGETT, INC.			5.60
18043	00050	GENERAL MILLS	1.63	1.94	0.27
18043	00053	W. M. KELLEY COMPANY, INC.			5.05
18045	00001	FOUNTAIN FOUNDRY		0.02	4.01
18045	00002	HARRISON STEEL CASTING	0.18	5.09	6.25
18045	00011	MASTER GUARD CORP.	2.36	2.80	223.85
18047	05211	DAVE O MARA CONTRACTOR PLANT 5	1.16	5.49	1.96
18049	00001	AKRON FOUNDRY, INC.		0.06	2.76
18049	00002	ROCHESTER METAL PRODUCTS CORP.		0.39	28.65
18049	00018	TOPP INDUSTRIES, INC.			16.63
18049	00027	OLYMPIC FIBERGLASS INDUSTRIES			24.66
18049	00029	COUNTY LINE LANDFILL	13.30	6.70	4.05
18051	00007	TEPPCO PRINCETON TERMINAL	1.54	0.30	13.21
18051	00013	PSI ENERGY - GIBSON	2,327.67	45,282.66	279.78
18051	00021	MID-STATES RUBBER PRODUCTS, INC.	0.65	2.59	6.61
18051	00037	TOYOTA MOTOR MANUFACTURING OF INDIANA	10.70	30.94	798.85
18053	00004	MFD MARION PLANT	30.27	37.46	1.32
18053	00020	THOMSON MULTIMEDIA, INC.	474.63	43.45	118.03
18053	00032	HARTSON-KENNEDY CABINET TOP COMPANY, INC			340.62
18053	00040	TETCO - GAS CITY STATION	26.02	45.20	12.82
18053	00058	AMERICAN WOODMARK	1.89	2.25	178.12
18055	00003	COUNTRYMARK COOPERATIVE, INC.			165.62
18055	00008	GRIFFIN INDUSTRIES, INC. - NEWBERRY	63.99	59.85	0.44
18055	00034	WORTHINGTON GENERATION LLC	38.95	37.33	1.56
18055	03293	ROGERS GROUP,INC.-GREENE CO. ASPHALT	10.78	0.79	3.35
18055	05166	RIETH-RILEY5166 PORTABLE ASPHALT PLANT #	1.32	6.04	0.32
18057	00002	INDIANA DUCTILE LLC		0.02	0.17
18057	00004	PSI ENERGY-NOBLESVILLE	29.02	1,152.87	3.01
18057	00006	FIRESTONE INDUSTRIAL PRODUCTS	11.88	36.89	88.78
18057	00008	COUNTRYMARK COOPERATIVE, INC.			15.74
18057	00042	INDUSTRIAL DIELECTRICS, INC.			38.72
18057	03300	MAR-ZANE PLANT #18	46.63	2.91	0.96
18059	00002	ROLL COATER INC.	14.11	16.80	78.09
18059	00009	KEMIRA CHEMICALS, INC.	2.94	23.96	0.19
18059	00018	AVERY DENNISON-FASSON ROLL DIVISION	9.88	11.76	77.06
18059	00023	VACUMET CORP., METALLIZED PAPER DIVISION	4.53	5.39	16.70
18059	00026	MONROE CUSTOM UTILTY BODIES			6.08
18061	00001	KELLER MANUFACTURING CO., INC.	8.67	4.26	42.18
18061	00011	SCHMIDT CABINET COMPANY, INC.			25.29
18061	00012	DARAMIC, INC.	4.91	5.85	1.25

FIPS	State ID	Facility Name	CO	NOX	VOC
18061	00013	KELLER MFG. CO., INC. - NEW SALISBURY	4.19	0.71	44.24
18063	00007	CENTER TERMINAL COMPANY			19.02
18063	00029	TWIN BRIDGES RECYCLING & DISPOSAL FACIL	4.18	2.28	1.35
18063	00047	PHOENIX FABRICATOR AND ERECTORS			16.70
18065	00003	AVESTAPOLARIT INC. PLATE PRODUCTS	10.54	62.83	0.74
18065	00007	GREDE NEW CASTLE, INC.	3.52	4.58	71.74
18065	00014	ALLEGHENY LUDLUM CORPORATION	22.64	208.71	74.84
18065	00019	ANR PIPELINE CO. SULPHUR SPRINGS STATION	42.77	33.54	29.74
18065	00032	CINCAP VII, LLC	5.64	32.00	0.78
18065	00035	HENRY COUNTY HOSPITAL	2.60	3.11	0.17
18065	00036	HAYES LANDFILL, INC.			4.55
18067	00002	DAIMLERCHRYSLER KOKOMO CASTING PLANT	27.01	31.40	2.16
18067	00003	DAIMLERCHRYSLER CORP TRANSMISSION PLANT	185.82	180.18	44.06
18067	00009	HAYNES INTERNATIONAL, INC.	33.95	57.93	3.55
18067	00058	DAIMLERCHRYSLER INDIANA TRANSMISSION PLT	67.76	6.77	2.18
18067	00061	DELPHI DELCO ELECTRONICS SYSTEMS	22.07	26.04	80.02
18069	00012	SUNOCO PARTNERS MARKETING & TERMINALS LP			80.14
18069	00013	MAJESTIC PRODUCTS COMPANY			11.35
18069	00018	KEN-KOAT, INC.	1.05	1.25	62.82
18069	00021	US MINERAL PRODUCTS COMPANY	6,786.13	43.43	17.38
18069	00031	HAYES LEMMERZ INTERNATIONAL	21.39	31.11	25.25
18069	00043	MERIDIAN AUTOMOTIVE SYSTEMS-HUNTINGTON	5.96	2.27	51.02
18069	00059	PRINT SUPPORT INC/MIGNONE COMMUNICATIONS			3.86
18071	00006	VALEO SYLVANIA, LLC	1.81	2.16	49.27
18071	00007	TE PRODUCTS PIPELINE CO.,LMTD PRTNRSHP			31.96
18071	00015	CUMMINS ENGINE CO	38.22	184.64	15.37
18071	00016	KOBELCO METAL POWDER OF AMERICA, INC.	153.82	14.93	4.35
18071	00017	AISIN USA MFG., INC.	2.10	2.50	20.11
18071	00023	SCHWARZ PHARMA MFG.,INC.	0.01	9.30	21.39
18071	00034	LA GLORIA OIL AND GAS/CROWN CENTRAL PET.			244.44
18071	00036	HOME PRODUCTS INTERNATIONAL, INC. COMBO	1.68	2.00	162.66
18071	03117	DAVE O MARA CONTRACTOR PLANT 4	0.58	2.78	1.60
18071	03180	ONYX PAVING COMPANY, INC.	0.05	0.05	0.04
18073	00001	SAINT JOSEPHS COLLEGE	9.14	11.40	0.13
18073	00008	NIPSCO - R.M. SCHAHFER	1,192.72	17,215.67	165.81
18073	00011	SOLAE L.L.C.- REMINGTON IN	22.60	21.02	10.57
18073	00020	CITY LIGHT PLANT	0.36	1.69	0.78
18073	00025	TALBERT MFG.	0.63	0.75	27.67
18073	00031	G-P GYPSUM, WHEATFIELD INDIANA	31.27	43.55	23.97
18073	05148	JASPER COUNTY HIGHWAY DEPT.	0.47	0.56	0.18
18075	00003	INDIANA GLASS COMPANY	15.54	87.21	6.18
18075	00004	SAINT-GOBAIN CONTAINERS, INC.	32.66	160.05	32.66
18075	00005	VENTURE INDUSTRIES (PORTLAND)	0.52	0.62	1.28
18075	00012	ANR PIPELINE CO PORTLAND STATION	1.22	15.60	1.02
18075	00017	W & M MFG.,INC.	0.60	0.72	47.65
18075	00023	PATRIOT PAINT CO., INC.	0.06	0.08	9.37
18075	00029	JAY COUNTY LANDFILL	5.35	1.41	2.06
18077	00001	IKEC - CLIFTY CREEK STATION	1,028.19	28,497.00	143.88

FIPS	State ID	Facility Name	CO	NOX	VOC
18077	00003	GROTE INDUSTRIES, LLC			27.96
18077	00007	ARMOR METAL GROUP			50.53
18077	00008	MADISON STATE HOSPITAL	4.91	5.85	0.32
18077	00010	USF/ENVIREX PRODUCTS			18.65
18077	00011	ROTARY LIFT/ A DOVER INDUSTRIES COMPANY			54.19
18079	00002	MUSCATATUCK STATE HOSPITAL & TRAINING	1,028.46	4,915.59	69.60
18079	00010	ERLER INDUSTRIES, INC.			198.48
18079	00014	METALDYNE SINTERED COMPONENTS	16.88	14.04	
18079	00019	PLASFINCO			7.18
18079	03181	DAVE O MARA CONTRACTOR PLANT 1	0.82	3.94	0.42
18081	00005	SONOCO FLEXIBLE PACKAGING	6.43	7.66	438.10
18081	00012	LEAR CORPORATION EEDS & INTERIORS			16.29
18081	00021	ESSEX GROUP, INC.			40.18
18083	00003	PSI ENERGY-EDWARDSPORT	56.53	1,926.46	7.05
18083	00008	ESSEX GROUP, INC.	19.11	43.12	562.58
18083	00027	GOOD SAMARITAN HOSPITAL	3.85	5.21	0.30
18083	00041	WHEATLAND GENERATING FACILITIES	19.85	69.09	1.62
18083	03185	ROGERS GROUP,INC.-VINCENNES ASPHALT	7.58	0.56	3.28
18085	00002	DA-LITE SCREEN COMPANY, INC.	1.66	2.19	157.19
18085	00003	DALTON CORPORATION WARSAW MANUFACTURING	833.84	28.91	176.30
18085	00009	R.R. DONNELLEY & SONS COMPANY	21.87	26.24	267.53
18085	00012	PAR-KAN COMP.	1.18	1.40	17.18
18085	00031	RINKER BOAT COMPANY, INC.			143.05
18085	00037	FLINT INK NORTH AMERICA CORPORATION			54.69
18085	00051	MARBLE CREATIONS			11.10
18085	00067	AERO COACH (DUTCHMEN)			11.59
18085	00070	FRONTLINE MFG.			16.60
18085	00074	EXPLORER VAN COMPANY			35.76
18085	00077	FRONTLINE MANUFACTURING			115.32
18087	00004	ANR PIPELINE CO. LAGRANGE STATION	42.92	319.32	60.03
18087	00007	STARCRAFT RV	16.39	1.84	12.60
18087	00012	STARCRAFT MARINE, LLC			83.56
18087	00018	VENTURE WELDING (HOWE)	0.17	0.20	92.26
18087	00019	JAYCO, INC.(00019)	0.00	0.00	2.44
18087	00023	PALLETONE OF INDIANA, INC,	23.81	8.73	1.50
18087	00031	NISHAKAWA STANDARD	0.96	2.50	37.36
18087	00036	FOUR WOODS LAMINATING	13.16	60.90	71.91
18087	00047	MIDWEST MOLDING, INC.	0.07	0.08	1.42
18087	00051	H.R.O., INC.			8.94
18089	00001	TRANSMONTAIGNE PIPELINE			0.94
18089	00003	BP PRODUCTS NORTH AMERICA INC, WHITING R	4,375.08	10,952.22	1,554.24
18089	00013	RIETER AUTOMOTIVE NORTH AMERICA	9.89	12.00	7.73
18089	00020	AMERICAN CHEMICAL SERVICE, INC.	0.60	3.41	10.38
18089	00053	MARATHON AHSLAND PIPELINE-GRIFFITH EAST			1.50
18089	00059	ENBRIDGE ENERGY, LIMITED PARTNERSHIP			38.96
18089	00062	AVERY DENNISON-DECORATIVE FILM DIVISION	9.46	11.26	24.01
18089	00069	ANR PIPELINE NAT GAS_CO-ST. JOHN STATION	202.87	703.89	79.13
18089	00072	MARATHON ASHLAND PIPE LINE-GRIFFITH STAT			78.44

FIPS	State ID	Facility Name	CO	NOX	VOC
18089	00075	VESUVIUS USA	0.03	0.03	1.08
18089	00076	BP CHEMICAL COMPANY	1.65	2.45	8.56
18089	00081	ENBRIDGE ENERGY, LIMITED PARTNERSHIP			35.48
18089	00090	MUNSTER STEEL			6.51
18089	00093	CARB-RITE COMPANY	5.71	6.80	0.37
18089	00094	MASON CORPORATION	5.86	6.97	4.26
18089	00096	MIDWEST PIPE COATING	1.55	1.85	4.84
18089	00100	BLASTECH, INC			0.45
18089	00105	A. P. GREEN REFRACTORIES CO. INC.	0.32	0.38	0.02
18089	00106	SCA TISSUE NORTH AMERICA, LLC	11.83	14.09	13.29
18089	00107	REED MINERALS DIV.	1.70	2.02	0.11
18089	00112	CARMEUSE LIME INCORPORATED	408.07	843.34	0.01
18089	00114	METHODIST HOSPITALS INC	2.94	3.50	0.19
18089	00117	NIPSCO - DEAN H. MITCHELL STATION	24.67	257.27	2.88
18089	00121	U S STEEL CO GARY WORKS	87,428.86	5,500.55	2,093.60
18089	00143	GARY SANITARY LANDFILL	24.30	4.40	3.02
18089	00157	REPUBLIC TECHNOLOGIES INTERNATIONAL	1.87	2.94	0.14
18089	00161	INDUSTRIAL STEEL CONSTRUCTION, INC.	1.64	1.95	20.12
18089	00163	NORTH AMERICAN REFRACTORIES	0.77	0.91	0.05
18089	00164	SMITHS MEDICAL ASD, INC			8.58
18089	00167	STANRAIL NORTH PLANT	0.07	0.08	4.34
18089	00169	GARY COAL PROCESSING	10.07	11.98	0.66
18089	00172	USS - CENTRAL TEAMING COMPANY, INC.	0.43	1.98	0.11
18089	00174	TUBE CITY, INC.	1.56	1.86	0.10
18089	00176	BRADENBURG INDUSTRIAL SERVICE COMPANY	0.02	0.11	2.33
18089	00177	PRAXAIR	1.30	1.66	0.18
18089	00179	BUCKO CONSTRUCTION - 15TH STREET PLANT	4.45	7.52	16.92
18089	00180	KOPPERS INDUSTRIES INC	0.53	0.63	1.48
18089	00201	JUPITER ALUMINUM CORPORATION	10.86	59.74	9.17
18089	00202	SILGAN CONTAINERS CORP	4.91	5.85	13.74
18089	00203	CARGILL, INC.	116.23	158.95	86.68
18089	00204	ASF-KEYSTONE, INC.	1.45	4.21	8.57
18089	00205	BP PRODUCTS N.A. INC- HAMMOND TANK FARM			60.02
18089	00209	SHELL OIL PRODUCTS US HAMMOND TERMINAL			18.35
18089	00210	STATE LINE ENERGY LLC	373.89	7,052.91	66.82
18089	00214	EXPLORER PIPELINE COMP.			23.14
18089	00218	HALSTAB DIVISION OF HAMMOND GROUP, INC.	0.79	0.94	0.05
18089	00219	HAMMOND GROUP, INC. (HGI)	5.27	6.28	0.35
18089	00220	LASALLE STEEL COMPANY	8.05	18.82	1.18
18089	00222	RESCO PRODUCTS, INC.	10.94	3.65	93.40
18089	00227	KEIL CHEM -FERRO CO	5.06	6.12	5.60
18089	00228	HUHTAMAKI FOODSERVICE INC.	19.96	12.56	25.13
18089	00229	UNILEVER HPC USA	17.14	12.81	1.77
18089	00230	WOLF LAKE TERMINALS, INC.	1.52	1.81	5.30
18089	00231	MARATHON ASHLAND PET., HAMMOND TERMINAL			57.69
18089	00233	EXXON MOBIL CORPORATION - HAMMOND TERM			29.78
18089	00239	SHELL OIL PRODUCTS US EAST CHICAGO TERM			65.31
18089	00242	RHODIA INC.	11.57	45.52	12.28

FIPS	State ID	Facility Name	CO	NOX	VOC
18089	00244	SAINT MARGARET MERCY HEALTHCARE CENTERS	6.14	7.48	0.44
18089	00247	VERMETTE MACHINE CO., INC.	0.07	0.08	4.36
18089	00248	H. A. INDUSTRIES-DIV OF AM CASTLE & CO.	14.87	17.99	0.97
18089	00249	PURDUE UNIVERSITY CALUMET	2.94	3.50	0.19
18089	00253	ARROW UNIFORM RENTAL	1.08	5.40	0.30
18089	00254	VIKING ENGINEERING COMPANY, INC.	0.27	0.32	0.78
18089	00255	POMP'S TIRE SERVICE, INC.			4.32
18089	00262	SAXON METALS	0.20	1.12	0.06
18089	00291	BUCKEYE TERMINALS, LLC - HARTSDALE STAT			26.30
18089	00295	DAVIES IMPERIAL COATINGS, INC.			7.95
18089	00298	BAKERY FEEDS	1.33	1.59	0.37
18089	00300	U.S. STEEL - EAST CHICAGO TIN OPERATIONS	66.08	35.17	3.48
18089	00301	SAFETY-KLEEN OIL RECOVERY CO.	44.85	111.90	6.41
18089	00307	CITGO PETROLEUM CORP			157.18
18089	00310	W.R. GRACE	14.95	17.80	1.05
18089	00314	GATX RAIL			2.68
18089	00316	ISPAT INLAND INC.	47,213.76	6,355.52	1,595.61
18089	00318	ISG INDIANA HARBOR INC.	6,301.42	1,844.44	110.98
18089	00320	BUCKEYE TERMINALS, LLC - EAST CHICAGO ST			21.77
18089	00326	PHILLIPS PIPELINE	14.74	3.04	98.51
18089	00330	PRAXAIR, INC.	4.22	23.88	0.48
18089	00332	UNION TANK CAR COMPANY - PLANT #1	6.13	7.30	33.90
18089	00333	UNITED STATES GYPSUM COMPANY	46.31	55.13	3.03
18089	00343	UNION TANK CAR CO/E. CHICAGO LINING FA	0.77	0.91	7.23
18089	00345	POLLUTION CONTROL INDUSTRIES, INC			5.05
18089	00356	BEEMSTERBOER SLAG CORPORATION	4.63	21.50	1.14
18089	00358	EAST CHICAGO RECOVERY, INC.	1.21	1.50	1.14
18089	00360	RJR DRYING	2.31	2.76	0.15
18089	00364	TRANSFLO TERMINAL SERVICES, INC.			0.08
18089	00369	OIL TECHNOLOGY, INC. - ISPAT STEEL PLT#2			1.89
18089	00370	HOOSIER RAILCAR			5.34
18089	00373	ELECTROTEK METALS	0.72	0.43	0.05
18089	00375	OIL TECHNOLOGY, INC. - LTV STEEL PLANT			1.52
18089	00379	ASPHALT CUTBACKS, INC.	0.00	0.97	0.08
18089	00381	PROGRESS RAIL SERVICES CORPORATION	2.65	3.02	13.54
18089	00382	INDIANA HARBOR COKE COMPANY	408.89	824.84	2.07
18089	00406	STANRAIL SOUTH PLANT			10.12
18089	00407	AVERY DENNISON GRAPHICS DIVISION	6.26	7.46	10.16
18089	00426	MUNSTER COMMUNITY HOSPITAL	7.93	9.50	0.52
18089	00435	PRAXAIR INC	22.74	22.52	3.45
18089	00443	SACO INDUSTRIES, INC.			18.24
18089	00448	IRONSIDE ENERGY, LLC	2.77	3.40	0.23
18089	00449	WHITING CLEAN ENERGY, INC.	50.40	91.00	5.28
18089	00453	BP PRODUCTS N.A. INC. - WHITING TERMINAL			7.63
18089	00456	LLOYD'S MOBILE GASOLINE STATION	0.00	0.01	0.45
18089	00458	LAFARGE NORTH AMERICA	28.94	5.83	0.57
18089	00460	CHEMCOATERS	0.22	0.26	4.32
18089	00461	FORMER MARATHON #2318			0.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18089	00463	NIPSCO VECTOR CROWN POINT PIPELINE HEATE	0.06	0.07	0.00
18089	00464	NIPSCO NORTH HAYDEN PIPELINE HEATER	1.59	1.89	0.10
18089	00465	FRITZ ENTERPRISES INC.	1.57	7.70	0.29
18089	03215	WALSH & KELLY INC.:GRIFFITH PLANT	4.72	5.62	1.47
18089	03226	RIETH-RILEY3226 ASPHALT PLANT #367	4.50	4.33	0.09
18091	00018	CASTING SERVICE	3.16	3.85	33.08
18091	00020	WEIL MCLAIN, A UNITED DOMINION COMPANY	1.13	3.69	44.30
18091	00021	NIPSCO - MICHIGAN CITY	354.87	9,811.59	76.92
18091	00028	SILIGAN CONTAINERS CORP.	5.96	7.10	155.42
18091	00040	ROLL COATER INC.	24.33	28.96	126.17
18091	00052	AMPCOR II, INC.			37.57
18091	00053	CRITERION CATALYST AND TECHNOLOGIES, LP	12.56	21.00	3.06
18091	00061	KSI, LLC	0.21	0.25	0.01
18091	00067	DEERCROFT RECYCLING & DISPOSAL FACIL.	128.83	45.53	27.32
18091	00069	WEISS PRESTAINING INC.	0.96	1.10	78.59
18091	00079	POLYFOAM PACKERS CORPORATION	2.07	2.47	86.04
18091	00104	VITAMINS, INC.			103.00
18091	00106	HOLSUM FT. WAYNE, INC.	1.83	2.18	57.08
18091	00119	SPRINGVILLE COMPRESSOR STATION	2.43	41.71	0.95
18093	00002	LEHIGH CEMENT COMPANY	561.44	4,188.33	92.09
18093	00007	GM POWERTRAIN BEDFORD FACILITY	58.74	69.93	3.85
18093	00010	MANCHESTER TANK			7.15
18093	00013	TEXAS GAS TRANSMISSION - LEESVILLE	7.14	20.58	2.32
18093	00015	DUNN MEMORIAL HOSPITAL	1.18	1.40	0.08
18093	03287	ROGERS GROUP,INC.-LAWRENCE CO. ASPHALT			6.37
18093	05064	NEWCO METALS PROCESSING	3.68	3.08	0.30
18095	00005	GUIDE CORPORATION	18.54	22.42	203.80
18095	00012	OWENS BROCKWAY GLASS CONTAINER INC.	25.70	282.31	17.90
18095	00016	DELPHI CORPORATION LLC.	9.45	11.25	27.57
18095	00037	ALAC GARMENT SERVICES	1.22	1.45	19.14
18095	00044	PLASTECH	4.10	4.89	199.48
18095	00048	ELSA LLC			15.90
18095	00051	IMPA - ANDERSON STATION	9.31	5.50	0.81
18097	00001	HUBBARD FEEDS INC. FORMERLY CONTI GROUP	0.16	0.20	0.01
18097	00002	AMERICAN ART CLAY CO. INC.	0.70	0.92	1.38
18097	00005	BRIDGEPORT BRASS D/B/A OLIN BRASS	9.96	17.75	1.16
18097	00009	CENTRAL STATE HOSPITAL	0.02	0.07	0.00
18097	00010	GM MFD INDIANAPOLIS METAL CENTER	2.45	2.91	0.16
18097	00012	DAIMLER CHRYSLER CORPORATION FOUNDRY	24.90	29.62	75.95
18097	00014	NATIONAL RAILROAD PASSENGER CORPORATION			8.18
18097	00015	CARRIER CORPORATION			18.18
18097	00019	ELI LILLY AND COMPANY (LCC)	0.68	0.20	1.46
18097	00020	CARGILL DRY CORN INGREDIENTS	7.63	5.09	8.32
18097	00021	VISTEON CORPORATION - INDIANAPOLIS PLANT	26.81	17.38	1.76
18097	00028	ADM GRAIN COMPANY	0.36	0.43	0.02
18097	00029	ZIMMER PAPER PRODUCTS INC	0.61	1.02	0.27
18097	00030	MEADWESTVACO			5.30
18097	00031	INDIANA VENEERS CORP	8.86	6.59	2.88

FIPS	State ID	Facility Name	CO	NOX	VOC
18097	00032	INDIANAPOLIS BELMONT WWTP	1,413.59	155.04	77.93
18097	00033	IPL HARDING STREET STATION	481.75	6,591.21	65.83
18097	00034	C.C. PERRY K STEAM PLANT	243.89	1,467.41	10.88
18097	00037	CAPITOL CITY CONTAINER CORP.			0.12
18097	00039	INTERNATIONAL TRUCK AND ENGINE CORP.	359.69	32.62	200.01
18097	00040	VALSPAR COATINGS	1.32	1.57	27.45
18097	00041	WISHARD MEMORIAL HOSPITAL	15.16	18.10	3.78
18097	00042	NATIONAL STARCH & CHEMICAL CORPORATION	28.53	61.22	3.91
18097	00050	IR VON DUPRIN		0.70	5.68
18097	00061	CITIZENS GAS & COKE	446.36	389.81	74.75
18097	00063	INTERSTATE CASTINGS	0.00	0.02	10.94
18097	00068	INDPLS.JUVENILE CORRECTIONAL FACILITY	0.13	0.15	0.01
18097	00072	ELI LILLY AND COMPANY (LTC)			42.25
18097	00076	BP - INDIANAPOLIS TERMINAL			17.32
18097	00077	EQUILON ENTERPRISES LLC-INDIANAPOLIS			32.53
18097	00078	MARATHON ASHLAND PET.- SPEEDWAY TERMINAL			54.12
18097	00079	QUEMETCO, INC.	214.50	255.14	4.68
18097	00081	DORSEY PAVING INC	0.00	0.00	0.04
18097	00082	F.E. HARDING ASPHALT COMPANY	4.20	5.02	3.56
18097	00086	MILESTONE CONTRACTORS, L.P.	4.30	15.63	0.66
18097	00088	RIETH-RILEY88 ASPHALT PLANT #325	1.39	5.32	0.26
18097	00089	RIETH-RILEY89 ASPHALT PLANT #326	1.56	5.96	0.29
18097	00093	CRYOVAC RIGID PACKAGING CRYOVAC, INC.			331.88
18097	00095	PANHANDLE EASTERN PIPELINE CO	165.51	1,559.53	65.05
18097	00098	ASPHALT MATERIALS, INC.	5.89	7.41	3.37
18097	00100	RAYTHEON TECH. SERVICES CO.	3.36	4.00	7.34
18097	00102	BMG MUSIC	1.01	1.21	0.07
18097	00107	SHOREWOOD PACKAGING CORP OF INDIANA			60.82
18097	00116	INDIANAPOLIS NEWSPAPERS - DOWNTOWN			12.92
18097	00119	BEST ACCESS SYSTEMS			11.75
18097	00121	SENSIENT FLAVORS, INC.	0.76	0.91	8.72
18097	00123	COVANTA INDIANAPOLIS, INC.	67.01	799.77	7.96
18097	00127	SUPERIOR METAL TECHNOLOGIES	0.59	0.70	0.09
18097	00129	ST VINCENT HOSPITAL	2.13	2.54	0.14
18097	00131	E & B PAVING INC.	5.01	4.75	3.69
18097	00135	GEIGER & PETERS, INC.			8.12
18097	00139	METALWORKING LUBRICANTS COMPANY	4.34	5.63	0.31
18097	00140	FIRESTONE BUILDING PRODUCTS CO.			8.77
18097	00141	CITIZENS GAS & COKE UTILITY - LNG NORTH	2.64	6.44	0.15
18097	00143	GAC INDIANAPOLIS SHEETFED DIVISION			7.13
18097	00145	GAC INDIANAPOLIS WEB DIVISION			8.26
18097	00146	MILLER VENEERS,INC.	0.02	0.00	0.00
18097	00151	BUTLER UNIVERSITY	3.63	4.32	0.24
18097	00154	INLAND PAPERBOARD - GRAPHIC RESOURCE CEN	0.31	0.37	19.94
18097	00156	UNITED AIRLINES INDPLS MAINTENANCE CENTR	11.28	12.62	37.98
18097	00159	MARATHON ASHLAND PET. - INDPLS TERMINAL			83.38
18097	00160	SAINT CLAIR PRESS	0.08	0.09	8.60
18097	00161	KROGER COMPANY - INDIANAPOLIS BAKERY	9.66	11.50	27.80

FIPS	State ID	Facility Name	CO	NOX	VOC
18097	00163	ST. FRANCIS HOSPITAL - BEECH GROVE	4.52	6.04	0.32
18097	00165	MAR-ZANE, INC. PT. 16	13.63		4.61
18097	00170	INTERSTATE BRANDS CORP.	4.28	5.10	86.22
18097	00176	LORD CORPORATION			1.83
18097	00178	COMMERCIAL FINISHING	0.38	0.45	1.22
18097	00179	COMMERCIAL FINISHING CORP 26TH ST.	0.04	0.05	2.10
18097	00181	CONAGRA FOODS	4.55	5.42	0.30
18097	00182	POSTER DISPLAY			6.06
18097	00186	ASHLAND DISTRIBUTION CO. - INDIANAPOLIS	0.08	0.10	4.02
18097	00188	KERR-MCGEE CHEMICAL CORPORATION - FPD	1.22	1.45	6.80
18097	00197	FIBERGLAS & PLASTIC FABRICATING INC.			1.83
18097	00229	COMMUNITY HOSPITAL EAST	5.21	17.36	0.34
18097	00231	DELUXE FINANCIAL SERVICES	0.13	0.15	5.94
18097	00233	GENERAL DEVICES CO., INC	0.87	1.15	6.15
18097	00235	HOLCOMB & HOKE MFG CO,. INC.	0.34	0.40	2.29
18097	00241	FOUNTAINE TRUCK EQUIPMENT CO.			0.59
18097	00242	PRATT CORPORATION			18.23
18097	00243	NATIONAL BY-PRODUCTS, INC.	8.85	10.54	2.09
18097	00255	INLAND PAPERBOARD - ROOSEVELT	0.27	0.32	8.88
18097	00256	ALTEC INDUSTRIES, INC.			3.89
18097	00257	FEDERAL EXPRESS	2.07	5.12	0.19
18097	00259	DOW AGROSCIENCES	8.05	9.71	0.53
18097	00260	SELECO, INC.			0.63
18097	00265	INDY RAILWAY SERVICE CORP.			2.50
18097	00270	KELLER CRESCENT CO., INC.			2.46
18097	00272	INDUSTRIAL COATINGS SERVICES	1.40	1.67	3.85
18097	00273	TOYOSHIMA INDIANA, INC.			2.50
18097	00275	MAJOR TOOL & MACHINE, INC.			1.37
18097	00283	INDPLS AIR ROUTE TRAFFIC CONTROL CENTER	1.57	5.68	0.64
18097	00286	SUPERIOR OIL COMPANY			11.30
18097	00287	CITIZENS GAS & COKE UTILITY - LNG SOUTH	3.98	28.84	1.14
18097	00295	CITADEL ARCHITECTURAL PRODUCTS			9.82
18097	00296	WINONA MEMORIAL HOSPITAL	1.42	1.75	0.10
18097	00297	CMW, INC.	0.11	0.13	7.56
18097	00298	PRINT COMMUNICATIONS			39.60
18097	00301	HORNER ELECTRIC			1.25
18097	00302	CORSI CABINET COMPANY, INC.			18.04
18097	00303	IVC INDUSTRIAL COATING			20.48
18097	00304	ST. FRANCIS HOSPITAL AND HEALTH CENTER	2.60	3.99	0.22
18097	00310	ALLISON TRANSMISSION	177.65	198.33	22.24
18097	00311	ROLLS-ROYCE CORPORATION. PLANT 5 & 8	38.90	85.35	54.42
18097	00312	CENTRAL CORRUGATED, INCORPORATED	1.45	1.72	0.09
18097	00314	INLAND PAPERBOARD - STOUT FIELD	1.82	2.17	6.04
18097	00315	REILLY INDUSTRIES, INC.	2,843.86	79.21	81.14
18097	00316	RTP COMPANY			0.63
18097	00318	SPORT GRAPHICS, INC.			15.48
18097	00329	THE JACKSON GROUP			5.94
18097	00331	SCHERER INDUSTRIAL GROUP, INC.	0.21	0.25	0.43

FIPS	State ID	Facility Name	CO	NOX	VOC
18097	00338	ROCHE DIAGNOSTICS CORPORATION	0.03	0.31	0.01
18097	00342	SUBURBAN STEEL SUPPLY COMPANY	0.21	0.51	4.13
18097	00346	SPG GRAPHICS			7.54
18097	00352	GEORGETOWN SUBSTATION GENERATING PLANT	45.36	9.80	4.97
18097	00354	VILLAGE PANTRY #392			0.01
18097	00357	DESIGN INDUSTRIES			25.70
18097	00359	BAUER BUILT, INC.			2.80
18097	00360	MASCO SUPPORT SERVICES			10.24
18097	00365	QUAKER OATS CO-MAYFLOWER MIDWEST FACILIT	7.77	9.25	0.51
18097	00366	SOUTH SIDE LANDFILL, INC.	121.48	8.63	9.75
18097	00368	EAR SPECIALTY COMPOSITES & AEARO COMPANY			54.54
18097	00369	VISTA PACKAGING			0.00
18097	00373	PARTS CLEANING TECHNOLOGIES, LLC	0.09	0.47	2.32
18097	00374	AT OF GM - PARK FLETCHER BUILDING 38	0.25	1.07	0.16
18097	00377	IPL THOMPSON SUBSTATION	2.77	12.85	0.68
18097	00378	IPL SUNNYSIDE SUBSTATION	1.16	5.40	0.29
18097	00379	IPL ROCKVILLE SUBSTATION	0.91	4.21	0.22
18097	00380	IPL PROSPECT SUBSTATION	0.79	3.68	0.20
18097	00381	IPL GERMAN CHURCH SUBSTATION	1.34	6.24	0.33
18097	00382	IPL-GLENS VALLEY SUBSTATION	1.01	4.69	0.25
18097	00383	IPL-GUION SUBSTATION	1.10	5.09	0.27
18097	00384	IPL CUMBERLAND SUBSTATION	0.85	3.93	0.21
18097	00391	ROYAL SPA MFG.			13.15
18097	00402	INDIANAPOLIS NEWSPAPERS - PULLIAM CENTER			3.39
18097	00410	ULRICH CHEMICAL, INC.			2.35
18097	00421	QWEST - T1	0.04	0.17	0.01
18097	00422	QWEST - POP	0.01	0.05	0.00
18099	00001	BREMEN CASTINGS INC	93.12	5.06	19.17
18099	00002	INDIANA HEAT TRANSFER CORPORATION			16.05
18099	00003	PLYMOUTH FOUNDRY			0.07
18099	00004	DOORCRAFT OF INDIANA	0.88	0.91	18.47
18099	00020	BREMEN GLASS INC.			190.23
18099	00021	BOMARKO INC.	1.64	1.95	9.09
18099	00022	AKER PLASTICS CO. INC.	1.34	1.60	186.74
18099	00023	EAGLE CRAFT INC.			15.32
18099	00025	FERRO CORPORATION			70.14
18099	00028	PACTIV CORPORATION	1.18	1.40	184.58
18099	00029	PIONEER HI-BRED INTL	2.60	3.09	0.17
18099	00033	BREMEN CORPORATION			31.41
18099	00035	AKER PLASTICS CO. INC.	0.32	0.38	23.52
18099	00036	BREMEN TECHNOLOGIES, LLC	0.56	0.65	36.77
18099	00037	CHARLESTON CORP.			19.18
18099	00041	NISHIKAWA STANDARD COMPANY			35.20
18099	00043	AK INDUSTRIES, INC.			22.61
18099	00044	DURA-VENT CORPORATION			19.28
18099	00047	CREATIVE WOOD PRODUCTS, INC			3.11
18099	00048	WHITLEY PRODUCTS, INC	1.25	5.95	4.83
18099	00050	FOIL LAM., DIV. OF GLENMARK			0.93

FIPS	State ID	Facility Name	CO	NOX	VOC
18099	00052	HOOSIER TIRE & RUBBER CORP.			25.57
18099	00079	STANDARD GLAS, INC.	0.03	0.03	3.83
18099	00080	C&C FIBERGLASS, INC.			65.04
18099	00089	MIKE'S CUSTOM PAINTING			32.97
18101	00001	UNITED STATES GYPSUM COMPANY	51.00	61.34	3.34
18101	00005	NAVAL SURFACE WARFARE CENTER CRANE	194.97	53.76	29.10
18103	00001	PERU UTILITIES	0.72	29.91	0.10
18103	00008	GRISSOM AIR RESERVE BASE	4.46	6.48	3.51
18103	00011	COUNTRYMARK COOPERATIVE, INC.			301.62
18103	00016	WOODCREST MANUFACTURING	1.52	0.26	95.97
18103	00021	TRELLEBORG AUTOMOTIVE			3.80
18103	00027	WOODCREST MANUFACTURING - DINETTE PLANT			132.72
18105	00001	ROGERS GROUP-BLOOMINGTON	0.01	0.01	0.00
18105	00003	GENERAL ELECTRIC COMPANY	4.83	5.75	129.23
18105	00005	INDIANA UNIVERSITY	167.91	369.24	2.44
18105	00006	UNITED TECH.- OTIS ELEVATORS			12.33
18105	00018	PRINTPACK, INC.	1.14	1.35	267.92
18105	01331	RIETH-RILEY1331PORTABLE CONCRETE PLANT #	0.50	2.32	0.12
18105	03182	ROGERS GROUP,INC.-BLOOMINGTON ASPHALT	46.25	3.40	20.00
18105	05023	ROGERS GROUP,INC.-PORTABLE ASPHALT	2.13	9.53	7.23
18107	00003	CRAWFORDSVILLE ELECTRIC LIGHT & POWER	35.35	77.79	0.50
18107	00004	CROWN CORK & SEAL CO. (USA) INC.	2.88	3.43	89.68
18107	00007	RAYBESTOS	16.53	19.68	79.40
18107	00038	NUCOR STEEL	640.20	225.70	54.48
18107	00045	FLEETWOOD TRAVEL			7.98
18107	00052	R.R. DONNELLEY & SONS COMPANY	9.57	11.40	197.74
18109	00002	GENERAL SHALE PRODUCTS	77.81	49.60	2.33
18109	00004	IPALCO-PRITCHARD STATION	180.44	4,479.97	25.21
18109	00007	HYDRAULIC PRESS BRICK CO.	68.38	213.33	85.07
18111	00005	BON L MANUFACTURING COMPANY			115.20
18111	00017	NEWTON COUNTY LANDFILL	14.50	7.30	11.47
18113	00004	DALTON CORP. KENDALLVILLE MFG. FACILITY	754.06	29.74	85.69
18113	00008	DEXTER AXLE COMPANY	2.39	2.85	12.39
18113	00013	ESSEX GROUP, INC.	1.26	1.50	189.58
18113	00018	THYSSENKRUPP BUDD COMPANY - KENDALLVILLE			168.61
18113	00019	COLWELL GENERAL			6.50
18113	00023	VIBRACOUSTIC NORTH AMERICA			30.50
18113	00036	KREIDER MANUFACTURING, INC.	0.12	0.17	9.59
18113	00049	TOWER STRUCTURAL LAMINATING, INC.			27.05
18113	00071	ALUMINUM RECOVERY TECHNOLOGIES, INC.	1.79	3.98	2.92
18113	00074	STRUCTURAL COMPOSITES OF INDIANA, INC.	0.23	0.26	29.95
18117	00004	SPRINGS VALLEY MANUFACTURING			78.74
18117	00006	INDIANA HANDLE COMPANY	1.65	0.28	6.58
18117	00010	TETCO - FRENCH LICK STATION	43.23	576.41	14.40
18117	00013	COPPERFIELD, LLC.	1.67	1.99	2.38
18117	00014	PAOLI, INC.			228.50
18121	00008	PEPL - MONTEZUMA STATION	76.18	1,500.36	26.52
18123	00006	GE INDUSTRIAL SYSTEMS, INC	0.55	0.64	12.08

FIPS	State ID	Facility Name	CO	NOX	VOC
18123	00018	SCHWAB CORPORATION			14.13
18123	00019	THYSSENKRUPP WAUPACA, INC. - PLANT 5	1,550.19	77.37	173.52
18123	03259	J.H. RUDOLPH & CO., INC.	0.59	5.59	0.11
18125	00001	HOOSIER ENERGY - RATTS STATION	171.75	3,988.98	20.28
18125	00002	IPL PETERSBURG GENERATING STATION	1,330.43	19,951.55	186.11
18125	00004	MIDWESTERN GAS TRANSMISSION	0.09	0.59	0.02
18125	00005	TEXAS GAS TRANSMISSION - PETERSBURG	3.36	76.22	2.38
18125	00033	BLACKFOOT LANDFILL	17.70	5.90	13.10
18127	00001	BETHLEHEM STEEL CORP. - BURNS HARBOR	142,455.39	9,287.07	960.69
18127	00002	NIPSCO - BAILLY STATION	330.33	15,725.50	72.26
18127	00003	AOC	5.98	9.01	11.61
18127	00005	PRECOAT METALS	8.77	10.44	268.98
18127	00009	NATIONAL STEEL CORP	82.39	140.20	5.39
18127	00012	UNITED STATES CAN COMPANY	7.24	8.62	70.05
18127	00021	POWDER PROCESSING AND TECHNOLOGY	2.60	3.10	0.17
18127	00024	LEVY CO., CALUMITE/FINISHING PLANT	1.42	3.96	0.13
18127	00025	CARGILL BURNS HARBOR GRAIN EL	5.46	6.50	0.36
18127	00028	MAGNEQUENCH UG			5.89
18127	00030	REXAM BEVERAGE CAN COMPANY			46.67
18127	00036	BETA STEEL CORP	191.31	150.80	23.40
18127	00039	MAGNETICS INTERNATIONAL, INC.	11.05	13.15	0.72
18127	00040	WORTHINGTON STEEL	4.58	5.45	0.30
18127	00042	WHEELER RECYCLING & DISPOSAL FACILITY	42.85	11.09	4.11
18127	00050	ISK MAGNETICS INC	6.22	7.52	0.41
18127	00059	SIGNATURE GRAPHICS, INC.			11.41
18127	00067	PORTSIDE ENERGY CORPORATION	101.34	120.96	7.53
18127	00069	PRAXAIR INC.	3.99	4.77	0.26
18127	00075	BETHLEHEM STEEL - KVAERNER SONGER, INC.	0.01	0.05	0.00
18127	00076	PHILIP METALS - BURNS HARBOR YARD	5.59	2.73	0.05
18127	00085	AMERICAN IRON OXIDE COMPANY	29.15	27.76	1.91
18127	00088	CITY OF VALPO-ELDEN KUEHL WWTP	0.95	0.05	0.00
18127	00094	JET CORR, INC.	7.09	4.22	3.11
18127	00097	SUPERIOR ENVIRONMENTAL REMEDIATION, INC			8.24
18127	03214	WALSH & KELLY INC.	3.45	5.74	0.11
18127	03224	RIETH-RILEY3224 ASPHALT PLANT #3670	1.06	4.03	0.21
18129	00001	CARGILL, INC. - MOUNT VERNON	0.00	0.00	0.00
18129	00002	GE PLASTICS MT. VERNON INC.	497.91	2,484.21	362.09
18129	00003	COUNTRYMARK COOPERATIVE, INC (REFINERY)	7,945.87	510.25	657.86
18129	00010	SIGECO - A. B. BROWN	375.08	7,392.29	44.23
18129	00021	MEAD JOHNSON & CO	5.61	6.71	0.37
18129	00028	SIGECO - OLIVER GAS STORAGE FIELD	5.52	39.26	1.60
18129	00035	CONSOLIDATED GRAIN AND BARGE COMPANY	21.71	25.85	273.46
18129	00037	COUNTRYMARK COOPERATIVE, INC (RIVERDOCK)			2.43
18131	00017	THE BRAUN CORPORATION			33.21
18133	00002	LONE STAR INDUSTRIES, INC	223.66	1,512.16	0.01
18133	00018	LEAR CORP.-			15.51
18133	00019	H.A. PARTS PRODUCTS OF INDIANA COMPANY			122.56
18133	00024	PUTNAM PLASTICS INC			37.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18133	00027	HEARTLAND AUTOMOTIVE, LLC			79.44
18135	00002	ASTRAL INDUSTRIES INC.	0.16	0.38	119.10
18135	00009	YORK CASKET COMPANY			155.22
18135	00012	ANCHOR GLASS CONTAINER CORPORATION	21.73	666.02	22.55
18135	00018	UNION CITY BODY COMPANY LLC			86.14
18135	00030	RANDOLPH FARMS, INC.	78.85	4.21	2.62
18137	00002	HILL-ROM CO	1.08	3.36	32.69
18137	00007	JOSEPH E. SEAGRAM & SONS, INC.			925.54
18137	00008	ROMWEBER FURNITURE COMPANY	3.06	15.30	81.09
18137	00016	BATESVILLE MFG, INC. COMBO 137-00016			368.52
18137	03191	PAUL H. ROHE CO, INC.	0.16	0.46	0.12
18137	03258	PAUL H. ROHE	0.41	1.65	0.02
18137	05047	DAVE O MARA CONTRACTOR PLANT 3	0.45	2.16	1.25
18139	00001	JEFFERSON SMURFIT CORPORATION	15.79	18.80	10.03
18139	00011	INTAT PRECISION, INC.		0.49	49.81
18141	00007	RMG FOUNDRY (FORMERLY DODGE)	2.61	3.25	34.32
18141	00008	RACO, INC.	0.27	2.97	0.05
18141	00009	HOLY CROSS SERVICES CORP.	12.43	15.03	0.34
18141	00013	UNIVERSITY OF NOTRE DAME DU LAC	86.56	598.96	3.72
18141	00016	BP - GRANGER TERMINAL			7.32
18141	00026	ASPHALT ENGINEERS INC	2.76	2.62	2.03
18141	00027	RIETH-RILEY27 ASPHALT PLANT #365	0.79	3.00	0.14
18141	00031	AM GENERAL CORPORATION	0.21	0.72	169.89
18141	00033	NEW ENERGY CORP.	31.51	920.75	1,191.32
18141	00051	PRAIRIE VIEW RECYCLING	113.07	103.96	10.62
18141	00058	MOHAWK FLUSH DOORS, INC.	0.23	0.28	2.89
18141	00062	POLYGON COMPANY	0.30	0.35	34.07
18141	00063	MOSSBERG AND COMPANY, INC.			21.82
18141	00067	AMERICAN ROLLER CO, LLC	0.26	1.18	13.05
18141	00069	SPECTRA INCORPORATED	0.59	0.70	7.03
18141	00071	ULTRA/GLAS OF LAKEVILLE			18.34
18141	00072	GALLERY GRAPHICS GROUP	0.18	0.21	66.61
18141	00090	IMAGINEERING ENTERPRISES, INC.	0.31	0.37	3.51
18141	00091	MOLDING PRODUCTS DIV			4.76
18141	00093	WHITFORD TRAILER & EQUIPMENT	0.05	0.23	2.21
18141	00100	STRIPCO, INC.	1.03	1.22	0.07
18141	00102	EDCOAT LIMITED PARTNERSHIP	0.08	9.42	20.42
18141	00103	CHARLES O. HILER DIVISION	0.29	0.80	2.63
18141	00105	BECHTEL PLANT MACHINERY INCORPORATED MIS	0.38	1.80	0.04
18141	00116	SOUTH BEND ABSORBTECH? LLC.	0.09	0.11	54.31
18141	00120	TOTAL ENTERPRISES, LTD.			1.71
18141	00125	ASHLAND DISTRIBUTION SOUTH BEND PLANT	0.08	0.10	0.31
18141	00128	PENZ PRODUCTS, INC.	0.36	0.42	6.05
18141	00129	JANCO PRODUCTS, INC.	0.37	0.42	18.40
18141	00132	ARAMARK UNIFORM SERVICES	1.56	1.86	0.10
18141	00134	J.Q. TEX, INC - DBA TRAILMASTER			11.55
18141	00139	SOUTH BEND TERMINAL - BET	1.50	3.70	12.82
18141	00144	MASONITE (FORMERLY PREMDOR)	0.83	1.05	1.59

FIPS	State ID	Facility Name	CO	NOX	VOC
18141	00146	ROYAL ADHESIVES & SEALANTS			38.90
18141	00158	INDIANA UNIVERSITY-SOUTH BEND	0.54	0.64	0.04
18141	00159	I/N TEK I/N KOTE COMBINED	44.93	132.22	9.88
18141	00160	CITY OF SOUTH BEND-WASTEWATER TREATMENT	64.82	75.20	7.44
18141	00166	SAFETY & ENVIRONMENTAL RESOURCES	0.32	0.39	10.96
18141	00167	REMOTE CONTROLS, INC.			3.48
18141	00172	HONEYWELL INC. COMBO (141-5&6)	50.08	32.69	33.80
18141	00177	MISHAWAKA WASTEWATER TREATMENT PLANT	7.29	55.39	3.11
18141	00179	BOWNE SOUTH BEND MANUFACTURING			13.06
18141	00181	ABTREX INDUSTRIES			10.27
18141	00184	POWER GEAR			1.90
18141	00186	SAMPSON FIBERGLASS, INC.	0.15	0.18	23.94
18141	00191	SOUTH BEND MEDICAL FOUNDATION	0.34	0.41	0.03
18141	00192	JACKEL, INC.			3.28
18141	00193	CLARK STATION # 379			1.18
18141	00196	NCP COATINGS, INC.	0.13	0.15	2.65
18141	00197	HOGUE ENTERPRISES	0.03	0.03	5.15
18141	03121	BROOKS CONSTRUCTION CO. INC.	1.42	1.44	0.77
18141	03219	WALSH & KELLY INC.	2.71	6.36	6.16
18143	00007	MULTICOLOR CORPORATION	6.04	7.19	57.21
18143	00010	FREUDENBERG-NOK GENERAL PARTNERSHIP			0.19
18143	00016	GENPAK LLC	6.22	7.41	117.22
18143	03192	DAVE O MARA CONTRACTOR PLANT 6	0.43	2.07	0.25
18143	05195	INDEPENDENT ASPHALT COMPANY	0.28	1.11	0.01
18145	00001	KNAUF FIBERGLASS	195.33	128.96	107.15
18145	00011	ANR PIPELINE CO - SHELBYVILLE STATION	116.26	1,414.19	74.71
18145	00013	JUPITER COIL COATING DIVISION			16.24
18145	00017	MERIDIAN AUTOMOTIVE SYSTEMS	7.20	8.57	161.13
18145	00024	PLIANT CORPORATION (FORMERLY KCL CORP)			0.12
18145	00028	FREUDENBERG-NOK GENERAL PARTNERSHIP			41.60
18145	00033	TEXTRON AUTOMOTIVE EXTERIORS INC.	0.87	1.04	66.35
18145	00035	CENTRAL SOYA COMPANY, INC.	27.93	33.25	436.61
18145	00049	CALDWELL GRAVEL SALES, INC.			2.50
18145	00057	MPL CORPORATION			8.33
18145	00060	CALDWELL GRAVEL SALES (CGS)	2.21	4.72	0.25
18147	00020	INDIANA MICHIGAN POWER-ROCKPORT	2,316.59	34,013.58	277.50
18147	00041	AK STEEL ROCKPORT WORKS	122.90	130.08	16.17
18147	00044	FLEXCEL - SANTA CLAUS			69.12
18147	00050	AMERICAN IRON OXIDE COMPANY	5.65	11.50	0.82
18149	00005	T G C - NORTH JUDSON STATION	50.55	468.16	7.19
18151	00015	TENNECO AUTOMOTIVE			19.60
18153	00005	HOOSIER ENERGY RURAL ELEC MEROM STATION	778.94	14,112.18	92.69
18153	00019	TEXAS GAS TRANSMISSION - WILFRED	5.73	23.80	1.64
18155	00005	SWISS CAPS			34.48
18157	00001	ALCOA - LAFAYETTE DIVISION	13.07	13.96	66.46
18157	00003	A.E. STALEY SAGAMORE OPERATION	52.91	532.93	596.84
18157	00006	ELI LILLY & COMPANY-TIPPECANOE LABS	167.75	359.58	121.74
18157	00012	PURDUE UNIVERSITY -WADE UTILITY PLANT	300.32	696.09	11.36

FIPS	State ID	Facility Name	CO	NOX	VOC
18157	00014	ORC PLASTICS - ROSTONE			10.50
18157	00032	REA MAGNET WIRE CO	10.64	12.80	170.60
18157	00033	A.E. STALEY MAN. CO. SOUTH PLANT	259.81	519.07	441.35
18157	00035	CANAM STEEL CORPORATION			112.90
18157	00038	CARGILL, INC. - LAFAYETTE	20.45	24.36	557.91
18157	00044	CATERPILLAR INC.	55.93	185.70	55.93
18157	00046	WABASH NATIONAL LP MAIN PLANT			199.60
18157	00050	SUBARU-ISUZU	29.74	35.41	500.55
18157	00052	LAFAYETTE HOME HOSPITAL	4.15	5.07	0.73
18157	00068	WABASH NATIONAL LP SOUTH PLANT			30.25
18157	00080	PERRY CHEMICAL & MFG. CO., INC.			9.55
18163	00001	SIGECO - OHIO RIVER	10.42	116.39	0.72
18163	00003	SILGAN CLOSURES, LLC	7.27	8.65	42.69
18163	00005	EVANSVILLE STATE HOSPITAL	3.40	2.45	0.22
18163	00008	INDIAN INDUSTRIES - DBA ESCALADE SPORTS			6.87
18163	00009	HOOSIER STAMPING & MFG. CORP	0.36	0.43	4.55
18163	00011	BOOTZ MFG CO	4.00	4.76	12.45
18163	00013	KOCH ORIGINALS	0.39	0.80	1.59
18163	00014	GEO KOCH SONS INC	0.07	0.16	2.08
18163	00015	MEAD JOHNSON AND COMPANY	24.17	13.31	34.38
18163	00016	STRUCTURAL FABRICATORS, INC.			6.50
18163	00017	GUARDIAN AUTOMOTIVE TRIM, INC.	5.92	7.05	240.59
18163	00018	RED SPOT PAINT & VARNISH CO., INC.	0.16	0.16	43.85
18163	00020	A ASPHALT CO. INC.	0.15	0.25	0.09
18163	00022	WHIRLPOOL CORP	11.69	13.94	152.36
18163	00024	CRADDOCK FINISHING CORPORATION			18.54
18163	00025	MARATHON ASHLAND PET. - EVANSVILLE TERM			12.32
18163	00026	INLAND PAPERBOARD - EVANSVILLE	3.61	4.30	1.40
18163	00029	DEACONESS HOSPITAL	0.35	1.41	0.09
18163	00036	KARGES FURNITURE CO., INC.	0.32	0.38	7.05
18163	00040	HARTFORD BAKERY INC.	0.77	2.67	68.75
18163	00041	ST. MARY'S MEDICAL CENTER	0.84	1.01	0.06
18163	00045	EVANSVILLE METAL PROD		0.05	0.20
18163	00048	EVANSVILLE SHEET METAL WORKS, INC			0.34
18163	00063	TRANSMONTAIGNE TERMINAL INC.			34.55
18163	00064	UNIV OF EVANSVILLE	3.72	4.82	0.27
18163	00067	GENERAL ELECTRIC I&RS	0.07	0.08	0.48
18163	00069	ST. MARY'S MEDICAL CENTER - WELBORN	0.50	0.60	0.03
18163	00070	FAULTLESS CASTER CORP	1.75	2.08	0.63
18163	00071	INTRAMETCO PROCESSING INC.	0.00	1.06	0.00
18163	00078	ROBUR CORPORATION	0.11	0.36	0.02
18163	00081	INDIANA TUBE CORP.	0.43	2.16	33.98
18163	00084	SIGECO - BERGDOLT ROAD - NEGT	0.18	0.78	0.03
18163	00087	OBRYAN BARREL CO., INC.	0.14	0.69	2.29
18163	00094	PPG INDUSTRIES, INC. WKS #28	3.45	4.11	20.46
18163	00095	INDUSTRIAL CONTRACTORS, INC. METAL FAB	0.06	0.07	6.21
18163	00096	FLANDERS ELECTRIC MOTOR SERVICE	0.76	0.90	2.93
18163	00097	KELLER CRESCENT CO., INC.			19.57

FIPS	State ID	Facility Name	CO	NOX	VOC
18163	00106	BERRY PLASTICS CORP.			30.00
18163	00107	AZTECA MILLING, L.P.	16.93	20.15	1.11
18163	00112	AMERIQUAL FOODS, INC.	2.94	3.50	0.19
18163	00114	BFI	116.81	38.71	7.63
18163	00115	MASTER MANUFACTURING CO., INC.	0.08	0.38	7.98
18163	00116	KRIEGER & RAGSDALE CO., INC.	0.08	0.10	4.96
18163	00117	ALVEYS SIGN COMPANY			6.32
18163	00120	FERRO CORP. FILLED AND REINFORCED PLAST.			24.92
18163	00129	KERRY INGREDIENTS	3.66	4.36	43.47
18163	00131	SIGNCRAFTERS			3.47
18163	00139	FLANDERS ELECTRIC MOTOR SERVICE	0.03	0.04	0.18
18163	00146	FEHRENBACHER CABINETS			0.91
18163	00147	UNIVERSITY OF SOUTHERN INDIANA	3.74	4.45	0.24
18163	00148	UNISEAL, INC.; PLANT #2	0.67	0.80	5.39
18163	00153	STERLING BOILER AND MECHANICAL, INC.			0.54
18163	00156	SKY CYLINDER TESTING, INC.	0.03	0.03	1.71
18163	00157	TRUCK CLEAN, INC.			6.45
18163	00163	COLLIS,INC.	5.73	6.82	13.02
18163	00165	DECORING SUPPLIES & EQUIPMENT, INC.	0.02	0.02	7.09
18163	00888	BRAKE SUPPLY	0.09	0.10	5.92
18163	03146	JERRY DAVID ASPHALT	0.03	3.55	0.36
18163	03408	J.H.RUDOLPH & CO	1.96	6.56	0.14
18165	00001	PSI ENERGY - CAYUGA	687.98	7,993.59	82.52
18165	00002	COLONIAL BRICK CORP.	2.70	26.58	0.00
18165	00009	ELI LILLY & COMPANY-CLINTON LABS	251.49	949.46	850.29
18165	00022	DUKE ENERGY VERMILLION, LLC	11.30	31.24	1.60
18167	00001	ALCAN ALUMINUM CORPORATION	5.29	6.30	440.35
18167	00004	WABASH ENVIRONMENTAL TECHNOLOGIES, LLC	0.10	0.12	0.01
18167	00007	GARTLAND FOUNDRY COMPANY		0.03	8.66
18167	00010	INDIANA STATE UNIV	17.73	6.95	1.16
18167	00011	GREAT DANE TRAILERS	0.15	0.18	34.24
18167	00013	PFIZER INC	12.09	247.87	1.97
18167	00019	US PENITENTIARY	0.99	11.40	3.13
18167	00021	PSI ENERGY - WABASH RIVER	551.56	11,094.56	72.42
18167	00022	INTERNATIONAL PAPER CO.	230.89	284.82	69.95
18167	00033	BEMIS COMPANY, INC.	9.20	10.95	1,681.91
18167	00036	RAILWORKS WOOD PRODUCTS	2.50	2.97	23.30
18167	00060	STANDARD REGISTER COMPANY			5.93
18167	00087	PRAIRIE GROUP - PLANT 76	0.00	0.00	0.09
18167	00091	WABASH RIVER ENERGY LTD.	332.11	28.03	0.28
18167	00116	VICTORY ENVIRONMENTAL SERVICES			6.06
18167	00120	CSN,LLC	18.56	5.53	1.22
18167	00123	MIRANT SUGAR CREEK LLC	4.66	14.83	0.12
18169	00001	BPB AMERICA, INC.	1,658.21	11.67	6.20
18169	00002	JEFFERSON SMURFIT CORPORATION (U.S.)	87.50	171.58	42.24
18169	00004	GDX AUTOMOTIVE - WABASH	2.77	3.30	140.06
18169	00009	THERMAFIBER INC. WABASH PLANT	8,934.45	60.76	134.33
18169	00010	WABASH ALLOYS, L.L.C.	128.62	128.21	82.21

FIPS	State ID	Facility Name	CO	NOX	VOC
18169	00019	NORTH MANCHESTER FOUNDRY, INC.	1.27	1.57	8.22
18169	00034	PSI ENERGY MIAMI-WABASH PEAKING STATION	0.50	2.20	0.15
18169	00035	ALUMITECH OF WABASH, INC.	1.82	2.16	0.12
18169	00042	HAYES LEMMERZ INT'L - WABASH	6.13	11.05	42.38
18169	00058	WABASH VALLEY LANDFILL	43.04	7.91	14.97
18171	03273	MILESTONE CONTRACTORS L.P.	0.47	1.77	0.09
18173	00001	SIGECO - F.B.CULLEY GENERATING STATION	290.71	6,238.16	33.97
18173	00002	AGC DIVISION - ALCOA POWER GENERATING	595.78	16,456.99	70.84
18173	00007	ALCOA INC. - WARRICK OPERATIONS	22,537.38	250.80	594.59
18175	00001	CHILD CRAFT INDUSTRIES, INC.	23.71	16.66	267.28
18175	00007	KIMBALL OFFICE CASEGOODS MANUFACTURING	15.32	2.60	137.60
18177	00001	#30 - SILGAN CLOSURES, LLC	7.66	9.12	41.96
18177	00006	JOHNS MANVILLE	73.96	51.97	33.98
18177	00009	RICHMOND POWER & LIGHT	79.71	1,562.67	11.15
18177	00015	MASTERBRAND CABINETS, INC. - RICHMOND			135.00
18177	00040	IMPA - RICHMOND STATION	13.53	7.22	1.19
18177	00057	ROMARK INDUSTRIES			46.47
18177	00061	MILSO INDUSTRIES			50.33
18177	00068	MASONITE			20.24
18177	00083	J. M. HUTTON & CO. (COMBO 177-53&54)			57.90
18177	00090	RICHMOND LINER FOUNDRY & MACHINE PLANT	2.69	3.20	0.18
18179	00005	STERLING CASTING	801.30	1.67	22.89
18179	00010	FRANKLIN ELEC CO	3.66	23.75	28.22
18179	00016	WAYNE METALS, LLC	0.86	1.03	10.44
18179	00026	MONTPELIER ELECTRIC GENERATING STATION	31.70	45.07	10.20
18181	00008	BP - BROOKSTON			91.06
18181	00022	BALL METAL BEVERAGE CONTAINER CORP	7.14	8.50	84.68
18181	00035	LIBERTY LANDFILL, INC.	22.30	8.60	6.21
18181	03172	ROBERT L. KELLY ASPHALT, INC.	0.20	0.19	0.14
18183	00014	HOLMES & COMPANY INC.	12.80	2.18	1.05
18183	00016	ESSEX GROUP, INC. METALS PROCESSING #055	25.90	20.51	368.61
18183	00023	FORT WAYNE FOUNDRY - COLUMBIA CITY	13.02	15.50	15.52
18183	00026	FIBRE FORM CORPORATION	0.07	0.08	0.68
18183	00030	STEEL DYNAMICS, INC. STRUCTURAL AND RAIL	156.62	44.46	10.67
		Total	380,057.63	367,856.26	57,949.42

iii) Area Sources

Table 5-3 Annual Area Source Emissions Inventory

FIPS	County	CO	NOX	VOC
18001	ADAMS	703.84	238.48	1,092.31
18003	ALLEN	1,926.83	1,733.42	5,798.16
18005	BARTHOLOMEW	779.44	491.85	1,969.59
18007	BENTON	56.68	34.77	537.80
18009	BLACKFORD	235.00	70.50	537.98

FIPS	County	CO	NOX	VOC
18011	BOONE	237.46	148.34	1,171.52
18013	BROWN	613.28	42.80	386.57
18015	CARROLL	313.17	96.25	599.14
18017	CASS	397.24	262.22	1,099.34
18019	CLARK	877.71	400.71	2,376.99
18021	CLAY	363.65	90.90	725.13
18023	CLINTON	260.93	166.65	897.68
18025	CRAWFORD	863.24	30.25	477.45
18027	DAVIESS	756.74	121.06	940.01
18029	DEARBORN	721.96	146.37	765.22
18031	DECATUR	543.12	195.94	895.57
18033	DE KALB	669.81	388.67	1,312.21
18035	DELAWARE	732.24	498.85	2,444.56
18037	DUBOIS	980.23	423.21	1,663.64
18039	ELKHART	2,396.44	1,825.49	4,748.36
18041	FAYETTE	392.62	169.01	675.34
18043	FLOYD	605.09	321.05	1,638.92
18045	FOUNTAIN	320.36	101.53	686.32
18047	FRANKLIN	589.66	69.54	540.65
18049	FULTON	316.04	113.59	719.43
18051	GIBSON	363.82	179.73	969.19
18053	GRANT	667.11	365.38	1,650.19
18055	GREENE	802.74	90.76	803.31
18057	HAMILTON	746.95	583.08	3,074.64
18059	HANCOCK	286.72	185.39	1,219.93
18061	HARRISON	1,258.14	152.94	1,019.73
18063	HENDRICKS	417.63	277.67	1,723.74
18065	HENRY	424.04	188.78	1,219.11
18067	HOWARD	631.32	614.79	1,690.73
18069	HUNTINGTON	357.89	225.40	980.23
18071	JACKSON	917.74	257.86	1,475.11
18073	JASPER	296.19	108.50	1,067.99
18075	JAY	478.99	124.82	731.45
18077	JEFFERSON	574.35	147.02	784.68
18079	JENNINGS	704.17	109.79	796.06
18081	JOHNSON	616.69	463.29	2,776.78
18083	KNOX	290.25	124.53	1,048.75
18085	KOSCIUSKO	1,050.24	567.95	2,328.88
18087	LAGRANGE	1,098.40	280.19	1,202.93
18089	LAKE	1,838.49	2,010.98	7,491.70
18091	LA PORTE	870.00	510.12	2,310.39
18093	LAWRENCE	1,107.55	207.27	1,101.87
18095	MADISON	748.73	552.52	2,416.05
18097	MARION	3,465.70	4,002.12	13,837.83
18099	MARSHALL	782.85	288.33	1,266.39
18101	MARTIN	469.62	40.65	334.58
18103	MIAMI	409.43	143.66	940.19
18105	MONROE	1,202.43	473.36	2,008.86
18107	MONTGOMERY	411.02	239.07	1,163.14

FIPS	County	CO	NOX	VOC
18109	MORGAN	751.16	196.03	1,286.75
18111	NEWTON	129.18	64.26	587.75
18113	NOBLE	853.65	381.79	1,449.77
18115	OHIO	120.73	10.78	128.47
18117	ORANGE	800.43	89.13	621.40
18119	OWEN	895.38	82.68	685.12
18121	PARKE	456.82	52.51	583.45
18123	PERRY	772.57	85.00	588.38
18125	PIKE	352.24	32.29	382.97
18127	PORTER	689.04	615.93	2,316.30
18129	POSEY	226.09	112.29	644.00
18131	PULASKI	247.64	60.56	540.70
18133	PUTNAM	499.48	136.24	828.87
18135	RANDOLPH	537.23	133.59	861.14
18137	RIPLEY	795.37	148.81	836.59
18139	RUSH	233.91	73.47	624.37
18141	ST JOSEPH	1,412.59	1,224.25	4,485.64
18143	SCOTT	600.19	111.65	671.84
18145	SHELBY	403.08	253.27	1,103.18
18147	SPENCER	504.98	94.48	655.35
18149	STARKE	357.49	81.87	697.25
18151	STEUBEN	494.42	263.83	1,150.23
18153	SULLIVAN	315.81	54.47	649.97
18155	SWITZERLAND	314.38	21.76	247.04
18157	TIPPECANOE	898.18	779.11	2,573.62
18159	TIPTON	103.36	60.19	450.41
18161	UNION	80.95	18.36	199.31
18163	VANDERBURGH	927.72	870.26	3,226.36
18165	VERMILLION	208.67	65.50	464.15
18167	VIGO	738.70	452.09	2,115.14
18169	WABASH	417.84	211.54	839.37
18171	WARREN	109.34	26.12	370.16
18173	WARRICK	483.63	158.78	1,065.27
18175	WASHINGTON	1,262.73	127.40	956.24
18177	WAYNE	637.69	395.06	1,723.26
18179	WELLS	299.87	141.20	803.84
18181	WHITE	326.77	144.09	911.83
18183	WHITLEY	471.74	182.16	866.95
	Totals	59,673	29,710	133,327

iv) Nonroad Emissions

Table 5-4 Annual Nonroad Emissions Inventory

FIPS	County	CO	NOX	VOC
18001	ADAMS	2,167.64	542.52	193.14
18003	ALLEN	35,449.34	4,248.61	2,611.92
18005	BARTHOLOMEW	5,986.34	919.78	471.45
18007	BENTON	1,124.61	472.64	90.45

FIPS	County	CO	NOX	VOC
18009	BLACKFORD	836.99	309.86	58.33
18011	BOONE	7,527.96	966.40	605.34
18013	BROWN	1,458.84	69.53	304.44
18015	CARROLL	1,884.45	745.18	307.11
18017	CASS	4,088.57	1,190.08	374.44
18019	CLARK	6,488.03	3,064.52	522.62
18021	CLAY	1,957.35	448.69	224.00
18023	CLINTON	2,362.29	743.62	239.37
18025	CRAWFORD	632.66	546.62	110.05
18027	DAVIESS	1,896.55	710.09	195.49
18029	DEARBORN	2,627.47	652.06	214.66
18031	DECATUR	2,923.17	445.62	210.53
18033	DE KALB	3,686.66	1,904.27	509.96
18035	DELAWARE	27,773.27	1,666.82	2,136.55
18037	DUBOIS	3,191.88	870.98	283.72
18039	ELKHART	17,134.45	3,375.53	1,462.36
18041	FAYETTE	1,362.01	445.56	151.21
18043	FLOYD	5,462.59	714.80	376.28
18045	FOUNTAIN	2,248.56	692.77	337.50
18047	FRANKLIN	1,367.22	296.48	197.25
18049	FULTON	2,581.29	402.82	558.11
18051	GIBSON	2,659.31	1,192.81	387.31
18053	GRANT	4,380.00	815.61	385.20
18055	GREENE	2,231.34	499.28	281.14
18057	HAMILTON	20,889.60	1,804.71	1,477.49
18059	HANCOCK	4,421.22	816.73	405.42
18061	HARRISON	1,949.66	903.15	196.68
18063	HENDRICKS	6,524.98	1,666.03	504.86
18065	HENRY	3,101.72	835.94	300.66
18067	HOWARD	6,764.52	1,001.67	536.08
18069	HUNTINGTON	3,149.85	934.11	316.98
18071	JACKSON	2,832.22	953.04	256.46
18073	JASPER	2,874.45	844.76	454.26
18075	JAY	1,593.88	466.24	139.36
18077	JEFFERSON	2,188.49	505.55	288.50
18079	JENNINGS	1,252.00	494.08	131.51
18081	JOHNSON	7,961.63	733.62	674.23
18083	KNOX	5,046.48	1,149.65	476.14
18085	KOSCIUSKO	8,972.99	2,028.35	1,274.41
18087	LAGRANGE	4,546.49	569.76	970.47
18089	LAKE	36,274.43	9,099.92	4,100.29
18091	LA PORTE	10,290.51	3,237.42	1,159.51
18093	LAWRENCE	2,681.76	823.52	348.31
18095	MADISON	7,676.41	1,390.12	733.96
18097	MARION	71,495.88	7,292.64	4,944.70
18099	MARSHALL	4,251.62	1,440.22	570.37
18101	MARTIN	811.90	405.48	105.38
18103	MIAMI	2,269.19	769.04	235.55
18105	MONROE	9,622.40	842.70	1,041.53

FIPS	County	CO	NOX	VOC
18107	MONTGOMERY	3,390.97	1,089.99	301.17
18109	MORGAN	4,642.95	476.65	443.25
18111	NEWTON	2,559.73	471.34	717.41
18113	NOBLE	4,409.13	1,823.82	675.62
18115	OHIO	398.67	189.26	41.19
18117	ORANGE	1,147.08	295.03	168.98
18119	OWEN	1,306.60	182.52	160.02
18121	PARKE	1,334.37	346.49	183.56
18123	PERRY	1,217.99	692.90	208.24
18125	PIKE	875.60	296.11	130.87
18127	PORTER	13,764.15	3,247.38	2,291.48
18129	POSEY	2,206.61	1,371.57	288.94
18131	PULASKI	2,250.49	525.67	585.62
18133	PUTNAM	2,199.59	1,031.94	237.27
18135	RANDOLPH	2,183.56	756.48	246.66
18137	RIPLEY	2,007.77	568.35	260.95
18139	RUSH	1,296.44	639.11	104.70
18141	ST JOSEPH	19,798.35	3,093.18	1,613.75
18143	SCOTT	1,321.50	198.17	143.95
18145	SHELBY	3,143.82	869.72	238.13
18147	SPENCER	2,187.72	1,224.97	251.74
18149	STARKE	2,152.40	634.06	461.13
18151	STEUBEN	4,763.62	447.66	897.20
18153	SULLIVAN	1,372.91	697.23	230.22
18155	SWITZERLAND	474.46	381.57	77.44
18157	TIPPECANOE	9,721.10	2,249.11	879.86
18159	TIPTON	1,055.83	407.86	81.29
18161	UNION	788.25	426.86	136.34
18163	VANDERBURGH	15,675.39	2,415.19	1,102.82
18165	VERMILLION	1,168.64	702.77	173.39
18167	VIGO	7,105.46	1,885.12	657.63
18169	WABASH	2,816.91	1,029.42	352.30
18171	WARREN	866.31	686.89	148.63
18173	WARRICK	2,324.26	494.18	323.29
18175	WASHINGTON	1,299.17	539.11	122.27
18177	WAYNE	4,117.06	1,084.52	381.70
18179	WELLS	2,000.77	654.32	180.56
18181	WHITE	2,765.57	1,010.43	400.32
18183	WHITLEY	3,116.94	990.41	482.28
	Totals	520,163	106,089	51,825

v) Onroad Emissions

Table 5-5 Annual Onroad Emissions Inventory

FIPS	County	CO	NOX	VOC
18001	ADAMS	8,831.44	1,119.67	647.78
18003	ALLEN	86,746.38	9,694.20	6,440.05

FIPS	County	CO	NOX	VOC
18005	BARTHOLOMEW	23,990.24	2,971.71	1,673.76
18007	BENTON	3,106.70	427.90	215.46
18009	BLACKFORD	2,939.33	357.80	229.73
18011	BOONE	19,273.21	2,442.24	1,251.73
18013	BROWN	5,084.99	700.39	352.68
18015	CARROLL	5,606.71	768.17	392.77
18017	CASS	10,684.24	1,325.42	788.96
18019	CLARK	28,127.68	3,469.53	1,950.57
18021	CLAY	9,823.80	1,291.03	651.01
18023	CLINTON	11,670.19	1,484.93	803.04
18025	CRAWFORD	8,098.30	1,101.10	472.83
18027	DAVIESS	6,783.36	854.75	508.72
18029	DEARBORN	14,992.19	2,018.83	978.05
18031	DECATUR	13,824.62	1,797.51	873.16
18033	DE KALB	15,716.84	2,008.02	1,054.38
18035	DELAWARE	31,026.10	3,641.12	2,257.57
18037	DUBOIS	11,542.51	1,466.85	836.14
18039	ELKHART	51,742.99	5,968.33	3,864.18
18041	FAYETTE	6,197.30	742.66	478.34
18043	FLOYD	18,592.60	2,329.66	1,302.90
18045	FOUNTAIN	8,328.06	1,127.49	503.29
18047	FRANKLIN	7,313.76	997.44	489.60
18049	FULTON	5,774.01	747.80	421.24
18051	GIBSON	10,405.24	1,349.31	728.83
18053	GRANT	24,103.04	2,907.25	1,702.83
18055	GREENE	9,341.37	1,220.88	676.65
18057	HAMILTON	44,848.93	5,167.32	3,252.39
18059	HANCOCK	18,210.31	2,310.76	1,247.47
18061	HARRISON	13,057.73	1,793.38	835.89
18063	HENDRICKS	30,594.57	3,894.78	2,117.62
18065	HENRY	19,348.54	2,517.92	1,289.97
18067	HOWARD	18,761.82	2,168.72	1,465.46
18069	HUNTINGTON	16,429.73	2,095.81	1,080.73
18071	JACKSON	17,336.93	2,187.67	1,154.07
18073	JASPER	18,522.25	2,478.46	1,133.13
18075	JAY	5,696.17	718.99	423.75
18077	JEFFERSON	7,929.56	972.54	602.30
18079	JENNINGS	8,109.24	1,071.66	582.23
18081	JOHNSON	34,585.60	3,917.75	2,466.60
18083	KNOX	10,146.45	1,202.71	767.60
18085	KOSCIUSKO	20,751.64	2,692.70	1,493.55
18087	LAGRANGE	15,703.77	2,156.95	976.03
18089	LAKE	92,992.54	11,959.14	7,074.20
18091	LA PORTE	38,533.98	4,825.66	2,666.92
18093	LAWRENCE	12,575.20	1,562.79	927.67
18095	MADISON	39,756.32	4,587.63	2,958.77
18097	MARION	256,847.40	24,833.30	19,350.09
18099	MARSHALL	13,243.63	1,702.01	958.59
18101	MARTIN	2,490.78	338.68	176.92

FIPS	County	CO	NOX	VOC
18103	MIAMI	9,129.86	1,123.91	677.02
18105	MONROE	25,530.29	2,977.21	1,934.22
18107	MONTGOMERY	17,184.81	2,216.22	1,113.64
18109	MORGAN	22,079.10	2,855.68	1,540.73
18111	NEWTON	5,612.45	770.34	373.95
18113	NOBLE	12,068.16	1,570.36	877.19
18115	OHIO	1,287.00	180.03	92.25
18117	ORANGE	5,238.89	715.79	368.85
18119	OWEN	5,708.81	781.72	400.32
18121	PARKE	3,401.30	471.02	247.82
18123	PERRY	8,933.15	1,160.58	577.73
18125	PIKE	4,141.74	570.48	287.26
18127	PORTER	30,359.33	4,560.61	2,241.19
18129	POSEY	12,814.79	1,696.27	819.01
18131	PULASKI	4,299.87	592.25	298.22
18133	PUTNAM	16,021.40	2,113.70	1,035.43
18135	RANDOLPH	7,837.59	1,004.16	568.30
18137	RIPLEY	10,185.69	1,388.48	668.05
18139	RUSH	5,060.33	657.10	368.41
18141	ST JOSEPH	58,130.02	6,244.81	4,396.34
18143	SCOTT	9,105.06	1,149.14	615.74
18145	SHELBY	16,121.95	2,066.59	1,075.70
18147	SPENCER	9,603.33	1,314.06	616.89
18149	STARKE	6,425.97	879.24	451.25
18151	STEUBEN	19,942.07	2,672.42	1,198.96
18153	SULLIVAN	5,368.08	731.35	379.95
18155	SWITZERLAND	2,111.61	295.37	151.35
18157	TIPPECANOE	36,692.17	4,286.40	2,714.81
18159	TIPTON	4,368.46	577.09	315.20
18161	UNION	2,318.99	319.41	160.84
18163	VANDERBURGH	43,744.51	4,822.76	3,349.43
18165	VERMILLION	6,940.53	906.07	460.45
18167	VIGO	33,288.31	3,686.05	2,541.62
18169	WABASH	9,163.13	1,105.86	686.76
18171	WARREN	2,653.22	365.44	184.01
18173	WARRICK	21,058.04	2,644.09	1,403.09
18175	WASHINGTON	6,328.57	834.54	471.70
18177	WAYNE	23,538.54	2,884.56	1,661.37
18179	WELLS	6,189.62	793.52	462.53
18181	WHITE	11,003.64	1,463.01	702.89
18183	WHITLEY	8,479.74	1,095.99	619.60
	Totals	1,765,610	212,033	126,658

b) Statewide Summerday Emissions

All emissions are in tons per day

i) Totals

Table 5-6 Statewide Total Summerday Emissions

Sector	CO	NOX	VOC
AREA	71.2	66.56	400.04
BIOGENIC	139.97	60.11	937.03
NONROAD	2,299.16	331.21	221.85
ON-ROAD	4,074.23	582.25	371.44
POINT	1,131.52	1,089.85	187.64
Totals	7,716	2,130	2,118

ii) Point Sources

Table 5-7 Summerday Point Source Emissions

FIPS	State ID	Facility Name	CO	NOX	VOC
18001	00005	CENTRAL SOYA COMPANY INC	0.34	0.75	1.28
18001	00015	GILPIN IRONWORKS INC.			0.30
18001	00022	ELKHART PRODUCTS CORP	0.00	0.00	0.00
18001	00023	BING ASSEMBLY SYSTEMS, LLC	0.01	0.01	0.39
18001	00025	FLEETWOOD MOTOR HOMES OF AMERICA-OLD		0.00	0.19
18001	00031	THUNDERBIRD PRODUCTS, INC.			0.38
18001	00043	GOLD SHIELD OF INDIANA, INC.			0.94
18001	00049	ALL AMERICAN HOMES OF INDIANA, LLC			0.03
18003	00003	DANA TORQUE-TRACTION MANUF. TECH. INC	0.04	0.07	0.02
18003	00007	FORT WAYNE FOUNDRY-LIMA ROAD DIVISION	0.01	0.01	0.03
18003	00008	UNIROYAL GOODRICH TIRE MFG.	0.09	0.26	0.15
18003	00013	PHELPS DODGE MAGNET WIRE COMPANY	0.05	0.06	0.36
18003	00014	REA MAGNET WIRE CO, INC	0.01	0.01	0.11
18003	00017	TOKHEIM CORPORATION	0.01	0.01	0.00
18003	00031	GE INDUSTRIAL SYSTEMS (GEIS)	0.02	0.03	0.18
18003	00032	MTI INSULATED PRODUCTS, INC.	0.00	0.00	0.03
18003	00036	GENERAL MOTORS NATP FORT WAYNE ASSEMBLY	0.20	0.27	5.47
18003	00038	GRABILL CABINET COMPANY	0.00	0.00	0.15
18003	00045	PEPL - EDGERTON STATION	0.17	2.12	0.07
18003	00046	LINCOLN FOODSERVICE PRODUCTS, INC.	0.00	0.00	0.36
18003	00057	OMNISOURCE CORPORATION	0.01	0.01	0.00
18003	00059	MERIDIAN AUTOMOTIVE SYSTEMS 1	0.02	0.02	0.53
18003	00064	KARL SCHMIDT UNISIA, INC.	0.00	0.01	0.03
18003	00069	TETRA PAK MATERIALS LP	0.00	0.00	0.04
18003	00070	FORT WAYNE FOUNDRY-PONTIAC DIVISION	0.02	0.03	0.13
18003	00071	FORT WAYNE POOLS, INC.			0.07
18003	00072	PLASTIC COMPOSITES CORPORATION	0.00	0.00	0.05
18003	00169	WIELAND FURNITURE	-	-	0.05
18003	00177	HARRIS KAYOT INC.			0.05
18003	00196	AVERY DENNISON-FASSON ROLL DIV.	0.01	0.03	0.15

FIPS	State ID	Facility Name	CO	NOX	VOC
18003	00198	WARD CORPORATION	0.00	0.01	0.01
18003	00205	ELITE ENTERPRISES*			0.39
18003	00224	OTTENWELLER COMPANY, INC.	0.00	0.00	0.04
18003	00225	FOAMEX, L.P.	0.08	0.00	0.38
18003	00232	POLAR KING INTERNATIONAL			0.05
18003	00249	MASTER SPAS, INC.			0.27
18003	00257	MCBETH ROAD LANDFILL	0.11	0.02	0.02
18003	00269	ESSEX GROUP INC; FORT WAYNE & CHEM. PROC	0.02	0.03	0.21
18003	00272	PARKVIEW MEMORIAL HOSPITAL	0.01	0.05	0.01
18003	00275	PRECISION PRODUCTS GROUP, INC.	0.00	0.00	0.01
18003	00284	GE SPECIALTY INDUSTRIAL SYSTEMS	0.01	0.00	0.10
18003	00286	SUPERIOR ALUMINUM ALLOYS	0.05	0.08	0.05
18003	00291	UNITED REFUSE COMPANY, INC.			0.01
18003	00302	FORT WAYNE LIQUID COATINGS, INC	0.00	0.00	0.00
18003	03212	WAYNE ASPHALT & CONST	0.20	0.19	0.15
18003	05204	BUNN EXCAVATING, INC.	0.00	0.00	0.00
18005	00002	CUMMINS ENGINE CO #5	0.07	0.61	0.02
18005	00006	GOLDEN CASTING CORPORATION	2.52	0.01	0.41
18005	00008	ARVINMERITOR, INC., 17TH STREET PLANT	0.01	0.01	0.09
18005	00015	CUMMINS, INC. (COLUMBUS ENGINE PLANT)	0.19	0.86	0.18
18005	00040	TOYOTA IEM, INC.	0.01	0.01	0.12
18005	00042	ENKEI AMERICA, INC.	0.03	0.05	0.05
18005	00047	CUMMINS MIDRANGE ENGINE PLANT - COLUMBUS	0.02	0.08	0.05
18005	00048	RIGHTWAY FASTENERS INC	0.00	0.00	0.00
18005	00066	NTN DRIVESHAFT, INC.	0.01	0.01	0.07
18005	00067	DSE, INC. DBA SCREEN TECH DESIGNS, INC.			0.02
18005	00068	VENTRA CORPORATION	0.00	0.00	0.02
18005	00080	ARVINMERITOR, INC., TECHNICAL CENTER	0.11	0.03	0.04
18005	00086	BARTHOLOMEW CO. LANDFILL	0.00		0.00
18005	00087	MACTAC	-	-	0.11
18007	00010	SMURFIT STONE CONTAINER CORPORATION			0.01
18007	00014	T G C - AMBIA STATION	0.00	0.00	0.01
18009	00002	BRC RUBBER & PLASTICS, INC.- MONTPELIER	0.00	0.00	0.09
18009	00004	3 M CO. HARTFORD CITY	0.02	0.03	0.19
18009	00008	VENTURE INDUSTRIES (HC)	0.00	0.00	0.05
18009	00018	KEY PLASTICS L.L.C.	0.00	0.01	0.08
18009	00023	INDIANA VENEER PRODUCT DIV. OF HARRIS-TA	0.08	0.03	0.05
18011	00004	MARATHON ASHLAND PIPE LINE - LEBANON STA			0.01
18011	00037	HENDRICKSON TRAILER SUSPENSION SYSTEMS			0.01
18015	00011	GLOBE VALVE CORP	0.01	0.01	0.02
18015	00021	PETERS REVINGTON FURNITURE			1.43
18017	00004	LOGANSPORT STATE HOSPITAL	0.01	0.00	0.00
18017	00005	ESSROC CEMENT CORP.	5.21	4.65	0.19
18017	00006	LOGANSPORT MUNICIPAL LIGHT & POWER	0.94	2.08	0.01
18017	00014	TRELLEBORG AUTOMOTIVE	0.00	0.00	0.60
18017	00021	CARLISLE INDUSTRIAL BRAKE AND FRICTION	0.01	0.01	0.25
18017	00027	TEXTRON FASTENING SYSTEMS, PSD			0.08
18017	00028	COLE HARDWOOD	0.03	0.01	0.00
18017	00033	TRANSCO RAILWAY PRODUCTS, INC.			0.02
18017	00034	TYSON FRESH MEATS, INC.	0.06	0.08	0.03
18017	00035	OAK RIDGE RECYCLING & DISPOSAL FACILITY	0.02	0.00	0.01

FIPS	State ID	Facility Name	CO	NOX	VOC
18019	00002	FLEXCEL - BORDEN	0.00	0.01	0.36
18019	00003	COLGATE-PALMOLIVE	0.03	0.04	0.06
18019	00006	JEFFBOAT			0.25
18019	00007	KITCHEN KOMPACT INC			2.53
18019	00008	ESSROC CEMENT CORP.	4.75	4.62	0.18
18019	00009	INDIANA ARMY AMMUNITION PLANT	0.00	0.00	0.00
18019	00012	MARATHON ASHLAND PET., CLARKSVILLE TERM.			0.09
18019	00015	ALTEC, L.L.C.	0.01	0.01	0.05
18019	00016	HAAS CABINET CO. INC.			0.56
18019	00018	THE PQ CORPORATION	0.03	0.29	0.01
18019	00019	HORIZON TERRA, INC.			0.09
18019	00041	ADPLEX-RHODES, INC.	0.00	0.01	0.05
18019	00043	CLARK MEMORIAL HOSPITAL	0.00	0.00	0.00
18019	00046	GEORGE PFAUS SONS COMPANY, INC.	0.01	0.01	0.00
18019	00049	APOLLO AMERICA CORP.	0.00	0.00	0.00
18019	00050	THE DALLAS GROUP OF AMERICA	0.01	0.01	0.00
18019	00054	VOSS INDUSTRIES DBA PGP CORPORATION	0.01	0.01	0.00
18019	00071	KOETTER WOODWORKING, INC.			0.10
18019	00075	G.F. MUNICH WELDING			0.02
18019	00079	KOETTER WOODWORKING INC.	0.03	0.02	0.01
18019	00080	ORICA USA INC.	0.00	0.00	0.00
18019	00088	CARMAN INDUSTRIES INC.			0.00
18019	00094	INDIANA AMERICAN WATER CO., INC.	0.00	0.00	0.00
18019	00095	INDIANA AMERICAN WATER CO., INC.	0.00	0.00	0.00
18019	00097	CLARK-FLOYD LANDFILL			0.00
18019	00103	D.A. INC.			0.06
18019	00104	TANCO CLARK MARITIME, L.L.C.	0.00	0.00	0.00
18019	00105	JEFFERSON YACHTS			0.01
18019	01332	RIETH-RILEY1332 PORTABLE CONCRETE PLANT	0.01	0.03	0.00
18019	03109	SELLERSBURG STONE CO.	0.06	0.03	0.05
18019	03321	ASPHALT SUPPLY CO., INC.	0.00	0.05	0.00
18019	05191	FORMER DAIRY MART STORES #173			0.00
18021	00008	GREAT DANE TRAILERS			0.27
18023	00011	ADM FRANKFORT	0.09	0.11	0.81
18023	00020	FRITO-LAY, INC.	0.14	0.29	0.00
18023	00021	THE KAY COMPANY, INC.			0.22
18023	00024	DONALDSON COMPANY, INC.			0.15
18023	00026	SONOCO CRELLIN			0.16
18027	00006	RESCAR INDUSTRIES, INC.			0.00
18027	00046	GRAIN PROCESSING CORPORATION	0.17	0.22	0.46
18027	03270	ROGERS GROUP,INC.-WASHINGTON ASPHALT	0.01	0.00	0.00
18029	00001	AURORA CASKET CO INC	0.01	0.01	1.20
18029	00002	AMERICAN ELECTRIC POWER-TANNERS CREEK	1.72	48.24	0.30
18029	00005	PERNOD RICARD USA	0.02	0.55	0.92
18029	00007	ANCHOR GLASS CONTAINER CORPORATION	0.05	1.42	0.03
18029	00008	TEXAS GAS TRANSMISSION - DILLSBORO	0.47	0.39	0.02
18029	00011	AURORA CASKET CO-VANGUARD PLT	0.00	0.00	0.29
18029	00014	TRANS AGG,INC. DBA GIBBCO, INC.	0.00	0.00	0.00
18029	03187	PAUL H. ROHE	0.00	0.01	0.00
18029	03326	DAVE O MARA CONTRACTOR PLANT 2	0.00	0.01	0.01
18031	00001	PRINTPACK INC.	0.01	0.01	1.82

FIPS	State ID	Facility Name	CO	NOX	VOC
18031	00014	VALEO, INC. ENGINE COOLING AUTO. DIV.			0.11
18031	00023	DECATUR HILLS, INC.	0.06	0.00	0.00
18031	03141	HOT MIX INC.	0.00	0.01	0.00
18033	00002	AUBURN FOUNDRY PLANT 1	1.13	0.12	0.36
18033	00013	COOPER TIRE & RUBBER CO., ENG.PROD.DIV	0.01	0.01	0.73
18033	00017	ASHLEY INDUSTRIAL MOLDING, INC.	0.01	0.01	0.39
18033	00019	THERMA-TRU CORPORATION	0.00	0.00	0.16
18033	00022	GUARDIAN INDUSTRIES	0.00	0.00	0.17
18033	00023	RIEKE PACKAGING SYSTEMS	-	-	0.20
18033	00027	NUCOR VULCRAFT GROUP, ST. JOE DIVISION			0.42
18033	00040	FLEETWOOD HOMES OF INDIANA, INC. #55			0.02
18033	00042	AUBURN FOUNDRY PLANT 2		0.00	0.14
18033	00043	STEEL DYNAMICS, INC.	1.56	1.65	0.23
18033	00044	DURA AUTOMOTIVE SYSTEMS, BUTLER JACK OPS			0.12
18033	00046	PARAGON PLASTICS, L.L.C.			0.00
18033	00047	FOAMEX L.P.	0.02	0.01	0.06
18033	00055	API CONSTRUCTION CORP.	0.01	0.01	0.01
18033	00072	NEW MILLENNIUM BUILDING SYSTEMS, LLC			0.60
18035	00002	BALL STATE UNIV	0.14	0.18	0.00
18035	00009	JEFFERSON SMURFIT CORPORATION	-	-	0.52
18035	00015	MANUAL TRANSMISSIONS OF MUNCIE LLC	0.07	0.09	0.17
18035	00020	BORGWARNER DTP INC.	0.21	0.03	0.07
18035	00041	ROCK-TENN COMPANY	0.04	0.05	0.01
18035	00046	ARROWHEAD PLASTIC ENGINEERING, INC.			0.05
18037	00002	JASPER MUNICIPAL ELECTRIC UTILITY	0.31	0.69	0.00
18037	00005	JASPER CHAIR CO	0.01	0.00	0.13
18037	00006	JASPER CORPORATION	-	-	-
18037	00007	JASPER DESK COMPANY, INC.	0.01	0.00	0.12
18037	00010	JASPER SEATING CO	0.01	0.00	0.51
18037	00012	INWOOD OFFICE FURNITURE			0.18
18037	00015	MASTERBRAND CABINETS PLANT #2 & #3A	0.00	0.00	0.84
18037	00016	DMI FURNITURE	0.00	0.00	0.24
18037	00017	JASPER SEATING COMPANY - FERDINAND	-	-	0.08
18037	00023	DUBOIS WOOD PRODUCTS, INC	0.00	0.00	0.12
18037	00028	INDIANA DESK-DUBOIS	0.00	0.00	0.23
18037	00031	ANR PIPELINE CELESTINE STATION	0.00	0.11	0.01
18037	00048	F-JASPER 11TH AVE	0.03	0.01	0.24
18037	00051	MASTERBRAND CABINETS, INC. PLANT 4/22	0.00	0.00	2.08
18037	00052	MASTERBRAND PLANT #3	0.00	0.00	0.83
18037	00058	DMI FURNITURE			0.04
18037	00071	WOODMASTER, INC.	0.00	0.00	0.36
18037	00081	MOBEL, INC	0.00	0.00	0.47
18037	00085	KIMBALL INTERNATIONAL COMBO 37-30,50,53*			0.14
18037	00089	JASPER ENGINE EXCHANGE, INC.	0.03	0.21	0.14
18037	00100	KIMBALL INTERNATIONAL*	0.30	0.04	0.90
18037	00102	Styline Industries	0.03	0.00	0.46
18037	00104	INDIANA FURNITURE INDUSTIRES *	0.00	0.00	0.04
18037	00107	JOFCO PLT 1 & 2 COMBO (037-9 & 24)*	0.01	0.01	0.32
18039	00001	MASTER FAB INC.			0.21
18039	00002	OWENS CORNING FABRICATING SOLUTIONS			1.27
18039	00005	CANA INC.			0.56

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00009	BAYER HEALTHCARE LLC	0.04	0.12	0.01
18039	00010	CONN-SELMER, INC., VINCENT BACH DIVISION	-	-	0.01
18039	00011	STARCRAFT BUS & MOBILITY, DIV FR	0.00	0.00	0.28
18039	00012	VITCO INC	0.01	0.01	0.00
18039	00014	HOME-CREST CORPORATION	-	-	1.03
18039	00017	MONACO COACH CORPORATION - WAKARUSA	0.00	0.00	1.13
18039	00018	JOHNSON CONTROLS, INC.	0.00	0.00	0.01
18039	00027	PARKER HANNIFIN	0.00	0.00	0.01
18039	00030	H.B. FULLER CO	0.00	0.00	0.03
18039	00035	LOUISIANA-PACIFIC CORP.			0.08
18039	00036	ELKHART PRODUCTS CORPORATION	0.00	0.00	0.00
18039	00039	FOREST RIVER, INC. CEDAR CREEK DIVISION	0.00	0.00	0.02
18039	00050	APG, INC			0.00
18039	00051	ELKHART FOUNDRY & MACHINE CO., INC.		0.00	0.00
18039	00055	FLEXIBLE FOAM PRODUCTS, INC.			0.04
18039	00058	BY-PASS PAINT SHOP INC			0.02
18039	00062	COACHMEN RECREATIONAL VEHICLE CO.,LLC			0.20
18039	00063	CTS CORPORATION AUTOMOTIVE PRODUCTS	0.00	0.00	0.00
18039	00065	PRODESIGN COMPOSITES			0.07
18039	00066	SYNDICATE SYSTEMS, INC.	0.01	0.01	0.00
18039	00067	MILLENNIUM PRODUCTS, INC.			0.13
18039	00069	ANCO PRODUCTS, INCORPORATED			0.01
18039	00070	PHILIPS PRODUCTS/VENTLINE DIV	0.00	0.00	0.01
18039	00072	ELKHART BRASS MANUFACTURING CO. INC.	0.02	0.00	0.01
18039	00073	SMOKER-CRAFT INC			0.25
18039	00076	20TH CENTURY FIBERGLASS	0.00	0.00	0.54
18039	00077	GASKA TAPE, INC.		0.00	0.37
18039	00081	BISON MANUFACTURING			0.06
18039	00082	PATRICK INDUSTRIES			0.25
18039	00086	CARPENTER CO.	0.00	0.00	0.00
18039	00087	MONACO COACH CORPORATION NAPPANEE WOOD			0.32
18039	00094	FOUR SEASONS HOUSING	-	-	0.03
18039	00096	UNITED EXPRESSLINE, INC.	0.00	0.01	0.16
18039	00097	TRUCK ACCESSORIES GROUP DBA LEER MIDWEST	0.00	0.00	0.52
18039	00098	BENNINGTON MARINE CORP.			0.01
18039	00099	EFP, CORP	0.01	0.01	0.11
18039	00103	SUPREME CORPORATION	0.00	0.00	0.36
18039	00104	JASON INDUSTRIES, INC.			0.33
18039	00105	PATRIOT HOMES INC.			0.05
18039	00109	20TH CENTURY FIBERGLASS PLANT #4	0.00	0.00	0.09
18039	00110	RANCH FIBERGLAS, INC.	-	-	0.16
18039	00118	ELKHART GENERAL HOSPITAL	0.00	0.00	0.00
18039	00122	THE ART OF DESIGN, INC.	0.00	0.00	0.01
18039	00126	GLAVAL CORPORATION			0.02
18039	00130	VENTURE WELDING, INC.	0.00	0.00	0.21
18039	00135	DADON CORP DBA MERHOW INDUSTRIES			0.00
18039	00137	COVERMASTER, INC.			0.35
18039	00141	BETTER WAY PRODUCTS, INC.			0.83
18039	00145	GULF STREAM COACH, INC.	0.00	0.00	0.18
18039	00147	EPS, INC. D/B/A VALSPAR COATINGS			0.02
18039	00152	FIBER-TRON, INC.	-		0.03

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00154	EK BLESSINGS COMPANY, INC.	0.00	0.00	0.02
18039	00155	MILLER DOOR & TRIM INC	0.00	0.00	0.12
18039	00157	NEWMAR CORPORATION			0.62
18039	00166	BECK INDUSTRIES	0.00	0.00	0.25
18039	00170	ET AND T FRAMES, INC.	0.00	0.01	0.12
18039	00172	DOORS PLUS, INC.	0.00	0.00	0.17
18039	00174	NICKELL MOULDING CO., INC.			0.10
18039	00177	STEELCASE, INC., STOW DAVIS DIV.	0.00	0.00	0.17
18039	00178	ROBERT WEED PLYWOOD CORPORATION			0.05
18039	00182	MONACO COACH CORPORATION-ELKHART			0.42
18039	00185	VENTURE WELDING	0.00	0.00	0.00
18039	00187	ENVIRONMENTAL TEST SYSTEMS, INC			0.01
18039	00188	ALTEC ENGINEERING, INC.	0.00	0.00	0.13
18039	00189	DOORS AND DRAWERS, INC.			0.02
18039	00191	HAYES LEMMERZ INTERNATIONAL - BRISTOL	0.04	0.09	0.05
18039	00192	CONSOLIDATED LEISURE INDUSTRIES, LLC			0.08
18039	00195	D&W INC.	0.00	0.00	0.05
18039	00198	SUPERIOR LAMINATING, INC.	0.00	0.00	0.01
18039	00200	ACCRA FORM COMPOSITES			0.03
18039	00206	M AND M FABRICATORS CORPORATION	0.00	0.00	0.01
18039	00215	QUALITY FRAMES, INC	0.00	0.00	0.02
18039	00220	FOUR WINDS INTERNATIONAL CORPORATION	0.00	0.00	0.15
18039	00229	LITHOTONE	0.00	0.00	0.05
18039	00230	CREATION WINDOWS	0.00	0.00	0.08
18039	00235	HULL LIFT TRUCK, INCORPORATED			0.02
18039	00242	BAYER HEALTHCARE LLC	0.00	0.00	0.03
18039	00245	MIDDLEBURY HARDWOOD PRODUCTS, INC.			0.45
18039	00246	CROWN AUDIO, INC.			0.01
18039	00248	ELPACO COATINGS CORPORATION	0.00	0.00	0.10
18039	00249	GOSHEN STAMPING COMPANY, INC.	0.00	0.00	0.00
18039	00251	BULL MOOSE TUBE COMPANY, INC			0.01
18039	00253	HAULMARK INDUSTRIES, INC.			0.02
18039	00254	HAULMARK INDUSTRIES, INC.			0.28
18039	00255	AMERICAN CARGO CORPORATION	0.00	0.00	0.04
18039	00257	IMPRESSIONS, INC.	0.00	0.00	0.01
18039	00258	WIELAND DESIGN, INC.	0.00	0.00	0.02
18039	00265	JAYCO INC. (00265)			0.26
18039	00267	GODFREY CONVEYOR COMPANY INC.			0.34
18039	00268	FLEXSTEEL INDUSTRIES, INC.	0.00	0.00	0.00
18039	00269	TRUTH PUBLISHING COMPANY, INC.			0.00
18039	00271	WALTER PIANO COMPANY, INC.			0.05
18039	00272	PACE AMERICAN	0.03	0.03	0.12
18039	00273	HERR CUSTOM PAINTING	0.00	0.00	0.05
18039	00274	ELKHART COUNTY LANDFILL	0.07	0.00	0.00
18039	00276	CUSTOM WOODCRAFT, INC.	0.00	0.00	0.03
18039	00277	MARK LINE INDUSTRIES			0.01
18039	00282	MOULDING DIVISION OF ROBERT WEED PLYWOOD	0.00	0.00	0.21
18039	00283	WELLS CARGO, INC.			0.11
18039	00285	DAMON CORPORATION-BRECKENRIDGE DIV.			0.02
18039	00295	FOREST RIVER INC, CARDINAL DIVISION	0.01	0.01	0.08
18039	00296	SPECIALIZED WOOD PRODUCTS			0.11

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00297	PRESTIGIOUS PRINTING	0.00	0.00	0.01
18039	00299	NORTH AMERICAN MOULDING, INC.	0.00	0.00	0.01
18039	00302	FOAMEX			0.00
18039	00306	SKYLINE CORPORATION- PLT 616			0.02
18039	00307	SKYLINE CORPORATION- PLT 812			0.02
18039	00308	SKYLINE CORPORATION- PLT 111			0.01
18039	00309	LIPPERT COMPONENTS, INC.			0.06
18039	00310	SKYLINE CORPORATION- PLT 112			0.01
18039	00318	HARTSON KENNEDY CABINET TOP COMPANY, INC			0.36
18039	00320	PRODESIGN PAINT PLANT 820			0.04
18039	00324	ADORN, L.L.C.	0.00	0.00	0.78
18039	00326	CARRERA DESIGNS - PLANT 1	0.00	0.00	0.14
18039	00327	AMERICAN MILLWORK	0.00	0.00	0.01
18039	00332	EZ LOADER	0.00	0.00	0.00
18039	00336	PREMIER FIBERGLASS			0.02
18039	00337	J.E.J. MOULDING	-		0.02
18039	00338	DAIRY FARMERS OF AMERICA	0.03	0.03	0.00
18039	00343	T.P.C. & COMPANY, INC.	0.00	0.00	0.01
18039	00349	MONOGRAM CONVERSIONS, INC.	-		0.04
18039	00350	CONQUEST MINI-HOMES/GULFSTREAM COACH,	-		0.05
18039	00353	VICTORIAN HOMES			0.02
18039	00362	WEVAC PLASTICS CORPORATION, LLC.			0.09
18039	00363	KEYSTONE RV COMPANY			0.16
18039	00364	AUTOSPORT PAINTED ACCESSORIES	-	-	0.02
18039	00370	BFI WASTE SYSTEMS			0.00
18039	00373	OMEGA INDUSTRIES, INC.			0.09
18039	00376	DUTCHMEN MFG. - 376	0.00	0.00	0.13
18039	00377	DUTCHMENT MFG. - MIDDLEBURY	0.00	0.00	0.11
18039	00379	BEHLEN MANUFACTURING COMPANY	0.01	0.01	0.00
18039	00380	DUTCHMEN MFG. - 380	0.00	0.00	0.08
18039	00393	R D FINISHING, INC.			0.00
18039	00395	COPPES CABINETS	0.00	0.00	0.01
18039	00400	BRISTOL LAMINATING, INC.	0.00	0.00	0.01
18039	00402	R AND R CUSTOM WOODWORKING, INC.	0.00	0.01	0.06
18039	00407	DAMON COPORATION PLANTS 1,2,3 AND 9	0.00	0.00	0.07
18039	00415	BTC CABINET			0.01
18039	00416	ROYAL COACH, DIVISION OF MONACO COACH CO			0.01
18039	00423	SWARTZENDRUBER HARDWOOD CREATIONS, LLC			0.02
18039	00424	VAHALA FOAM, INC.	0.00	0.00	0.06
18039	00427	CHEM TECH, INC.			0.01
18039	00433	MILLER'S WOOD-N-THINGS	0.00	0.00	0.01
18039	00434	ACCRA PAC, INC.			0.28
18039	00437	HOOSIER WOOD CREATIONS, INC..	0.00	0.00	0.05
18039	00443	THE COMMODORE CORPORATION			0.04
18039	00444	SUNNYBROOK RV, INC.	0.00	0.00	0.11
18039	00448	INDEPENDENT PROTECTION COMPANY, INC			0.07
18039	00454	COULTER & SON, INC.			0.04
18039	00455	DEXTER AXLE CO.	0.00	0.00	0.04
18039	00456	CARRIAGE, INC. COMBO 039-179&039-00205	0.00	0.00	0.06
18039	00458	FOUR SEASONS HOUSING INC			0.05
18039	00460	NATIVE HARDWOODS INC.			0.10

FIPS	State ID	Facility Name	CO	NOX	VOC
18039	00461	EARTHMOVERS LANDFILL	0.08	0.04	0.01
18039	00468	CRYSTAL VALLEY HOMES			0.02
18039	00469	FOREST RIVER, INC	0.01	0.01	0.06
18039	00470	FOREST RIVER, INC	0.00	0.00	0.01
18039	00471	FOREST RIVER, INC	-	-	0.05
18039	00472	MICA SHOP, INC.			0.05
18039	00481	CMG, INC.	0.00	0.00	0.02
18039	00483	NU-WOOD COMPANY			0.03
18039	00487	SUPERIOR2 SOLVENTS AND CHEMICALS, INC.			0.01
18039	00489	INDIANA BUILDING SYSTEMS, L.L.C.			0.18
18039	00491	ODYSSEY BOAT DIVISION	0.00	0.00	0.00
18039	00493	GLOBAL GLASS INC.			0.42
18039	00498	VENTURE TECHNOLOGIES, LLC	0.00	0.00	0.05
18039	00499	J AND L CARGO EXPRESS, INC.			0.10
18039	00504	ALPHA SYSTEMS, INC.	0.00	0.00	0.06
18039	00505	DUTCH MILLS			0.03
18039	00508	VSV GROUP DBA MCCOY MILLER/GOSHEN COACH			0.15
18039	00509	FAIRMONT & KUSTOM (COMBO 039-00334&219)	0.00	0.00	0.46
18039	00510	CARGOMATE/CONTINENTAL CARGO/WEHAUL	0.00	0.00	0.04
18039	00514	COACHMEN REC. VEHICLE PLANT NO.900			0.04
18039	00518	KOUNTRY WOOD PRODUCTS, L.L.C.			0.18
18039	00519	ALTEC ENGINEERING, LLC			0.05
18039	00528	JAYCO, INC.(00528)			0.05
18039	00530	UTILIMASTER CORPORATION	0.00	0.00	0.15
18039	00531	EMTEC COMPOSITES, INC.			0.03
18039	00532	ROADMASTER, LLC	0.00	0.00	0.04
18039	00534	LIPPERT COMPONENTS, INC.			0.00
18039	00536	DYNAMAX CORPORATION			0.04
18039	00537	SCHMIDT FURNITURE AND MUSIC, LLC			0.00
18039	00538	VIM RECYCLING	0.02	0.07	0.01
18039	00542	PERFORMANCE PAINTING			0.15
18039	00543	HOOSIER HOUSE FURNITURE, INC.	0.00	0.00	0.00
18039	00548	NORFOLK SOUTHERN RAILWAY COMPANY	0.00	0.01	0.00
18039	00550	STOUTCO, INC.			0.03
18039	00551	MEDTEC AMBULANCE CORPORATION (MEDTEC)	0.00	0.00	0.03
18039	00552	SUPERIOR ENVIRONMENTAL REMEDIATION, INC.			0.01
18039	00554	FOREST RIVER, INC. WILDCAT DIVISION	0.00	0.00	0.02
18039	00556	NOBLE COMPOSITES, INC.	0.00	0.00	0.47
18039	00557	DELIVERY CONCEPTS, INCORPORATED			0.01
18039	00559	FINAL FINISH, LLC	0.00	0.00	0.01
18039	00560	KEYSTONE RV COMPANY			0.01
18039	00561	D & S INDUSTRIES	0.00	0.00	0.02
18039	00570	ORBIT COMPOSITES & BETTER WAY PRODUCTS			0.02
18039	03173	RIETH-RILEY3173 ASPHALT PLANT #375	0.01	0.03	0.00
18039	03296	NIBLOCK EXCAVATING	0.02	0.02	0.04
18041	00004	VISTEON SYSTEMS, LLC	0.02	0.02	0.17
18041	00009	PSI - ENERGY CONNERSVILLE PEAKING STA.	0.00	0.00	0.00
18041	00012	C.P. INCORPORATED			0.09
18041	00015	RECLAIMED ENERGY COMPANY, INC.	0.00	0.00	0.02
18043	00004	PSI ENERGY - GALLAGHER	1.27	21.93	0.18
18043	00010	TRANSMONTAIGNE TERMINAL INC.			0.02

FIPS	State ID	Facility Name	CO	NOX	VOC
18043	00012	FLINT INK NORTH AMERICA CORPORATION	0.00	0.00	0.12
18043	00014	FOAM FABRICATORS, INC.	0.00	0.01	0.37
18043	00016	FLOYD MEMORIAL HOSPITAL AND HEALTH SERVS	0.01	0.01	0.00
18043	00023	HITACHI CABLE INDIANA, INC.	0.00	0.00	0.00
18043	00024	CAMEO MARBLE	0.00	0.00	0.13
18043	00026	FIREKING INTERNATIONAL, INC.	0.01	0.01	0.00
18043	00029	PRINT XCEL DBA DISCOUNT LABELS			0.09
18043	00035	BRUCE FOX, INC.			0.03
18043	00039	PRODUCT SPECIALTIES			0.09
18043	00043	FIRE KING SECURITY PRODUCTS, LLC			0.02
18043	00049	PADGETT, INC.			0.02
18043	00050	GENERAL MILLS	0.01	0.01	0.00
18043	00053	W. M. KELLEY COMPANY, INC.			0.02
18045	00001	FOUNTAIN FOUNDRY	-	0.00	0.01
18045	00002	HARRISON STEEL CASTING	0.00	0.02	0.02
18045	00011	MASTER GUARD CORP.	0.01	0.01	0.85
18047	05211	DAVE O MARA CONTRACTOR PLANT 5	0.01	0.03	0.01
18049	00001	AKRON FOUNDRY, INC.		0.00	0.01
18049	00002	ROCHESTER METAL PRODUCTS CORP.		0.00	0.11
18049	00018	TOPP INDUSTRIES, INC.	-	-	0.06
18049	00027	OLYMPIC FIBERGLASS INDUSTRIES			0.09
18049	00029	COUNTY LINE LANDFILL	0.04	0.02	0.01
18051	00007	TEPPCO PRINCETON TERMINAL	0.00	0.00	0.04
18051	00013	PSI ENERGY - GIBSON	6.88	132.38	0.83
18051	00021	MID-STATES RUBBER PRODUCTS, INC.	0.00	0.01	0.03
18051	00037	TOYOTA MOTOR MANUFACTURING OF INDIANA	0.04	0.12	3.03
18053	00004	MFD MARION PLANT	0.02	0.03	0.00
18053	00020	THOMSON MULTIMEDIA, INC.	1.03	0.09	0.26
18053	00032	HARTSON-KENNEDY CABINET TOP COMPANY, INC			0.93
18053	00040	TETCO - GAS CITY STATION	0.24	0.46	0.13
18053	00058	AMERICAN WOODMARK	0.01	0.01	0.78
18055	00003	COUNTRYMARK COOPERATIVE, INC.			0.47
18055	00008	GRIFFIN INDUSTRIES, INC. - NEWBERRY	0.20	0.19	0.00
18055	00034	WORTHINGTON GENERATION LLC	0.47	0.45	0.02
18055	03293	ROGERS GROUP,INC.-GREENE CO. ASPHALT	0.07	0.00	0.02
18055	05166	RIETH-RILEY5166 PORTABLE ASPHALT PLANT #	0.01	0.04	0.00
18057	00002	INDIANA DUCTILE LLC		0.00	0.00
18057	00004	PSI ENERGY-NOBLESVILLE	0.17	6.57	0.02
18057	00006	FIRESTONE INDUSTRIAL PRODUCTS	0.03	0.10	0.28
18057	00008	COUNTRYMARK COOPERATIVE, INC.			0.04
18057	00042	INDUSTRIAL DIELECTRICS, INC.			0.15
18057	03300	MAR-ZANE PLANT #18	0.27	0.02	0.01
18057	05204	PRAIRIE GROUP - PLANT 79	-	-	-
18059	00002	ROLL COATER INC.	0.05	0.06	0.28
18059	00009	KEMIRA CHEMICALS, INC.	0.00	0.01	0.00
18059	00018	AVERY DENNISON-FASSON ROLL DIVISION	0.03	0.03	0.30
18059	00023	VACUMET CORP., METALLIZED PAPER DIVISION	0.02	0.02	0.06
18059	00026	MONROE CUSTOM UTILTY BODIES			0.02
18061	00001	KELLER MANUFACTURING CO., INC.	0.01	0.01	0.15
18061	00011	SCHMIDT CABINET COMPANY, INC.			0.10
18061	00012	DARAMIC, INC.	0.01	0.01	0.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18061	00013	KELLER MFG. CO., INC. - NEW SALISBURY	0.01	0.00	0.16
18063	00007	CENTER TERMINAL COMPANY			0.06
18063	00029	TWIN BRIDGES RECYCLING & DISPOSAL FACIL	0.01	0.00	0.00
18063	00047	PHOENIX FABRICATOR AND ERECTORS			0.05
18065	00003	AVESTAPOLARIT INC. PLATE PRODUCTS	0.03	0.23	0.00
18065	00007	GREDE NEW CASTLE, INC.	0.01	0.01	0.27
18065	00014	ALLEGHENY LUDLUM CORPORATION	0.06	0.59	0.20
18065	00019	ANR PIPELINE CO. SULPHUR SPRINGS STATION	0.08	0.07	0.06
18065	00032	CINCAP VII, LLC	0.05	0.29	0.01
18065	00035	HENRY COUNTY HOSPITAL	0.00	0.00	0.00
18065	00036	HAYES LANDFILL, INC.			0.01
18067	00002	DAIMLERCHRYSLER KOKOMO CASTING PLANT	0.07	0.09	0.01
18067	00003	DAIMLERCHRYSLER CORP TRANSMISSION PLANT	0.46	0.38	0.12
18067	00009	HAYNES INTERNATIONAL, INC.	0.11	0.18	0.01
18067	00058	DAIMLERCHRYSLER INDIANA TRANSMISSION PLT	0.22	0.02	0.01
18067	00061	DELPHI DELCO ELECTRONICS SYSTEMS	0.04	0.04	0.29
18069	00012	SUNOCO PARTNERS MARKETING & TERMINALS LP			0.23
18069	00013	MAJESTIC PRODUCTS COMPANY			0.05
18069	00018	KEN-KOAT, INC.	0.00	0.00	0.24
18069	00021	US MINERAL PRODUCTS COMPANY	17.70	0.11	0.05
18069	00031	HAYES LEMMERZ INTERNATIONAL	0.06	0.08	0.07
18069	00043	MERIDIAN AUTOMOTIVE SYSTEMS-HUNTINGTON	0.02	0.01	0.19
18069	00059	PRINT SUPPORT INC/MIGNONE COMMUNICATIONS			0.01
18071	00006	VALEO SYLVANIA, LLC	0.00	0.01	0.13
18071	00007	TE PRODUCTS PIPELINE CO.,LMTD PRTNRSHP	-	-	0.09
18071	00015	CUMMINS ENGINE CO	0.10	0.50	0.04
18071	00016	KOBELCO METAL POWDER OF AMERICA, INC.	0.42	0.04	0.01
18071	00017	AISIN USA MFG., INC.	0.01	0.01	0.08
18071	00023	SCHWARZ PHARMA MFG.,INC.	0.00	0.04	0.08
18071	00034	LA GLORIA OIL AND GAS/CROWN CENTRAL PET.			0.67
18071	00036	HOME PRODUCTS INTERNATIONAL, INC. COMBO	0.01	0.01	0.62
18071	03117	DAVE O MARA CONTRACTOR PLANT 4	0.00	0.01	0.01
18071	03180	ONYX PAVING COMPANY, INC.	0.00	0.00	0.00
18073	00001	SAINT JOSEPHS COLLEGE	0.00	0.00	0.00
18073	00008	NIPSCO - R.M. SCHAHFER	3.76	53.69	0.52
18073	00011	SOLAE L.L.C.- REMINGTON IN	0.06	0.06	0.03
18073	00020	CITY LIGHT PLANT	0.00	0.00	0.00
18073	00025	TALBERT MFG.	0.00	0.00	0.12
18073	00031	G-P GYPSUM, WHEATFIELD INDIANA	0.08	0.12	0.07
18073	05148	JASPER COUNTY HIGHWAY DEPT.	0.00	0.00	0.00
18075	00003	INDIANA GLASS COMPANY	0.04	0.24	0.02
18075	00004	SAINT-GOBAIN CONTAINERS, INC.	0.09	0.43	0.09
18075	00005	VENTURE INDUSTRIES (PORTLAND)	0.00	0.00	0.01
18075	00012	ANR PIPELINE CO PORTLAND STATION	0.00	0.01	0.00
18075	00017	W & M MFG.,INC.	0.00	0.00	0.18
18075	00023	PATRIOT PAINT CO., INC.	0.00	0.00	0.04
18075	00029	JAY COUNTY LANDFILL	0.01	0.00	0.01
18077	00001	IKEC - CLIFTY CREEK STATION	3.01	83.36	0.42
18077	00003	GROTE INDUSTRIES, LLC			0.10
18077	00007	ARMOR METAL GROUP			0.19
18077	00008	MADISON STATE HOSPITAL	0.01	0.01	0.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18077	00010	USF/ENVIREX PRODUCTS			0.07
18077	00011	ROTARY LIFT/ A DOVER INDUSTRIES COMPANY			0.17
18079	00002	MUSCATATUCK STATE HOSPITAL & TRAINING	5.83	27.96	0.40
18079	00010	ERLER INDUSTRIES, INC.	-	-	0.75
18079	00014	METALDYNE SINTERED COMPONENTS	0.06	0.05	
18079	00019	PLASFINCO			0.03
18079	03181	DAVE O MARA CONTRACTOR PLANT 1	0.00	0.02	0.00
18081	00005	SONOCO FLEXIBLE PACKAGING	0.02	0.02	1.19
18081	00012	LEAR CORPORATION EEDS & INTERIORS			0.06
18081	00021	ESSEX GROUP, INC.	-	-	0.11
18083	00003	PSI ENERGY-EDWARDSPORT	0.22	7.43	0.03
18083	00008	ESSEX GROUP, INC.	0.05	0.11	1.49
18083	00027	GOOD SAMARITAN HOSPITAL	0.01	0.01	0.00
18083	00041	WHEATLAND GENERATING FACILITIES	0.32	1.10	0.03
18083	03185	ROGERS GROUP,INC.-VINCENNES ASPHALT	0.05	0.00	0.02
18085	00002	DA-LITE SCREEN COMPANY, INC.	0.00	0.00	0.60
18085	00003	DALTON CORPORATION WARSAW MANUFACTURING	3.28	0.11	0.69
18085	00009	R.R. DONNELLEY & SONS COMPANY	0.04	0.05	0.73
18085	00012	PAR-KAN COMP.	0.00	0.00	0.07
18085	00031	RINKER BOAT COMPANY, INC.			0.54
18085	00037	FLINT INK NORTH AMERICA CORPORATION			0.24
18085	00051	MARBLE CREATIONS			0.04
18085	00067	AERO COACH (DUTCHMEN)			0.05
18085	00070	FRONTLINE MFG.			0.06
18085	00074	EXPLORER VAN COMPANY			0.14
18085	00077	FRONTLINE MANUFACTURING			0.44
18087	00004	ANR PIPELINE CO. LAGRANGE STATION	0.27	2.04	0.37
18087	00007	STARCRAFT RV	0.06	0.01	0.05
18087	00012	STARCRAFT MARINE, LLC			0.30
18087	00018	VENTURE WELDING (HOWE)	0.00	0.00	0.35
18087	00019	JAYCO, INC.(00019)	0.00	0.00	0.01
18087	00023	PALLETONE OF INDIANA, INC,	0.07	0.03	0.00
18087	00031	NISHAKAWA STANDARD	0.00	0.01	0.14
18087	00036	FOUR WOODS LAMINATING	0.05	0.21	0.24
18087	00047	MIDWEST MOLDING, INC.	0.00	0.00	0.01
18087	00051	H.R.O., INC.			0.03
18089	00001	TRANSMONTAIGNE PIPELINE			0.00
18089	00003	BP PRODUCTS NORTH AMERICA INC, WHITING R	12.57	31.00	4.12
18089	00013	RIETER AUTOMOTIVE NORTH AMERICA	0.03	0.03	0.02
18089	00020	AMERICAN CHEMICAL SERVICE, INC.	0.00	0.01	0.04
18089	00053	MARATHON AHSLAND PIPELINE-GRIFFITH EAST	-	-	0.00
18089	00059	ENBRIDGE ENERGY, LIMITED PARTNERSHIP			0.11
18089	00062	AVERY DENNISON-DECORATIVE FILM DIVISION	0.03	0.04	0.10
18089	00069	ANR PIPELINE NAT GAS_CO-ST. JOHN STATION	1.22	4.23	0.48
18089	00072	MARATHON ASHLAND PIPE LINE-GRIFFITH STAT			0.23
18089	00075	VESUVIUS USA	0.00	0.00	0.00
18089	00076	BP CHEMICAL COMPANY	0.01	0.01	0.02
18089	00081	ENBRIDGE ENERGY, LIMITED PARTNERSHIP			0.31
18089	00090	MUNSTER STEEL			0.02
18089	00093	CARB-RITE COMPANY	0.02	0.02	0.00
18089	00094	MASON CORPORATION	0.02	0.02	0.02

FIPS	State ID	Facility Name	CO	NOX	VOC
18089	00096	MIDWEST PIPE COATING	0.00	0.01	0.05
18089	00100	BLASTECH, INC			0.00
18089	00105	A. P. GREEN REFRACTORIES CO. INC.	0.00	0.00	0.00
18089	00106	SCA TISSUE NORTH AMERICA, LLC	0.03	0.04	0.03
18089	00107	REED MINERALS DIV.	0.01	0.01	0.00
18089	00112	CARMEUSE LIME INCORPORATED	1.11	2.29	0.00
18089	00114	METHODIST HOSPITALS INC	0.00	0.00	0.00
18089	00117	NIPSCO - DEAN H. MITCHELL STATION	0.00	0.03	0.00
18089	00121	U S STEEL CO GARY WORKS	295.98	16.49	6.11
18089	00143	GARY SANITARY LANDFILL	0.07	0.01	0.01
18089	00157	REPUBLIC TECHNOLOGIES INTERNATIONAL	0.01	0.01	0.00
18089	00161	INDUSTRIAL STEEL CONSTRUCTION, INC.	0.01	0.01	0.06
18089	00163	NORTH AMERICAN REFRACTORIES	0.00	0.00	0.00
18089	00164	SMITHS MEDICAL ASD, INC			0.03
18089	00167	STANRAIL NORTH PLANT	0.00	0.00	0.01
18089	00169	GARY COAL PROCESSING	0.03	0.03	0.00
18089	00172	USS - CENTRAL TEAMING COMPANY, INC.	0.00	0.01	0.00
18089	00174	TUBE CITY, INC.	0.00	0.01	0.00
18089	00176	BRADENBURG INDUSTRIAL SERVICE COMPANY	0.00	0.00	0.01
18089	00177	PRAXAIR	0.00	0.00	0.00
18089	00179	BUCKO CONSTRUCTION - 15TH STREET PLANT	0.02	0.03	0.07
18089	00180	KOPPERS INDUSTRIES INC	0.00	0.00	0.01
18089	00201	JUPITER ALUMINUM CORPORATION	0.03	0.17	0.03
18089	00202	SILGAN CONTAINERS CORP	0.01	0.01	0.04
18089	00203	CARGILL, INC.	0.32	0.43	0.24
18089	00204	ASF-KEYSTONE, INC.	0.00	0.01	0.03
18089	00205	BP PRODUCTS N.A. INC- HAMMOND TANK FARM			0.17
18089	00209	SHELL OIL PRODUCTS US HAMMOND TERMINAL			0.05
18089	00210	STATE LINE ENERGY LLC	1.15	22.38	0.21
18089	00214	EXPLORER PIPELINE COMP.			0.07
18089	00218	HALSTAB DIVISION OF HAMMOND GROUP, INC.	0.00	0.00	0.00
18089	00219	HAMMOND GROUP, INC. (HGI)	0.01	0.02	0.00
18089	00220	LASALLE STEEL COMPANY	0.02	0.05	0.00
18089	00222	RESCO PRODUCTS, INC.	0.04	0.01	0.38
18089	00227	KEIL CHEM -FERRO CO	0.01	0.02	0.02
18089	00228	HUHTAMAKI FOODSERVICE INC.	0.05	0.03	0.06
18089	00229	UNILEVER HPC USA	0.04	0.03	0.00
18089	00230	WOLF LAKE TERMINALS, INC.	0.00	0.00	0.01
18089	00231	MARATHON ASHLAND PET., HAMMOND TERMINAL			0.16
18089	00233	EXXON MOBIL CORPORATION - HAMMOND TERM			0.08
18089	00239	SHELL OIL PRODUCTS US EAST CHICAGO TERM			0.18
18089	00242	RHODIA INC.	0.03	0.12	0.03
18089	00244	SAINT MARGARET MERCY HEALTHCARE CENTERS	0.01	0.01	0.00
18089	00247	VERMETTE MACHINE CO., INC.	-	-	0.02
18089	00248	H. A. INDUSTRIES-DIV OF AM CASTLE & CO.	0.05	0.06	0.00
18089	00249	PURDUE UNIVERSITY CALUMET	0.00	0.01	0.00
18089	00253	ARROW UNIFORM RENTAL	0.00	0.02	0.00
18089	00254	VIKING ENGINEERING COMPANY, INC.	0.00	0.00	0.00
18089	00255	POMP'S TIRE SERVICE, INC.			0.02
18089	00262	SAXON METALS	0.00	0.00	0.00
18089	00291	BUCKEYE TERMINALS, LLC - HARTSDALE STAT			0.08

FIPS	State ID	Facility Name	CO	NOX	VOC
18089	00295	DAVIES IMPERIAL COATINGS, INC.			0.05
18089	00298	BAKERY FEEDS	0.00	0.00	0.00
18089	00300	U.S. STEEL - EAST CHICAGO TIN OPERATIONS	0.19	0.09	0.01
18089	00301	SAFETY-KLEEN OIL RECOVERY CO.	0.12	0.30	0.02
18089	00307	CITGO PETROLEUM CORP	-		0.43
18089	00310	W.R. GRACE	0.04	0.05	0.00
18089	00314	GATX RAIL			0.03
18089	00316	ISPAT INLAND INC.	134.12	17.33	4.37
18089	00318	ISG INDIANA HARBOR INC.	16.73	7.36	0.34
18089	00320	BUCKEYE TERMINALS, LLC - EAST CHICAGO ST			0.06
18089	00326	PHILLIPS PIPELINE	0.04	0.01	0.27
18089	00330	PRAXAIR, INC.	0.01	0.06	0.00
18089	00332	UNION TANK CAR COMPANY - PLANT #1	0.02	0.02	0.13
18089	00333	UNITED STATES GYPSUM COMPANY	0.15	0.17	0.01
18089	00341	HECKETT MULTISERV 7 AT ISG STEEL			-
18089	00343	UNION TANK CAR CO/E. CHICAGO LINING FA	0.00	0.00	0.02
18089	00345	POLLUTION CONTROL INDUSTRIES, INC			0.01
18089	00356	BEEMSTERBOER SLAG CORPORATION	0.02	0.10	0.01
18089	00358	EAST CHICAGO RECOVERY, INC.	0.00	0.00	0.00
18089	00360	RJR DRYING	0.01	0.01	0.00
18089	00364	TRANSFLO TERMINAL SERVICES, INC.			0.00
18089	00369	OIL TECHNOLOGY, INC. - ISPAT STEEL PLT#2			0.00
18089	00370	HOOSIER RAILCAR			0.02
18089	00373	ELECTROTEK METALS	0.00	0.00	0.00
18089	00375	OIL TECHNOLOGY, INC. - LTV STEEL PLANT			0.01
18089	00379	ASPHALT CUTBACKS, INC.	0.00	0.00	0.00
18089	00381	PROGRESS RAIL SERVICES CORPORATION	0.00	0.00	0.05
18089	00382	INDIANA HARBOR COKE COMPANY	1.11	2.24	0.01
18089	00406	STANRAIL SOUTH PLANT			0.04
18089	00407	AVERY DENNISON GRAPHICS DIVISION	0.02	0.02	0.03
18089	00426	MUNSTER COMMUNITY HOSPITAL	0.02	0.03	0.00
18089	00435	PRAXAIR INC	0.06	0.06	0.01
18089	00443	SACO INDUSTRIES, INC.			0.07
18089	00448	IRONSIDE ENERGY, LLC	0.00	0.00	0.00
18089	00449	WHITING CLEAN ENERGY, INC.	0.32	0.57	0.03
18089	00453	BP PRODUCTS N.A. INC. - WHITING TERMINAL			0.02
18089	00456	LLOYD'S MOBILE GASOLINE STATION	0.00	0.00	0.01
18089	00458	LAFARGE NORTH AMERICA	0.09	0.02	0.00
18089	00460	CHEMCOATERS	0.00	0.00	0.02
18089	00461	FORMER MARATHON #2318			0.00
18089	00463	NIPSCO VECTOR CROWN POINT PIPELINE HEATE	-	-	-
18089	00464	NIPSCO NORTH HAYDEN PIPELINE HEATER	-	-	-
18089	00465	FRITZ ENTERPRISES INC.	0.01	0.05	0.00
18089	03215	WALSH & KELLY INC.:GRIFFITH PLANT	0.02	0.03	0.01
18089	03226	RIETH-RILEY3226 ASPHALT PLANT #367	0.02	0.02	0.00
18091	00018	CASTING SERVICE	0.01	0.02	0.15
18091	00020	WEIL MCLAIN, A UNITED DOMINION COMPANY	0.00	0.01	0.15
18091	00021	NIPSCO - MICHIGAN CITY	1.14	30.97	0.24
18091	00028	SILIGAN CONTAINERS CORP.	0.02	0.02	0.42
18091	00040	ROLL COATER INC.	0.10	0.12	0.55
18091	00052	AMPCOR II, INC.			0.14

FIPS	State ID	Facility Name	CO	NOX	VOC
18091	00053	CRITERION CATALYST AND TECHNOLOGIES, LP	0.03	0.05	0.00
18091	00061	KSI, LLC	0.00	0.00	0.00
18091	00067	DEERCROFT RECYCLING & DISPOSAL FACIL.	0.35	0.12	0.07
18091	00069	WEISS PRESTAINING INC.	0.00	0.00	0.31
18091	00079	POLYFOAM PACKERS CORPORATION	0.01	0.01	0.31
18091	00104	VITAMINS, INC.			0.28
18091	00106	HOLSUM FT. WAYNE, INC.	0.01	0.01	0.24
18091	00119	SPRINGVILLE COMPRESSOR STATION	0.01	0.11	0.00
18093	00002	LEHIGH CEMENT COMPANY	1.45	10.81	0.24
18093	00007	GM POWERTRAIN BEDFORD FACILITY	0.16	0.19	0.01
18093	00010	MANCHESTER TANK			0.03
18093	00013	TEXAS GAS TRANSMISSION - LEESVILLE	0.00	0.00	0.00
18093	00015	DUNN MEMORIAL HOSPITAL	0.00	0.00	0.00
18093	03287	ROGERS GROUP,INC.-LAWRENCE CO. ASPHALT			0.04
18093	05064	NEWCO METALS PROCESSING	0.01	0.01	0.00
18095	00005	GUIDE CORPORATION	0.03	0.04	0.55
18095	00012	OWENS BROCKWAY GLASS CONTAINER INC.	0.07	0.83	0.05
18095	00016	DELPHI CORPORATION LLC.	0.01	0.01	0.09
18095	00037	ALAC GARMENT SERVICES	0.00	0.01	0.07
18095	00044	PLASTECH	0.00	0.01	0.87
18095	00048	ELSA LLC			0.05
18095	00051	IMPA - ANDERSON STATION	0.38	0.22	0.03
18097	00001	HUBBARD FEEDS INC. FORMERLY CONTI GROUP	0.00	0.00	0.00
18097	00002	AMERICAN ART CLAY CO. INC.	0.00	0.00	0.01
18097	00005	BRIDGEPORT BRASS D/B/A OLIN BRASS	0.03	0.05	0.00
18097	00009	CENTRAL STATE HOSPITAL	0.00	0.00	0.00
18097	00010	GM MFD INDIANAPOLIS METAL CENTER	0.01	0.01	0.00
18097	00012	DAIMLER CHRYSLER CORPORATION FOUNDRY	0.07	0.08	0.21
18097	00014	NATIONAL RAILROAD PASSENGER CORPORATION			0.03
18097	00015	CARRIER CORPORATION			0.07
18097	00019	ELI LILLY AND COMPANY (LCC)	0.00	0.00	0.01
18097	00020	CARGILL DRY CORN INGREDIENTS	0.02	0.01	0.15
18097	00021	VISTEON CORPORATION - INDIANAPOLIS PLANT	0.03	0.03	0.00
18097	00028	ADM GRAIN COMPANY	0.00	0.00	0.00
18097	00029	ZIMMER PAPER PRODUCTS INC	0.00	0.00	0.00
18097	00030	MEADWESTVACO			0.02
18097	00031	INDIANA VENEERS CORP	0.02	0.02	0.01
18097	00032	INDIANAPOLIS BELMONT WWTP	4.20	0.44	0.24
18097	00033	IPL HARDING STREET STATION	1.60	17.73	0.21
18097	00034	C.C. PERRY K STEAM PLANT	0.45	3.29	0.03
18097	00037	CAPITOL CITY CONTAINER CORP.			0.00
18097	00039	INTERNATIONAL TRUCK AND ENGINE CORP.	0.98	0.09	0.54
18097	00040	VALSPAR COATINGS	0.00	0.00	0.09
18097	00041	WISHARD MEMORIAL HOSPITAL	0.03	0.03	0.01
18097	00042	NATIONAL STARCH & CHEMICAL CORPORATION	0.08	0.17	0.01
18097	00050	IR VON DUPRIN		0.00	0.02
18097	00061	CITIZENS GAS & COKE	1.12	1.03	0.18
18097	00063	INTERSTATE CASTINGS	0.00	0.00	0.04
18097	00068	INDPLS.JUVENILE CORRECTIONAL FACILITY	0.00	0.00	0.00
18097	00072	ELI LILLY AND COMPANY (LTC)			0.11
18097	00076	BP - INDIANAPOLIS TERMINAL			0.05

FIPS	State ID	Facility Name	CO	NOX	VOC
18097	00077	EQUILON ENTERPRISES LLC-INDIANAPOLIS			0.09
18097	00078	MARATHON ASHLAND PET.- SPEEDWAY TERMINAL			0.15
18097	00079	QUEMETCO, INC.	0.58	0.69	0.01
18097	00081	DORSEY PAVING INC	0.00	0.00	0.00
18097	00082	F.E. HARDING ASPHALT COMPANY	0.02	0.02	0.01
18097	00086	MILESTONE CONTRACTORS, L.P.	0.02	0.09	0.00
18097	00088	RIETH-RILEY88 ASPHALT PLANT #325	0.01	0.02	0.00
18097	00089	RIETH-RILEY89 ASPHALT PLANT #326	0.01	0.03	0.00
18097	00093	CRYOVAC RIGID PACKAGING CRYOVAC, INC.			0.90
18097	00095	PANHANDLE EASTERN PIPELINE CO	0.42	3.94	0.16
18097	00098	ASPHALT MATERIALS, INC.	0.02	0.03	0.03
18097	00100	RAYTHEON TECH. SERVICES CO.	0.01	0.01	0.02
18097	00102	BMG MUSIC	0.00	0.00	0.00
18097	00104	HANSON AGGREGATES MIDWEST, INC-STONE			-
18097	00107	SHOREWOOD PACKAGING CORP OF INDIANA			0.18
18097	00116	INDIANAPOLIS NEWSPAPERS - DOWNTOWN			0.04
18097	00119	BEST ACCESS SYSTEMS			0.04
18097	00121	SENSIENT FLAVORS, INC.	0.00	0.00	0.03
18097	00123	COVANTA INDIANAPOLIS, INC.	0.19	2.32	0.02
18097	00127	SUPERIOR METAL TECHNOLOGIES	0.00	0.00	0.00
18097	00129	ST VINCENT HOSPITAL	0.00	0.00	0.00
18097	00131	E & B PAVING INC.	0.03	0.03	0.02
18097	00135	GEIGER & PETERS, INC.			0.03
18097	00139	METALWORKING LUBRICANTS COMPANY	0.01	0.01	0.00
18097	00140	FIRESTONE BUILDING PRODUCTS CO.			0.02
18097	00141	CITIZENS GAS & COKE UTILITY - LNG NORTH	0.00	0.00	0.00
18097	00143	GAC INDIANAPOLIS SHEETFED DIVISION			0.02
18097	00145	GAC INDIANAPOLIS WEB DIVISION			0.03
18097	00146	MILLER VENEERS,INC.	0.00	0.00	0.00
18097	00151	BUTLER UNIVERSITY	0.00	0.01	0.00
18097	00154	INLAND PAPERBOARD - GRAPHIC RESOURCE CEN	0.00	0.00	0.05
18097	00156	UNITED AIRLINES INDPLS MAINTENANCE CENTR	0.04	0.10	0.10
18097	00159	MARATHON ASHLAND PET. - INDPLS TERMINAL			0.23
18097	00160	SAINT CLAIR PRESS	0.00	0.00	0.03
18097	00161	KROGER COMPANY - INDIANAPOLIS BAKERY	0.03	0.03	0.08
18097	00163	ST. FRANCIS HOSPITAL - BEECH GROVE	0.01	0.02	0.00
18097	00165	MAR-ZANE, INC. PT. 16	0.08		0.03
18097	00170	INTERSTATE BRANDS CORP.	0.01	0.01	0.34
18097	00176	LORD CORPORATION			0.01
18097	00178	COMMERCIAL FINISHING	0.00	0.00	0.00
18097	00179	COMMERCIAL FINISHING CORP 26TH ST.	0.00	0.00	0.01
18097	00181	CONAGRA FOODS	0.01	0.01	0.00
18097	00182	POSTER DISPLAY			0.02
18097	00186	ASHLAND DISTRIBUTION CO. - INDIANAPOLIS	0.00	0.00	0.01
18097	00188	KERR-MCGEE CHEMICAL CORPORATION - FPD	0.00	0.01	0.02
18097	00197	FIBERGLAS & PLASTIC FABRICATING INC.			0.01
18097	00229	COMMUNITY HOSPITAL EAST	0.01	0.05	0.00
18097	00231	DELUXE FINANCIAL SERVICES	0.00	0.00	0.02
18097	00233	GENERAL DEVICES CO., INC	0.00	0.00	0.02
18097	00235	HOLCOMB & HOKE MFG CO,. INC.	-	-	0.01
18097	00241	FOUNTAINE TRUCK EQUIPMENT CO.			0.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18097	00242	PRATT CORPORATION			0.06
18097	00243	NATIONAL BY-PRODUCTS, INC.	0.03	0.03	0.01
18097	00255	INLAND PAPERBOARD - ROOSEVELT	0.00	0.00	0.03
18097	00256	ALTEC INDUSTRIES, INC.			0.01
18097	00257	FEDERAL EXPRESS	0.01	0.02	0.00
18097	00259	DOW AGROSCIENCES	0.01	0.01	0.00
18097	00260	SELECO, INC.			0.00
18097	00265	INDY RAILWAY SERVICE CORP.			0.01
18097	00270	KELLER CRESCENT CO., INC.			0.01
18097	00272	INDUSTRIAL COATINGS SERVICES	0.00	0.01	0.01
18097	00273	TOYOSHIMA INDIANA, INC.			0.01
18097	00275	MAJOR TOOL & MACHINE, INC.			0.01
18097	00283	INDPLS AIR ROUTE TRAFFIC CONTROL CENTER	0.01	0.02	0.00
18097	00286	SUPERIOR OIL COMPANY			0.04
18097	00287	CITIZENS GAS & COKE UTILITY - LNG SOUTH	0.04	0.30	0.01
18097	00295	CITADEL ARCHITECTURAL PRODUCTS			0.04
18097	00296	WINONA MEMORIAL HOSPITAL	0.00	0.00	0.00
18097	00297	CMW, INC.	0.00	0.00	0.03
18097	00298	PRINT COMMUNICATIONS			0.16
18097	00301	HORNER ELECTRIC			0.00
18097	00302	CORSI CABINET COMPANY, INC.			0.07
18097	00303	IVC INDUSTRIAL COATING			0.08
18097	00304	ST. FRANCIS HOSPITAL AND HEALTH CENTER	0.02	0.05	0.00
18097	00310	ALLISON TRANSMISSION GENERAL MOTORS CORP	0.55	0.59	0.03
18097	00311	ROLLS-ROYCE CORPORATION. PLANT 5 & 8	0.10	0.25	0.15
18097	00312	CENTRAL CORRUGATED, INCORPORATED	0.00	0.01	0.00
18097	00314	INLAND PAPERBOARD - STOUT FIELD	0.01	0.01	0.02
18097	00315	REILLY INDUSTRIES, INC.	8.30	0.17	0.14
18097	00316	RTP COMPANY			0.00
18097	00318	SPORT GRAPHICS, INC.			0.06
18097	00329	THE JACKSON GROUP			0.02
18097	00331	SCHERER INDUSTRIAL GROUP, INC.	0.00	0.00	0.00
18097	00338	ROCHE DIAGNOSTICS CORPORATION	0.00	0.01	0.00
18097	00342	SUBURBAN STEEL SUPPLY COMPANY	0.00	0.00	0.02
18097	00346	SPG GRAPHICS			0.03
18097	00352	GEORGETOWN SUBSTATION GENERATING PLANT	0.35	0.08	0.04
18097	00354	VILLAGE PANTRY #392			0.00
18097	00357	DESIGN INDUSTRIES			0.10
18097	00359	BAUER BUILT, INC.			0.01
18097	00360	MASCO SUPPORT SERVICES			0.03
18097	00365	QUAKER OATS CO-MAYFLOWER MIDWEST FACILIT	0.02	0.03	0.00
18097	00366	SOUTH SIDE LANDFILL, INC.	0.34	0.03	0.03
18097	00368	EAR SPECIALTY COMPOSITES & AEARO COMPANY			0.19
18097	00369	VISTA PACKAGING			0.00
18097	00373	PARTS CLEANING TECHNOLOGIES, LLC	0.00	0.00	0.01
18097	00374	AT OF GM - PARK FLETCHER BUILDING 38	0.00	0.00	0.00
18097	00377	IPL THOMPSON SUBSTATION	0.03	0.13	0.01
18097	00378	IPL SUNNYSIDE SUBSTATION	0.01	0.05	0.00
18097	00379	IPL ROCKVILLE SUBSTATION	0.01	0.04	0.00
18097	00380	IPL PROSPECT SUBSTATION	0.01	0.04	0.00
18097	00381	IPL GERMAN CHURCH SUBSTATION	0.01	0.06	0.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18097	00382	IPL-GLENS VALLEY SUBSTATION	0.01	0.05	0.00
18097	00383	IPL-GUION SUBSTATION	0.01	0.05	0.00
18097	00384	IPL CUMBERLAND SUBSTATION	0.01	0.04	0.00
18097	00391	ROYAL SPA MFG.			0.05
18097	00402	INDIANAPOLIS NEWSPAPERS - PULLIAM CENTER			0.01
18097	00410	ULRICH CHEMICAL, INC.			0.01
18097	00421	QWEST - T1	0.00	0.00	0.00
18097	00422	QWEST - POP	0.00	0.00	0.00
18099	00001	BREMEN CASTINGS INC	0.40	0.02	0.08
18099	00002	INDIANA HEAT TRANSFER CORPORATION			0.08
18099	00003	PLYMOUTH FOUNDRY			0.00
18099	00004	DOORCRAFT OF INDIANA	0.00	0.00	0.08
18099	00020	BREMEN GLASS INC.			0.74
18099	00021	BOMARKO INC.	0.01	0.01	0.03
18099	00022	AKER PLASTICS CO. INC.	0.01	0.01	0.71
18099	00023	EAGLE CRAFT INC.			0.05
18099	00025	FERRO CORPORATION			0.28
18099	00028	PACTIV CORPORATION	0.00	0.00	0.50
18099	00029	PIONEER HI-BRED INTL	0.00	0.00	0.00
18099	00033	BREMEN CORPORATION			0.08
18099	00035	AKER PLASTICS CO. INC.	0.00	0.00	0.09
18099	00036	BREMEN TECHNOLOGIES, LLC	0.00	0.00	0.14
18099	00037	CHARLESTON CORP.			0.10
18099	00041	NISHIKAWA STANDARD COMPANY			0.13
18099	00043	AK INDUSTRIES, INC.			0.09
18099	00044	DURA-VENT CORPORATION			0.08
18099	00047	CREATIVE WOOD PRODUCTS, INC	-	-	0.01
18099	00048	WHITLEY PRODUCTS, INC	0.00	0.00	0.02
18099	00050	FOIL LAM., DIV. OF GLENMARK			0.00
18099	00052	HOOSIER TIRE & RUBBER CORP.			0.10
18099	00079	STANDARD GLAS, INC.	0.00	0.00	0.02
18099	00080	C&C FIBERGLASS, INC.			0.25
18099	00089	MIKE'S CUSTOM PAINTING			0.12
18101	00001	UNITED STATES GYPSUM COMPANY	0.14	0.17	0.01
18101	00005	NAVAL SURFACE WARFARE CENTER CRANE	1.50	0.22	0.19
18103	00001	PERU UTILITIES	0.03	1.29	0.00
18103	00008	GRISSOM AIR RESERVE BASE	0.01	0.02	0.01
18103	00011	COUNTRYMARK COOPERATIVE, INC.			0.68
18103	00016	WOODCREST MANUFACTURING	0.00	0.00	0.36
18103	00021	TRELLEBORG AUTOMOTIVE			0.01
18103	00027	WOODCREST MANUFACTURING - DINETTE PLANT			0.50
18105	00001	ROGERS GROUP-BLOOMINGTON CRUSHED STONE	0.00	0.00	0.00
18105	00003	GENERAL ELECTRIC COMPANY	0.02	0.02	0.49
18105	00005	INDIANA UNIVERSITY	0.30	0.66	0.00
18105	00006	UNITED TECH.- OTIS ELEVATORS			0.04
18105	00018	PRINTPACK, INC.	0.00	0.00	0.65
18105	01331	RIETH-RILEY1331PORTABLE CONCRETE PLANT #	0.00	0.02	0.00
18105	03182	ROGERS GROUP,INC.-BLOOMINGTON ASPHALT	0.28	0.02	0.12
18105	05023	ROGERS GROUP,INC.-PORTABLE ASPHALT	0.06	0.26	0.19
18107	00003	CRAWFORDSVILLE ELECTRIC LIGHT & POWER	0.59	1.30	0.01
18107	00004	CROWN CORK & SEAL CO. (USA) INC.	0.01	0.01	0.34

FIPS	State ID	Facility Name	CO	NOX	VOC
18107	00007	RAYBESTOS	0.04	0.05	0.25
18107	00038	NUCOR STEEL	1.74	0.63	0.15
18107	00045	FLEETWOOD TRAVEL			0.03
18107	00052	R.R. DONNELLEY & SONS COMPANY	0.02	0.02	0.54
18109	00002	GENERAL SHALE PRODUCTS	0.21	0.13	0.01
18109	00004	IPALCO-PRITCHARD STATION	0.53	12.76	0.07
18109	00007	HYDRAULIC PRESS BRICK CO.	0.17	0.54	0.21
18111	00005	BON L MANUFACTURING COMPANY			0.36
18111	00017	NEWTON COUNTY LANDFILL	0.04	0.02	0.03
18113	00004	DALTON CORP. KENDALLVILLE MFG. FACILITY	2.51	0.10	0.29
18113	00008	DEXTER AXLE COMPANY	0.00	0.00	0.05
18113	00013	ESSEX GROUP, INC.	0.00	0.00	0.53
18113	00018	THYSSENKRUPP BUDD COMPANY - KENDALLVILLE			0.53
18113	00019	COLWELL GENERAL			0.02
18113	00023	VIBRACOUSTIC NORTH AMERICA			0.11
18113	00036	KREIDER MANUFACTURING, INC.	0.00	0.00	0.04
18113	00049	TOWER STRUCTURAL LAMINATING, INC.			0.07
18113	00071	ALUMINUM RECOVERY TECHNOLOGIES, INC.	0.01	0.02	0.01
18113	00074	STRUCTURAL COMPOSITES OF INDIANA, INC.	0.00	0.00	0.11
18117	00004	SPRINGS VALLEY MANUFACTURING			0.30
18117	00006	INDIANA HANDLE COMPANY	0.01	0.00	0.02
18117	00010	TETCO - FRENCH LICK STATION	0.21	2.83	0.07
18117	00013	COPPERFIELD, LLC.	0.00	0.01	0.01
18117	00014	PAOLI, INC.			0.87
18121	00008	PEPL - MONTEZUMA STATION	0.12	2.73	0.04
18123	00006	GE INDUSTRIAL SYSTEMS, INC	0.00	0.00	0.05
18123	00018	SCHWAB CORPORATION			0.05
18123	00019	THYSSENKRUPP WAUPACA, INC. - PLANT 5	5.83	0.27	0.65
18123	03259	J.H. RUDOLPH & CO., INC.	0.00	0.04	0.00
18125	00001	HOOSIER ENERGY - RATTS STATION	0.41	9.64	0.05
18125	00002	IPL PETERSBURG GENERATING STATION	3.51	52.30	0.49
18125	00004	MIDWESTERN GAS TRANSMISSION	0.00	0.00	0.00
18125	00005	TEXAS GAS TRANSMISSION - PETERSBURG	0.00	0.01	0.00
18125	00033	BLACKFOOT LANDFILL	0.05	0.02	0.04
18127	00001	BETHLEHEM STEEL CORP. - BURNS HARBOR	402.27	26.01	2.69
18127	00002	NIPSCO - BAILLY STATION	1.10	52.40	0.24
18127	00003	AOC	0.02	0.02	0.03
18127	00005	PRECOAT METALS	0.03	0.04	1.06
18127	00009	NATIONAL STEEL CORP	0.23	0.38	0.02
18127	00012	UNITED STATES CAN COMPANY	0.03	0.04	0.33
18127	00021	POWDER PROCESSING AND TECHNOLOGY	0.00	0.01	0.00
18127	00024	LEVY CO., CALUMITE/FINISHING PLANT	0.01	0.01	0.00
18127	00025	CARGILL BURNS HARBOR GRAIN EL	0.01	0.01	0.00
18127	00028	MAGNEQUENCH UG			0.02
18127	00030	REXAM BEVERAGE CAN COMPANY			0.13
18127	00036	BETA STEEL CORP	0.73	0.58	0.09
18127	00039	MAGNETICS INTERNATIONAL, INC.	0.03	0.04	0.00
18127	00040	WORTHINGTON STEEL	0.01	0.01	0.00
18127	00042	WHEELER RECYCLING & DISPOSAL FACILITY	0.12	0.03	0.01
18127	00050	ISK MAGNETICS INC	0.02	0.02	0.00
18127	00059	SIGNATURE GRAPHICS, INC.			0.03

FIPS	State ID	Facility Name	CO	NOX	VOC
18127	00067	PORTSIDE ENERGY CORPORATION	0.24	0.32	0.02
18127	00069	PRAXAIR INC.	0.01	0.01	0.00
18127	00075	BETHLEHEM STEEL - KVAERNER SONGER, INC.	0.00	0.00	0.00
18127	00076	PHILIP METALS - BURNS HARBOR YARD	0.02	0.01	0.00
18127	00085	AMERICAN IRON OXIDE COMPANY	0.08	0.08	0.01
18127	00088	CITY OF VALPO-ELDEN KUEHL WWTP	0.01	0.00	0.00
18127	00094	JET CORR, INC.	0.02	0.01	0.01
18127	00097	SUPERIOR ENVIRONMENTAL REMEDIATION, INC			0.02
18127	03214	WALSH & KELLY INC.	0.02	0.03	0.00
18127	03224	RIETH-RILEY3224 ASPHALT PLANT #3670	0.01	0.04	0.00
18129	00001	CARGILL, INC. - MOUNT VERNON	0.00	0.00	0.00
18129	00002	GE PLASTICS MT. VERNON INC.	1.35	6.75	0.98
18129	00003	COUNTRYMARK COOPERATIVE, INC (REFINERY)	22.45	1.40	1.86
18129	00010	SIGECO - A. B. BROWN	1.44	21.28	0.15
18129	00021	MEAD JOHNSON & CO	0.02	0.02	0.00
18129	00028	SIGECO - OLIVER GAS STORAGE FIELD	0.02	0.15	0.01
18129	00035	CONSOLIDATED GRAIN AND BARGE COMPANY	0.06	0.07	0.74
18129	00037	COUNTRYMARK COOPERATIVE, INC (RIVERDOCK)			0.01
18131	00017	THE BRAUN CORPORATION		-	0.13
18133	00002	LONE STAR INDUSTRIES, INC	0.66	4.44	0.00
18133	00018	LEAR CORP.-			0.03
18133	00019	H.A. PARTS PRODUCTS OF INDIANA COMPANY			0.46
18133	00024	PUTNAM PLASTICS INC			0.14
18133	00027	HEARTLAND AUTOMOTIVE, LLC			0.34
18133	00037	HANSON AGGREGATES MIDWEST, INC-STONE			-
18135	00002	ASTRAL INDUSTRIES INC.	0.00	0.00	0.41
18135	00009	YORK CASKET COMPANY			0.49
18135	00012	ANCHOR GLASS CONTAINER CORPORATION	0.06	1.81	0.06
18135	00018	UNION CITY BODY COMPANY LLC			0.41
18135	00030	RANDOLPH FARMS, INC.	0.25	0.01	0.01
18137	00002	HILL-ROM CO	0.00	0.01	0.12
18137	00007	JOSEPH E. SEAGRAM & SONS, INC.			2.52
18137	00008	ROMWEBER FURNITURE COMPANY	0.01	0.05	0.31
18137	00016	BATESVILLE MFG, INC. COMBO 137-00016			1.40
18137	03191	PAUL H. ROHE CO, INC.	0.00	0.00	0.00
18137	03258	PAUL H. ROHE	0.00	0.01	0.00
18137	05047	DAVE O MARA CONTRACTOR PLANT 3	0.00	0.01	0.01
18139	00001	JEFFERSON SMURFIT CORPORATION	0.04	0.05	0.03
18139	00011	INTAT PRECISION, INC.		0.00	0.19
18141	00007	RMG FOUNDRY (FORMERLY DODGE)	0.00	0.00	0.09
18141	00008	RACO, INC.	0.00	0.00	0.00
18141	00009	HOLY CROSS SERVICES CORP.	0.01	0.01	0.00
18141	00013	UNIVERSITY OF NOTRE DAME DU LAC	0.23	1.87	0.01
18141	00016	BP - GRANGER TERMINAL			0.02
18141	00026	ASPHALT ENGINEERS INC	0.02	0.02	0.01
18141	00027	RIETH-RILEY27 ASPHALT PLANT #365	0.00	0.02	0.00
18141	00031	AM GENERAL CORPORATION	0.00	0.00	0.59
18141	00033	NEW ENERGY CORP.	0.09	2.50	3.24
18141	00051	PRAIRIE VIEW RECYCLING	0.31	0.28	0.03
18141	00058	MOHAWK FLUSH DOORS, INC.	0.00	0.00	0.01
18141	00062	POLYGON COMPANY	0.00	0.00	0.13

FIPS	State ID	Facility Name	CO	NOX	VOC
18141	00063	MOSSBERG AND COMPANY, INC.			0.08
18141	00067	AMERICAN ROLLER CO, LLC	0.00	0.00	0.04
18141	00069	SPECTRA INCORPORATED	0.00	0.00	0.03
18141	00071	ULTRA/GLAS OF LAKEVILLE			0.07
18141	00072	GALLERY GRAPHICS GROUP	0.00	0.00	0.20
18141	00090	IMAGINEERING ENTERPRISES, INC.	0.00	0.00	0.01
18141	00091	MOLDING PRODUCTS DIV			0.02
18141	00093	WHITFORD TRAILER & EQUIPMENT	0.00	0.00	0.01
18141	00100	STRIPCO, INC.	0.00	0.00	0.00
18141	00102	EDCOAT LIMITED PARTNERSHIP	0.00	0.03	0.06
18141	00103	CHARLES O. HILER DIVISION	0.00	0.00	0.01
18141	00105	BECHTEL PLANT MACHINERY INCORPORATED MIS	0.01	0.05	0.00
18141	00116	SOUTH BEND ABSORBTECH? LLC.	0.00	0.00	0.20
18141	00120	TOTAL ENTERPRISES, LTD.			0.01
18141	00125	ASHLAND DISTRIBUTION SOUTH BEND PLANT	0.00	0.00	0.00
18141	00128	PENZ PRODUCTS, INC.	0.00	0.00	0.03
18141	00129	JANCO PRODUCTS, INC.	0.00	0.00	0.07
18141	00132	ARAMARK UNIFORM SERVICES	0.01	0.01	0.00
18141	00134	J.Q. TEX, INC - DBA TRAILMASTER			0.04
18141	00139	SOUTH BEND TERMINAL - BET	0.00	0.01	0.03
18141	00144	MASONITE (FORMERLY PREMDOR)	0.00	0.00	0.01
18141	00146	ROYAL ADHESIVES & SEALANTS			0.17
18141	00158	INDIANA UNIVERSITY-SOUTH BEND	-	-	-
18141	00159	I/N TEK I/N KOTE COMBINED	0.11	0.34	0.03
18141	00160	CITY OF SOUTH BEND-WASTEWATER TREATMENT	0.18	0.19	0.02
18141	00166	SAFETY & ENVIRONMENTAL RESOURCES	0.00	0.00	0.04
18141	00167	REMOTE CONTROLS, INC.			0.01
18141	00172	HONEYWELL INC. COMBO (141-5&6)	0.14	0.09	0.10
18141	00177	MISHAWAKA WASTEWATER TREATMENT PLANT	0.02	0.15	0.01
18141	00179	BOWNE SOUTH BEND MANUFACTURING			0.03
18141	00181	ABTREX INDUSTRIES			0.04
18141	00184	POWER GEAR			0.01
18141	00186	SAMPSON FIBERGLASS, INC.	0.00	0.00	0.09
18141	00191	SOUTH BEND MEDICAL FOUNDATION	0.00	0.00	0.00
18141	00192	JACKEL, INC.			0.01
18141	00193	CLARK STATION # 379			0.00
18141	00196	NCP COATINGS, INC.	0.00	0.00	0.01
18141	00197	HOGUE ENTERPRISES	0.00	0.00	0.02
18141	01606	RIETH-RILEY1606 PORTABLE CONCRETE PLANT	-	-	-
18141	03121	BROOKS CONSTRUCTION CO. INC.	0.01	0.01	0.01
18141	03219	WALSH & KELLY INC.	0.09	0.12	0.04
18143	00007	MULTICOLOR CORPORATION	0.02	0.02	0.16
18143	00010	FREUDENBERG-NOK GENERAL PARTNERSHIP			0.00
18143	00016	GENPAK LLC	0.02	0.02	0.31
18143	03192	DAVE O MARA CONTRACTOR PLANT 6	0.00	0.01	0.00
18143	05195	INDEPENDENT ASPHALT COMPANY	0.00	0.01	0.00
18145	00001	KNAUF FIBERGLASS	0.53	0.35	0.29
18145	00011	ANR PIPELINE CO - SHELBYVILLE STATION	0.25	3.09	0.17
18145	00013	JUPITER COIL COATING DIVISION			0.07
18145	00017	MERIDIAN AUTOMOTIVE SYSTEMS	0.02	0.02	0.51
18145	00024	PLIANT CORPORATION (FORMERLY KCL CORP)			0.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18145	00028	FREUDENBERG-NOK GENERAL PARTNERSHIP			0.16
18145	00033	TEXTRON AUTOMOTIVE EXTERIORS INC.	0.00	0.00	0.18
18145	00035	CENTRAL SOYA COMPANY, INC.	0.04	0.04	0.57
18145	00049	CALDWELL GRAVEL SALES, INC.			0.01
18145	00057	MPL CORPORATION			0.03
18145	00060	CALDWELL GRAVEL SALES (CGS)	0.05	0.10	0.01
18147	00020	INDIANA MICHIGAN POWER-ROCKPORT	6.30	92.43	0.75
18147	00041	AK STEEL ROCKPORT WORKS	0.32	0.35	0.04
18147	00044	FLEXCEL - SANTA CLAUS			0.26
18147	00050	AMERICAN IRON OXIDE COMPANY	0.02	0.03	0.00
18149	00005	T G C - NORTH JUDSON STATION	0.04	0.41	0.01
18151	00015	TENNECO AUTOMOTIVE			0.08
18153	00005	HOOSIER ENERGY RURAL ELEC MEROM STATION	2.35	42.61	0.28
18153	00019	TEXAS GAS TRANSMISSION - WILFRED	0.01	0.14	0.00
18155	00005	SWISS CAPS			0.13
18157	00001	ALCOA - LAFAYETTE DIVISION	0.04	0.04	0.18
18157	00003	A.E. STALEY SAGAMORE OPERATION	0.15	1.45	1.62
18157	00006	ELI LILLY & COMPANY-TIPPECANOE LABS	0.39	0.82	0.31
18157	00012	PURDUE UNIVERSITY -WADE UTILITY PLANT	0.84	1.96	0.03
18157	00014	ORC PLASTICS - ROSTONE			0.05
18157	00032	REA MAGNET WIRE CO	0.03	0.03	0.46
18157	00033	A.E. STALEY MAN. CO. SOUTH PLANT	0.71	1.41	1.20
18157	00035	CANAM STEEL CORPORATION	-		0.46
18157	00038	CARGILL, INC. - LAFAYETTE	0.04	0.05	1.21
18157	00044	CATERPILLAR INC.	0.12	0.52	0.17
18157	00046	WABASH NATIONAL LP MAIN PLANT	-	-	0.63
18157	00050	SUBARU-ISUZU	0.08	0.10	1.36
18157	00052	LAFAYETTE HOME HOSPITAL	0.01	0.02	0.00
18157	00068	WABASH NATIONAL LP SOUTH PLANT	-	-	0.10
18157	00080	PERRY CHEMICAL & MFG. CO., INC.			0.03
18163	00001	SIGECO - OHIO RIVER	0.47	5.33	0.03
18163	00003	SILGAN CLOSURES, LLC	0.02	0.02	0.14
18163	00005	EVANSVILLE STATE HOSPITAL	0.01	0.01	0.00
18163	00008	INDIAN INDUSTRIES - DBA ESCALADE SPORTS			0.03
18163	00009	HOOSIER STAMPING & MFG. CORP	0.00	0.00	0.02
18163	00011	BOOTZ MFG CO	0.01	0.02	0.09
18163	00013	KOCH ORIGINALS	0.00	0.01	0.02
18163	00014	GEO KOCH SONS INC	0.00	0.00	0.01
18163	00015	MEAD JOHNSON AND COMPANY	0.07	0.04	0.09
18163	00016	STRUCTURAL FABRICATORS, INC.			0.02
18163	00017	GUARDIAN AUTOMOTIVE TRIM, INC.	0.02	0.02	0.69
18163	00018	RED SPOT PAINT & VARNISH CO., INC.	0.00	0.00	0.14
18163	00020	A ASPHALT CO. INC.	0.00	0.00	0.00
18163	00022	WHIRLPOOL CORP	0.02	0.02	0.48
18163	00024	CRADDOCK FINISHING CORPORATION			0.07
18163	00025	MARATHON ASHLAND PET. - EVANSVILLE TERM			0.03
18163	00026	INLAND PAPERBOARD - EVANSVILLE	0.01	0.01	0.00
18163	00029	DEACONESS HOSPITAL	0.00	0.01	0.00
18163	00036	KARGES FURNITURE CO., INC.	0.00	0.00	0.03
18163	00040	HARTFORD BAKERY INC.	0.00	0.01	0.33
18163	00041	ST. MARY'S MEDICAL CENTER	0.00	0.00	0.00

FIPS	State ID	Facility Name	CO	NOX	VOC
18163	00045	EVANSVILLE METAL PROD		0.00	0.00
18163	00048	EVANSVILLE SHEET METAL WORKS, INC			0.01
18163	00063	TRANSMONTAIGNE TERMINAL INC.			0.11
18163	00064	UNIV OF EVANSVILLE	0.01	0.01	0.00
18163	00067	GENERAL ELECTRIC I&RS	0.00	0.00	0.00
18163	00069	ST. MARY'S MEDICAL CENTER - WELBORN	0.00	0.00	0.00
18163	00070	FAULTLESS CASTER CORP	0.00	0.00	0.00
18163	00071	INTRAMETCO PROCESSING INC.	0.00	0.01	0.00
18163	00078	ROBUR CORPORATION	0.00	0.00	0.00
18163	00081	INDIANA TUBE CORP.	0.00	0.01	0.13
18163	00084	SIGECO - BERGDOLT ROAD - NEGT	0.00	0.01	0.00
18163	00087	OBRYAN BARREL CO., INC.	0.00	0.00	0.01
18163	00094	PPG INDUSTRIES, INC. WKS #28	0.01	0.01	0.07
18163	00095	INDUSTRIAL CONTRACTORS, INC. METAL FAB	0.00	0.00	0.02
18163	00096	FLANDERS ELECTRIC MOTOR SERVICE	0.00	0.00	0.01
18163	00097	KELLER CRESCENT CO., INC.			0.07
18163	00106	BERRY PLASTICS CORP.			0.09
18163	00107	AZTECA MILLING, L.P.	0.05	0.05	0.00
18163	00112	AMERIQUAL FOODS, INC.	0.01	0.01	0.00
18163	00114	BFI	0.32	0.11	0.02
18163	00115	MASTER MANUFACTURING CO., INC.	0.00	0.00	0.03
18163	00116	KRIEGER & RAGSDALE CO., INC.	0.00	0.00	0.01
18163	00117	ALVEYS SIGN COMPANY			0.02
18163	00120	FERRO CORP. FILLED AND REINFORCED PLAST.			0.07
18163	00129	KERRY INGREDIENTS	0.01	0.02	0.16
18163	00131	SIGNCRAFTERS			0.01
18163	00139	FLANDERS ELECTRIC MOTOR SERVICE	0.00	0.00	0.00
18163	00146	FEHRENBACHER CABINETS			0.00
18163	00147	UNIVERSITY OF SOUTHERN INDIANA	0.01	0.01	0.00
18163	00148	UNISEAL, INC.; PLANT #2	0.00	0.00	0.02
18163	00153	STERLING BOILER AND MECHANICAL, INC.			0.00
18163	00156	SKY CYLINDER TESTING, INC.	0.00	0.00	0.01
18163	00157	TRUCK CLEAN, INC.			0.02
18163	00163	COLLIS,INC.	0.02	0.02	0.04
18163	00165	DECORING SUPPLIES & EQUIPMENT, INC.	0.00	0.00	0.04
18163	00888	BRAKE SUPPLY	0.00	0.00	0.02
18163	03146	JERRY DAVID ASPHALT	0.00	0.03	0.00
18163	03408	J.H.RUDOLPH & CO	0.01	0.05	0.00
18165	00001	PSI ENERGY - CAYUGA	2.09	24.28	0.25
18165	00002	COLONIAL BRICK CORP.	0.01	0.07	0.00
18165	00009	ELI LILLY & COMPANY-CLINTON LABS	0.69	2.60	2.31
18165	00022	DUKE ENERGY VERMILLION, LLC	0.09	0.24	0.01
18167	00001	ALCAN ALUMINUM CORPORATION	0.01	0.01	1.20
18167	00004	WABASH ENVIRONMENTAL TECHNOLOGIES, LLC	0.00	0.00	0.00
18167	00007	GARTLAND FOUNDRY COMPANY	-	0.00	0.03
18167	00010	INDIANA STATE UNIV	0.03	0.01	0.00
18167	00011	GREAT DANE TRAILERS	0.00	0.00	0.16
18167	00013	PFIZER INC	0.03	0.59	0.00
18167	00019	US PENITENTIARY	0.00	0.03	0.01
18167	00021	PSI ENERGY - WABASH RIVER	1.61	32.07	0.21
18167	00022	INTERNATIONAL PAPER CO.	0.60	0.74	0.20

FIPS	State ID	Facility Name	CO	NOX	VOC
18167	00033	BEMIS COMPANY, INC.	0.01	0.01	4.57
18167	00036	RAILWORKS WOOD PRODUCTS	0.01	0.01	0.10
18167	00060	STANDARD REGISTER COMPANY			0.02
18167	00076	PRAIRIE GROUP - PLANT 75	-	-	
18167	00087	PRAIRIE GROUP - PLANT 76	-	-	-
18167	00091	WABASH RIVER ENERGY LTD.	1.08	0.09	0.00
18167	00116	VICTORY ENVIRONMENTAL SERVICES			0.02
18167	00120	CSN,LLC	0.06	0.02	0.00
18167	00123	MIRANT SUGAR CREEK LLC	0.01	0.04	0.00
18169	00001	BPB AMERICA, INC.	4.77	0.03	0.02
18169	00002	JEFFERSON SMURFIT CORPORATION (U.S.)	0.16	0.53	0.12
18169	00004	GDX AUTOMOTIVE - WABASH	0.01	0.01	0.44
18169	00009	THERMAFIBER INC. WABASH PLANT	24.28	0.16	0.36
18169	00010	WABASH ALLOYS, L.L.C.	0.37	0.37	0.24
18169	00019	NORTH MANCHESTER FOUNDRY, INC.	0.00	0.00	0.03
18169	00034	PSI ENERGY MIAMI-WABASH PEAKING STATION	0.00	0.00	0.00
18169	00035	ALUMITECH OF WABASH, INC.	0.00	0.01	0.00
18169	00042	HAYES LEMMERZ INT'L - WABASH	0.02	0.03	0.16
18169	00058	WABASH VALLEY LANDFILL	0.12	0.02	0.04
18171	03273	MILESTONE CONTRACTORS L.P.	0.00	0.02	0.00
18173	00001	SIGECO - F.B.CULLEY GENERATING STATION	0.91	19.41	0.11
18173	00002	AGC DIVISION - ALCOA POWER GENERATING	1.56	44.25	0.18
18173	00007	ALCOA INC. - WARRICK OPERATIONS	62.12	0.68	1.61
18175	00001	CHILD CRAFT INDUSTRIES, INC.	0.09	0.06	1.01
18175	00007	KIMBALL OFFICE CASEGOODS MANUFACTURING	0.05	0.01	0.44
18177	00001	#30 - SILGAN CLOSURES, LLC	0.03	0.03	0.17
18177	00006	JOHNS MANVILLE	0.18	0.13	0.10
18177	00009	RICHMOND POWER & LIGHT	0.22	4.36	0.03
18177	00015	MASTERBRAND CABINETS, INC. - RICHMOND			0.51
18177	00040	IMPA - RICHMOND STATION	0.80	0.43	0.07
18177	00057	ROMARK INDUSTRIES			0.18
18177	00061	MILSO INDUSTRIES			0.19
18177	00068	MASONITE			0.10
18177	00083	J. M. HUTTON & CO. (COMBO 177-53&54)			0.22
18177	00090	RICHMOND LINER FOUNDRY & MACHINE PLANT	0.01	0.01	0.00
18179	00005	STERLING CASTING	2.91	0.00	0.08
18179	00010	FRANKLIN ELEC CO	0.00	0.03	0.11
18179	00016	WAYNE METALS, LLC	0.00	0.00	0.04
18179	00026	MONTPELIER ELECTRIC GENERATING STATION	0.24	0.34	0.08
18181	00008	BP - BROOKSTON			0.25
18181	00022	BALL METAL BEVERAGE CONTAINER CORP	0.02	0.02	0.23
18181	00035	LIBERTY LANDFILL, INC.	0.06	0.02	0.02
18181	03172	ROBERT L. KELLY ASPHALT, INC.	0.00	0.00	0.00
18183	00014	HOLMES & COMPANY INC.	0.01	0.00	0.00
18183	00016	ESSEX GROUP, INC. METALS PROCESSING #055	0.07	0.06	1.00
18183	00023	FORT WAYNE FOUNDRY - COLUMBIA CITY	0.05	0.06	0.06
18183	00026	FIBRE FORM CORPORATION	0.00	0.00	0.00
18183	00030	STEEL DYNAMICS, INC. STRUCTURAL AND RAIL	0.49	0.14	0.03
		Totals	1,132	1,090	188

iii) Area Sources

Table 5-8 Summerday Area Source Emissions Inventory

FIPS	County	CO	NOX	VOC
18001	ADAMS	0.52	0.54	2.89
18003	ALLEN	3.64	3.87	18.76
18005	BARTHOLOMEW	1.15	1.17	6.02
18007	BENTON	0.07	0.07	1.55
18009	BLACKFORD	0.18	0.16	1.55
18011	BOONE	0.35	0.32	3.63
18013	BROWN	0.40	0.07	0.79
18015	CARROLL	0.27	0.22	1.62
18017	CASS	0.59	0.62	3.34
18019	CLARK	0.97	0.88	7.25
18021	CLAY	0.30	0.20	2.05
18023	CLINTON	0.35	0.39	2.68
18025	CRAWFORD	0.31	0.04	0.76
18027	DAVIESS	0.31	0.25	2.30
18029	DEARBORN	0.57	0.31	2.02
18031	DECATUR	0.48	0.47	2.44
18033	DE KALB	0.90	0.96	3.88
18035	DELAWARE	1.07	1.09	7.70
18037	DUBOIS	1.04	1.04	4.72
18039	ELKHART	3.96	4.48	14.57
18041	FAYETTE	0.41	0.40	1.93
18043	FLOYD	0.73	0.73	5.05
18045	FOUNTAIN	0.27	0.23	1.87
18047	FRANKLIN	0.32	0.14	1.25
18049	FULTON	0.27	0.26	2.03
18051	GIBSON	0.48	0.42	2.92
18053	GRANT	0.79	0.84	4.96
18055	GREENE	0.44	0.16	1.96
18057	HAMILTON	1.42	1.21	10.04
18059	HANCOCK	0.44	0.40	3.79
18061	HARRISON	0.61	0.33	2.23
18063	HENDRICKS	0.66	0.56	5.53
18065	HENRY	0.41	0.41	3.65
18067	HOWARD	1.30	1.46	5.39
18069	HUNTINGTON	0.55	0.53	2.97
18071	JACKSON	0.79	0.61	4.07
18073	JASPER	0.26	0.23	3.10
18075	JAY	0.30	0.28	1.89
18077	JEFFERSON	0.53	0.34	2.17
18079	JENNINGS	0.44	0.25	1.99
18081	JOHNSON	1.07	1.01	8.87
18083	KNOX	0.32	0.25	3.13
18085	KOSCIUSKO	1.34	1.36	6.95
18087	LAGRANGE	0.65	0.60	2.90
18089	LAKE	3.93	4.37	24.78

FIPS	County	CO	NOX	VOC
18091	LA PORTE	1.18	1.12	7.10
18093	LAWRENCE	0.69	0.45	2.72
18095	MADISON	1.15	1.21	7.64
18097	MARION	7.73	8.77	45.93
18099	MARSHALL	0.68	0.66	3.49
18101	MARTIN	0.33	0.08	0.72
18103	MIAMI	0.36	0.31	2.72
18105	MONROE	1.33	1.03	5.97
18107	MONTGOMERY	0.59	0.56	3.45
18109	MORGAN	0.64	0.41	3.67
18111	NEWTON	0.16	0.14	1.73
18113	NOBLE	0.93	0.93	4.13
18115	OHIO	0.07	0.02	0.33
18117	ORANGE	0.39	0.19	1.33
18119	OWEN	0.40	0.16	1.44
18121	PARKE	0.28	0.10	1.46
18123	PERRY	0.49	0.18	1.30
18125	PIKE	0.23	0.06	0.95
18127	PORTER	1.35	1.35	7.49
18129	POSEY	0.35	0.26	1.92
18131	PULASKI	0.17	0.13	1.44
18133	PUTNAM	0.48	0.30	2.32
18135	RANDOLPH	0.31	0.30	2.24
18137	RIPLEY	0.49	0.34	2.04
18139	RUSH	0.18	0.16	1.73
18141	ST JOSEPH	2.39	2.65	14.41
18143	SCOTT	0.39	0.25	1.69
18145	SHELBY	0.54	0.60	3.29
18147	SPENCER	0.59	0.21	1.78
18149	STARKE	0.25	0.17	1.96
18151	STEUBEN	0.65	0.63	3.48
18153	SULLIVAN	0.25	0.11	1.83
18155	SWITZERLAND	0.18	0.04	0.57
18157	TIPPECANOE	1.71	1.79	8.20
18159	TIPTON	0.15	0.13	1.33
18161	UNION	0.08	0.03	0.56
18163	VANDERBURGH	1.84	1.94	10.48
18165	VERMILLION	0.20	0.14	1.37
18167	VIGO	1.10	0.99	6.62
18169	WABASH	0.52	0.50	2.43
18171	WARREN	0.10	0.05	1.01
18173	WARRICK	0.63	0.34	3.25
18175	WASHINGTON	0.53	0.27	1.93
18177	WAYNE	0.84	0.89	5.29
18179	WELLS	0.32	0.32	2.32
18181	WHITE	0.34	0.33	2.60
18183	WHITLEY	0.48	0.43	2.47
	Totals	71.20	66.56	400.04

iv) Nonroad Emissions

Table 5-9 Summerday Nonroad Emissions Inventory

FIPS	County	CO	NOX	VOC
18001	ADAMS	8.43	1.77	0.77
18003	ALLEN	160.02	13.19	10.90
18005	BARTHOLOMEW	25.07	2.97	1.96
18007	BENTON	4.20	1.60	0.32
18009	BLACKFORD	3.39	0.96	0.21
18011	BOONE	35.54	3.11	2.60
18013	BROWN	7.55	0.28	1.61
18015	CARROLL	8.33	2.37	1.51
18017	CASS	17.70	3.71	1.61
18019	CLARK	27.66	8.68	2.18
18021	CLAY	9.33	1.48	1.12
18023	CLINTON	9.48	2.39	1.02
18025	CRAWFORD	2.85	1.56	0.55
18027	DAVIESS	8.36	2.21	0.92
18029	DEARBORN	11.70	1.95	0.96
18031	DECATUR	13.30	1.52	0.90
18033	DE KALB	12.78	5.55	1.40
18035	DELAWARE	138.60	5.64	9.29
18037	DUBOIS	12.40	2.73	1.26
18039	ELKHART	69.89	10.32	6.19
18041	FAYETTE	5.67	1.38	0.66
18043	FLOYD	24.53	2.17	1.54
18045	FOUNTAIN	9.75	2.20	1.55
18047	FRANKLIN	6.54	0.99	1.03
18049	FULTON	8.09	1.38	1.21
18051	GIBSON	11.35	3.66	1.83
18053	GRANT	18.67	2.63	1.67
18055	GREENE	10.54	1.61	1.43
18057	HAMILTON	92.66	5.86	6.14
18059	HANCOCK	19.86	2.57	1.72
18061	HARRISON	8.82	2.65	0.93
18063	HENDRICKS	28.47	5.01	1.98
18065	HENRY	13.73	2.61	1.32
18067	HOWARD	28.29	3.26	2.26
18069	HUNTINGTON	13.43	2.95	1.51
18071	JACKSON	11.89	2.93	1.11
18073	JASPER	9.95	2.69	0.94
18075	JAY	6.37	1.53	0.58
18077	JEFFERSON	9.55	1.55	1.35
18079	JENNINGS	5.51	1.50	0.60
18081	JOHNSON	36.62	2.43	3.02
18083	KNOX	23.65	3.66	2.18
18085	KOSCIUSKO	41.88	6.48	6.14
18087	LAGRANGE	19.55	1.98	4.01
18089	LAKE	176.98	28.82	20.18

FIPS	County	CO	NOX	VOC
18091	LA PORTE	47.22	9.81	5.21
18093	LAWRENCE	12.01	2.44	1.62
18095	MADISON	34.21	4.34	3.22
18097	MARION	306.17	22.68	19.91
18099	MARSHALL	16.90	4.38	2.06
18101	MARTIN	3.85	1.19	0.54
18103	MIAMI	9.72	2.42	1.09
18105	MONROE	46.06	2.86	5.09
18107	MONTGOMERY	13.88	3.42	1.22
18109	MORGAN	21.94	1.61	2.08
18111	NEWTON	6.67	1.56	1.36
18113	NOBLE	18.33	5.47	2.60
18115	OHIO	1.82	0.55	0.20
18117	ORANGE	5.25	0.96	0.91
18119	OWEN	6.34	0.64	0.84
18121	PARKE	6.21	1.16	0.92
18123	PERRY	5.56	2.01	1.08
18125	PIKE	4.20	0.94	0.71
18127	PORTER	73.19	11.37	12.80
18129	POSEY	9.17	4.13	1.35
18131	PULASKI	4.36	1.71	0.49
18133	PUTNAM	9.89	3.10	1.09
18135	RANDOLPH	9.02	2.38	1.05
18137	RIPLEY	8.31	1.77	1.19
18139	RUSH	4.99	2.01	0.37
18141	ST JOSEPH	85.00	9.35	6.71
18143	SCOTT	5.88	0.65	0.67
18145	SHELBY	13.02	2.74	0.91
18147	SPENCER	8.10	3.64	1.02
18149	STARKE	6.90	1.95	0.98
18151	STEUBEN	20.77	1.67	3.68
18153	SULLIVAN	6.41	2.17	1.21
18155	SWITZERLAND	2.26	1.11	0.42
18157	TIPPECANOE	42.50	6.88	3.71
18159	TIPTON	4.14	1.32	0.29
18161	UNION	3.63	1.28	0.67
18163	VANDERBURGH	68.54	7.27	4.65
18165	VERMILLION	5.25	2.09	0.81
18167	VIGO	31.31	5.62	2.93
18169	WABASH	12.59	3.18	1.72
18171	WARREN	3.59	2.10	0.66
18173	WARRICK	10.52	1.61	1.61
18175	WASHINGTON	5.52	1.63	0.53
18177	WAYNE	17.04	3.30	1.62
18179	WELLS	8.41	2.08	0.77
18181	WHITE	11.73	3.19	1.87
18183	WHITLEY	11.85	2.99	1.28
	Totals	2,299.16	331.21	221.85

v) Onroad Emissions

Table 5-10 Summerday Onroad Emissions Inventory

FIPS	County	CO	NOX	VOC
18001	ADAMS	20.36	3.10	1.91
18003	ALLEN	197.72	26.60	18.84
18005	BARTHOLOMEW	56.78	8.20	4.98
18007	BENTON	7.54	1.19	0.65
18009	BLACKFORD	6.75	0.99	0.68
18011	BOONE	46.52	6.73	3.72
18013	BROWN	12.35	1.95	1.07
18015	CARROLL	13.58	2.14	1.20
18017	CASS	24.96	3.67	2.34
18019	CLARK	64.85	9.50	5.80
18021	CLAY	23.84	3.57	1.95
18023	CLINTON	27.91	4.10	2.39
18025	CRAWFORD	20.30	3.04	1.43
18027	DAVIESS	15.86	2.37	1.51
18029	DEARBORN	36.79	5.60	2.97
18031	DECATUR	33.80	4.96	2.61
18033	DE KALB	37.83	5.54	3.14
18035	DELAWARE	71.90	10.02	6.66
18037	DUBOIS	27.27	4.06	2.50
18039	ELKHART	118.63	16.43	11.38
18041	FAYETTE	14.24	2.05	1.41
18043	FLOYD	42.84	6.38	3.88
18045	FOUNTAIN	20.74	3.11	1.52
18047	FRANKLIN	17.87	2.76	1.48
18049	FULTON	13.68	2.07	1.27
18051	GIBSON	24.88	3.73	2.18
18053	GRANT	56.55	8.01	5.04
18055	GREENE	22.20	3.39	2.03
18057	HAMILTON	103.30	14.21	9.58
18059	HANCOCK	43.46	6.37	3.72
18061	HARRISON	32.21	4.97	2.53
18063	HENDRICKS	72.90	10.76	6.34
18065	HENRY	46.82	6.97	3.88
18067	HOWARD	42.59	5.98	4.31
18069	HUNTINGTON	39.66	5.78	3.22
18071	JACKSON	41.63	6.03	3.44
18073	JASPER	45.87	6.85	3.42
18075	JAY	13.35	1.99	1.27
18077	JEFFERSON	18.38	2.69	1.79
18079	JENNINGS	19.36	2.98	1.75
18081	JOHNSON	79.67	10.74	7.23
18083	KNOX	23.33	3.31	2.26
18085	KOSCIUSKO	49.28	7.47	4.49

FIPS	County	CO	NOX	VOC
18087	LAGRANGE	38.96	5.97	2.97
18089	LAKE	186.39	31.82	18.71
18091	LA PORTE	91.76	13.33	7.96
18093	LAWRENCE	29.40	4.32	2.77
18095	MADISON	91.22	12.63	8.71
18097	MARION	563.26	67.32	55.50
18099	MARSHALL	31.33	4.72	2.87
18101	MARTIN	6.00	0.94	0.54
18103	MIAMI	21.27	3.11	2.00
18105	MONROE	58.44	8.21	5.71
18107	MONTGOMERY	41.70	6.11	3.33
18109	MORGAN	52.76	7.91	4.63
18111	NEWTON	13.74	2.14	1.14
18113	NOBLE	28.63	4.36	2.64
18115	OHIO	3.11	0.50	0.28
18117	ORANGE	12.67	1.99	1.12
18119	OWEN	13.82	2.17	1.22
18121	PARKE	8.17	1.31	0.76
18123	PERRY	21.74	3.20	1.73
18125	PIKE	10.05	1.59	0.88
18127	PORTER	63.66	12.30	6.10
18129	POSEY	31.40	4.69	2.46
18131	PULASKI	10.44	1.65	0.91
18133	PUTNAM	39.13	5.85	3.11
18135	RANDOLPH	18.52	2.78	1.70
18137	RIPLEY	24.99	3.85	2.02
18139	RUSH	11.99	1.82	1.11
18141	ST JOSEPH	130.46	17.10	12.78
18143	SCOTT	21.79	3.16	1.83
18145	SHELBY	38.80	5.71	3.21
18147	SPENCER	23.66	3.64	1.87
18149	STARKE	15.55	2.45	1.37
18151	STEUBEN	49.55	7.37	3.62
18153	SULLIVAN	12.96	2.03	1.15
18155	SWITZERLAND	5.10	0.82	0.46
18157	TIPPECANOE	84.67	11.80	8.00
18159	TIPTON	10.42	1.60	0.95
18161	UNION	5.62	0.89	0.49
18163	VANDERBURGH	98.73	13.24	9.77
18165	VERMILLION	16.80	2.50	1.37
18167	VIGO	75.17	10.12	7.43
18169	WABASH	21.20	3.05	2.03
18171	WARREN	6.44	1.01	0.56
18173	WARRICK	50.51	7.29	4.17
18175	WASHINGTON	14.95	2.32	1.42
18177	WAYNE	55.43	7.96	4.95
18179	WELLS	14.53	2.19	1.38
18181	WHITE	26.98	4.04	2.12
18183	WHITLEY	20.07	3.04	1.86

FIPS	County	CO	NOX	VOC
	Totals	4,074.23	582.25	371.44

c) County Total Summerday Emissions

Table 5-11 Summerday Emissions - Adams County

Sector	CO	NOx	VOC
Area	0.52	0.54	2.89
Biogenic	1.37	0.76	5.99
Nonroad	8.43	1.77	0.77
On-Road	20.36	3.10	1.91
Point	0.35	0.76	3.50
Total	31.03	6.93	15.06

Table 5-12 Summerday Emissions - Allen County

Sector	CO	NOx	VOC
Area	3.64	3.87	18.76
Biogenic	1.74	0.75	8.86
Nonroad	160.02	13.19	10.90
On-Road	197.72	26.60	18.84
Point	1.13	3.33	9.73
Total	364.24	47.74	67.08

Table 5-13 Summerday Emissions - Bartholomew County

Sector	CO	NOx	VOC
Area	1.15	1.17	6.02
Biogenic	1.58	0.71	11.07
Nonroad	25.07	2.97	1.96
On-Road	56.78	8.20	4.98
Point	2.97	1.69	1.18
Total	87.55	14.74	25.20

Table 5-14 Summerday Emissions - Benton County

Sector	CO	NOx	VOC
Area	0.07	0.07	1.55
Biogenic	1.43	1.00	7.59
Nonroad	4.20	1.60	0.32

On-Road	7.54	1.19	0.65
Point	0.00	0.00	0.01
Total	13.24	3.86	10.12

Table 5-15 Summerday Emissions - Blackford County

Sector	CO	NOx	VOC
Area	0.18	0.16	1.55
Biogenic	1.10	0.60	5.15
Nonroad	3.39	0.96	0.21
On-Road	6.75	0.99	0.68
Point	0.11	0.08	0.44
Total	11.52	2.78	8.03

Table 5-16 Summerday Emissions - Boone County

Sector	CO	NOx	VOC
Area	0.35	0.32	3.63
Biogenic	1.52	0.85	7.27
Nonroad	35.54	3.11	2.60
On-Road	46.52	6.73	3.72
Point			0.01
Total	83.94	11.01	17.24

Table 5-17 Summerday Emissions - Brown County

Sector	CO	NOx	VOC
Area	0.40	0.07	0.79
Biogenic	1.61	0.27	17.77
Nonroad	7.55	0.28	1.61
On-Road	12.35	1.95	1.07
Total	21.91	2.57	21.23

Table 5-18 Summerday Emissions - Carroll County

Sector	CO	NOx	VOC
Area	0.27	0.22	1.62

Biogenic	1.28	0.96	5.79
Nonroad	8.33	2.37	1.51
On-Road	13.58	2.14	1.20
Point	0.01	0.01	1.45
Total	23.47	5.70	11.56

Table 5-19 Summerday Emissions - Cass County

Sector	CO	NOx	VOC
Area	0.59	0.62	3.34
Biogenic	1.24	0.86	6.17
Nonroad	17.70	3.71	1.61
On-Road	24.96	3.67	2.34
Point	6.27	6.84	1.19
Total	50.76	15.69	14.65

Summerday Emissions - Clark County

Sector	CO	NOx	VOC
Area	0.97	0.88	7.25
Biogenic	1.32	0.32	10.34
Nonroad	27.66	8.68	2.18
On-Road	64.85	9.50	5.80
Point	4.95	5.14	4.51
Total	99.75	24.52	30.07

Table 5-20 Summerday Emissions - Clay County

Sector	CO	NOx	VOC
Area	0.30	0.20	2.05
Biogenic	1.67	0.58	12.72
Nonroad	9.33	1.48	1.12
On-Road	23.84	3.57	1.95
Point			0.27
Total	35.14	5.83	18.11

Table 5-21 Summerday Emissions - Clinton County

Sector	CO	NOx	VOC

Area	0.35	0.39	2.68
Biogenic	1.21	0.95	5.05
Nonroad	9.48	2.39	1.02
On-Road	27.91	4.10	2.39
Point	0.24	0.40	1.34
Total	39.18	8.23	12.48

Table 5-22 Summerday Emissions - Crawford County

Sector	CO	NOx	VOC
Area	0.31	0.04	0.76
Biogenic	1.93	0.29	18.43
Nonroad	2.85	1.56	0.55
On-Road	20.30	3.04	1.43
Total	25.39	4.93	21.18

Table 5-23 Summerday Emissions - Daviess County

Sector	CO	NOx	VOC
Area	0.31	0.25	2.30
Biogenic	1.86	0.85	12.35
Nonroad	8.36	2.21	0.92
On-Road	15.86	2.37	1.51
Point	0.18	0.23	0.47
Total	26.56	5.90	17.54

Table 5-24 Summerday Emissions - De Kalb County

Sector	CO	NOx	VOC
Area	0.90	0.96	3.88
Biogenic	1.43	0.58	7.67
Nonroad	12.78	5.55	1.40
On-Road	37.83	5.54	3.14
Point	2.74	1.81	3.62
Total	55.69	14.45	19.72

Table 5-25 Summerday Emissions - Dearborn County

Sector	CO	NOx	VOC
Area	0.57	0.31	2.02
Biogenic	1.40	0.32	9.60
Nonroad	11.70	1.95	0.96
On-Road	36.79	5.60	2.97
Point	2.27	50.63	2.77
Total	52.73	58.79	18.32

Table 5-26 Summerday Emissions - Decatur County

Sector	CO	NOx	VOC
Area	0.48	0.47	2.44
Biogenic	1.47	0.74	8.43
Nonroad	13.30	1.52	0.90
On-Road	33.80	4.96	2.61
Point	0.07	0.02	1.93
Total	49.11	7.71	16.31

Table 5-27 Summerday Emissions - Delaware County

Sector	CO	NOx	VOC
Area	1.07	1.09	7.70
Biogenic	1.39	0.68	6.70
Nonroad	138.60	5.64	9.29
On-Road	71.90	10.02	6.66
Point	0.46	0.35	0.83
Total	213.42	17.79	31.18

Table 5-28 Summerday Emissions - Dubois County

Sector	CO	NOx	VOC
Area	1.04	1.04	4.72
Biogenic	1.88	0.54	16.40
Nonroad	12.40	2.73	1.26
On-Road	27.27	4.06	2.50
Point	0.72	1.07	8.03
Total	43.31	9.43	32.90

Table 5-29 Summerday Emissions - Elkhart County

Sector	CO	NOx	VOC
Area	3.96	4.48	14.57
Biogenic	1.60	0.68	11.02
Nonroad	69.89	10.32	6.19
On-Road	118.63	16.43	11.38
Point	0.49	0.64	22.09
Total	194.57	32.55	65.24

Table 5-30 Summerday Emissions - Fayette County

Sector	CO	NOx	VOC
Area	0.41	0.40	1.93
Biogenic	1.12	0.57	5.41
Nonroad	5.67	1.38	0.66
On-Road	14.24	2.05	1.41
Point	0.02	0.03	0.28
Total	21.46	4.43	9.68

Table 5-31 Summerday Emissions - Floyd County

Sector	CO	NOx	VOC
Area	0.73	0.73	5.05
Biogenic	1.36	0.27	11.42
Nonroad	24.53	2.17	1.54
On-Road	42.84	6.38	3.88
Point	1.30	21.97	1.09
Total	70.75	31.53	22.98

Table 5-32 Summerday Emissions - Fountain County

Sector	CO	NOx	VOC
Area	0.27	0.23	1.87
Biogenic	1.56	0.92	7.39
Nonroad	9.75	2.20	1.55
On-Road	20.74	3.11	1.52

Point	0.01	0.03	0.88
Total	32.32	6.49	13.21

Table 5-33 Summerday Emissions - Franklin County

Sector	CO	NOx	VOC
Area	0.32	0.14	1.25
Biogenic	1.23	0.47	7.40
Nonroad	6.54	0.99	1.03
On-Road	17.87	2.76	1.48
Point	0.01	0.03	0.01
Total	25.97	4.39	11.17

Table 5-34 Summerday Emissions - Fulton County

Sector	CO	NOx	VOC
Area	0.27	0.26	2.03
Biogenic	1.32	0.84	7.95
Nonroad	8.09	1.38	1.21
On-Road	13.68	2.07	1.27
Point	0.04	0.02	0.28
Total	23.39	4.57	12.73

Table 5-35 Summerday Emissions - Gibson County

Sector	CO	NOx	VOC
Area	0.48	0.42	2.92
Biogenic	1.68	0.78	10.07
Nonroad	11.35	3.66	1.83
On-Road	24.88	3.73	2.18
Point	6.92	132.50	3.91
Total	45.32	141.09	20.91

Table 5-36 Summerday Emissions - Grant County

Sector	CO	NOx	VOC
Area	0.79	0.84	4.96

Biogenic	1.41	0.74	6.64
Nonroad	18.67	2.63	1.67
On-Road	56.55	8.01	5.04
Point	1.30	0.59	2.11
Total	78.73	12.81	20.42

Table 5-37 Summerday Emissions - Greene County

Sector	CO	NOx	VOC
Area	0.44	0.16	1.96
Biogenic	2.02	0.56	16.46
Nonroad	10.54	1.61	1.43
On-Road	22.20	3.39	2.03
Point	0.74	0.68	0.51
Total	35.94	6.40	22.38

Table 5-38 Summerday Emissions - Hamilton County

Sector	CO	NOx	VOC
Area	1.42	1.21	10.04
Biogenic	1.32	0.65	6.46
Nonroad	92.66	5.86	6.14
On-Road	103.30	14.21	9.58
Point	0.46	6.69	0.49
Total	199.16	28.61	32.70

Table 5-39 Summerday Emissions - Hancock County

Sector	CO	NOx	VOC
Area	0.44	0.40	3.79
Biogenic	1.32	0.74	5.62
Nonroad	19.86	2.57	1.72
On-Road	43.46	6.37	3.72
Point	0.10	0.12	0.66
Total	65.18	10.20	15.52

Table 5-40 Summerday Emissions - Harrison County

Sector	CO	NOx	VOC
Area	0.61	0.33	2.23
Biogenic	1.81	0.32	15.94
Nonroad	8.82	2.65	0.93
On-Road	32.21	4.97	2.53
Point	0.03	0.02	0.42
Total	43.48	8.29	22.06

Table 5-41 Summerday Emissions - Hendricks County

Sector	CO	NOx	VOC
Area	0.66	0.56	5.53
Biogenic	1.55	0.73	9.04
Nonroad	28.47	5.01	1.98
On-Road	72.90	10.76	6.34
Point	0.01	0.00	0.11
Total	103.60	17.05	23.00

Table 5-42 Summerday Emissions - Henry County

Sector	CO	NOx	VOC
Area	0.41	0.41	3.65
Biogenic	1.33	0.69	6.01
Nonroad	13.73	2.61	1.32
On-Road	46.82	6.97	3.88
Point	0.23	1.18	0.55
Total	62.52	11.85	15.41

Table 5-43 Summerday Emissions - Howard County

Sector	CO	NOx	VOC
Area	1.30	1.46	5.39
Biogenic	1.08	0.73	4.68
Nonroad	28.29	3.26	2.26
On-Road	42.59	5.98	4.31
Point	0.90	0.71	0.43
Total	74.16	12.14	17.08

Table 5-44 Summerday Emissions - Huntington County

Sector	CO	NOx	VOC
Area	0.55	0.53	2.97
Biogenic	1.40	0.70	6.64
Nonroad	13.43	2.95	1.51
On-Road	39.66	5.78	3.22
Point	17.79	0.21	0.84
Total	72.83	10.17	15.18

Table 5-45 Summerday Emissions - Jackson County

Sector	CO	NOx	VOC
Area	0.79	0.61	4.07
Biogenic	1.78	0.53	16.36
Nonroad	11.89	2.93	1.11
On-Road	41.63	6.03	3.44
Point	0.54	0.62	1.72
Total	56.63	10.72	26.70

Table 5-46 Summerday Emissions - Jasper County

Sector	CO	NOx	VOC
Area	0.26	0.23	3.10
Biogenic	1.58	0.98	12.40
Nonroad	9.95	2.69	0.94
On-Road	45.87	6.85	3.42
Point	3.91	53.87	0.74
Total	61.57	64.61	20.60

Table 5-47 Summerday Emissions - Jay County

Sector	CO	NOx	VOC
Area	0.30	0.28	1.89
Biogenic	1.27	0.72	5.81
Nonroad	6.37	1.53	0.58
On-Road	13.35	1.99	1.27

Point	0.15	0.69	0.33
Total	21.43	5.21	9.87

Table 5-48 Summerday Emissions - Jefferson County

Sector	CO	NOx	VOC
Area	0.53	0.34	2.17
Biogenic	1.39	0.33	11.38
Nonroad	9.55	1.55	1.35
On-Road	18.38	2.69	1.79
Point	3.02	83.38	0.96
Total	32.88	88.30	17.64

Table 5-49 Summerday Emissions - Jennings County

Sector	CO	NOx	VOC
Area	0.44	0.25	1.99
Biogenic	1.72	0.56	14.00
Nonroad	5.51	1.50	0.60
On-Road	19.36	2.98	1.75
Point	5.89	28.04	1.18
Total	32.93	33.33	19.52

Table 5-50 Summerday Emissions - Johnson County

Sector	CO	NOx	VOC
Area	1.07	1.01	8.87
Biogenic	1.39	0.47	10.88
Nonroad	36.62	2.43	3.02
On-Road	79.67	10.74	7.23
Point	0.02	0.02	1.36
Total	118.76	14.68	31.36

Table 5-51 Summerday Emissions - Knox County

Sector	CO	NOx	VOC
Area	0.32	0.25	3.13

Biogenic	1.82	0.89	10.65
Nonroad	23.65	3.66	2.18
On-Road	23.33	3.31	2.26
Point	0.64	8.65	1.56
Total	49.76	16.76	19.79

Table 5-52 Summerday Emissions - Kosciusko County

Sector	CO	NOx	VOC
Area	1.34	1.36	6.95
Biogenic	1.68	0.78	10.06
Nonroad	41.88	6.48	6.14
On-Road	49.28	7.47	4.49
Point	3.33	0.17	3.60
Total	97.52	16.26	31.24

Table 5-53 Summerday Emissions - La Porte County

Sector	CO	NOx	VOC
Area	1.18	1.12	7.10
Biogenic	1.84	0.80	14.32
Nonroad	47.22	9.81	5.21
On-Road	91.76	13.33	7.96
Point	1.68	31.45	2.88
Total	143.68	56.51	37.47

Table 5-54 Summerday Emissions - Lagrange County

Sector	CO	NOx	VOC
Area	0.65	0.60	2.90
Biogenic	1.37	0.64	7.64
Nonroad	19.55	1.98	4.01
On-Road	38.96	5.97	2.97
Point	0.46	2.29	1.51
Total	60.98	11.47	19.04

Table 5-55 Summerday Emissions - Lake County

Sector	CO	NOx	VOC
Area	3.93	4.37	24.78
Biogenic	1.91	0.79	18.59
Nonroad	176.98	28.82	20.18
On-Road	186.39	40.15	15.35
Point	466.11	106.33	19.88
Total	835.32	180.47	98.78

Table 5-56 Summerday Emissions - Lawrence County

Sector	CO	NOx	VOC
Area	0.69	0.45	2.72
Biogenic	1.91	0.42	18.14
Nonroad	12.01	2.44	1.62
On-Road	29.40	4.32	2.77
Point	1.63	11.02	0.32
Total	45.63	18.65	25.57

Table 5-57 Summerday Emissions - Madison County

Sector	CO	NOx	VOC
Area	1.15	1.21	7.64
Biogenic	1.41	0.75	6.35
Nonroad	34.21	4.34	3.22
On-Road	91.22	12.63	8.71
Point	0.51	1.11	1.72
Total	128.49	20.03	27.64

Table 5-58 Summerday Emissions - Marion County

Sector	CO	NOx	VOC
Area	7.73	8.77	45.93
Biogenic	1.34	0.56	7.55
Nonroad	306.17	22.68	19.91
On-Road	563.26	67.32	55.50
Point	20.06	32.50	6.41
Total	898.57	131.84	135.31

Table 5-59 Summerday Emissions - Marshall County

Sector	CO	NOx	VOC
Area	0.68	0.66	3.49
Biogenic	1.53	0.72	10.62
Nonroad	16.90	4.38	2.06
On-Road	31.33	4.72	2.87
Point	0.42	0.04	3.77
Total	50.87	10.52	22.80

Table 5-60 Summerday Emissions - Martin County

Sector	CO	NOx	VOC
Area	0.33	0.08	0.72
Biogenic	1.80	0.35	19.13
Nonroad	3.85	1.19	0.54
On-Road	6.00	0.94	0.54
Point	1.64	0.38	0.20
Total	13.62	2.95	21.12

Table 5-61 Summerday Emissions - Miami County

Sector	CO	NOx	VOC
Area	0.36	0.31	2.72
Biogenic	1.29	0.76	6.27
Nonroad	9.72	2.42	1.09
On-Road	21.27	3.11	2.00
Point	0.04	1.31	1.57
Total	32.68	7.91	13.66

Table 5-62 Summerday Emissions - Monroe County

Sector	CO	NOx	VOC
Area	1.33	1.03	5.97
Biogenic	1.83	0.30	17.70
Nonroad	46.06	2.86	5.09
On-Road	58.44	8.21	5.71

Point	0.66	0.98	1.50
Total	108.31	13.37	35.97

Table 5-63 Summerday Emissions - Montgomery County

Sector	CO	NOx	VOC
Area	0.59	0.56	3.45
Biogenic	1.67	0.96	7.71
Nonroad	13.88	3.42	1.22
On-Road	41.70	6.11	3.33
Point	2.41	2.01	1.32
Total	60.25	13.06	17.02

Table 5-64 Summerday Emissions - Morgan County

Sector	CO	NOx	VOC
Area	0.64	0.41	3.67
Biogenic	1.55	0.42	13.05
Nonroad	21.94	1.61	2.08
On-Road	52.76	7.91	4.63
Point	0.91	13.43	0.29
Total	77.81	23.78	23.72

Table 5-65 Summerday Emissions - Newton County

Sector	CO	NOx	VOC
Area	0.16	0.14	1.73
Biogenic	1.62	1.07	11.78
Nonroad	6.67	1.56	1.36
On-Road	13.74	2.14	1.14
Point	0.04	0.02	0.39
Total	22.22	4.93	16.41

Table 5-66 Summerday Emissions - Noble County

Sector	CO	NOx	VOC
Area	0.93	0.93	4.13

Biogenic	1.39	0.62	7.39
Nonroad	18.33	5.47	2.60
On-Road	28.63	4.36	2.64
Point	2.52	0.12	1.76
Total	51.81	11.49	18.54

Table 5-67 Summerday Emissions - Ohio County

Sector	CO	NOx	VOC
Area	0.07	0.02	0.33
Biogenic	0.88	0.16	5.90
Nonroad	1.82	0.55	0.20
On-Road	3.11	0.50	0.28
Total	5.87	1.23	6.71

Table 5-68 Summerday Emissions - Orange County

Sector	CO	NOx	VOC
Area	0.39	0.19	1.33
Biogenic	1.93	0.43	17.25
Nonroad	5.25	0.96	0.91
On-Road	12.67	1.99	1.12
Point	0.22	2.84	1.27
Total	20.46	6.40	21.87

Table 5-69 Summerday Emissions - Owen County

Sector	CO	NOx	VOC
Area	0.40	0.16	1.44
Biogenic	1.76	0.43	14.75
Nonroad	6.34	0.64	0.84
On-Road	13.82	2.17	1.22
Total	22.32	3.41	18.24

Table 5-70 Summerday Emissions - Parke County

Sector	CO	NOx	VOC

Area	0.28	0.10	1.46
Biogenic	1.67	0.71	11.03
Nonroad	6.21	1.16	0.92
On-Road	8.17	1.31	0.76
Point	0.12	2.73	0.04
Total	16.46	6.01	14.20

Table 5-71 Summerday Emissions - Perry County

Sector	CO	NOx	VOC
Area	0.49	0.18	1.30
Biogenic	1.97	0.40	18.41
Nonroad	5.56	2.01	1.08
On-Road	21.74	3.20	1.73
Point	5.83	0.30	0.75
Total	35.60	6.09	23.27

Table 5-72 Summerday Emissions - Pike County

Sector	CO	NOx	VOC
Area	0.23	0.06	0.95
Biogenic	1.85	0.64	14.68
Nonroad	4.20	0.94	0.71
On-Road	10.05	1.59	0.88
Point	3.97	61.97	0.58
Total	20.30	65.20	17.78

Table 5-73 Summerday Emissions - Porter County

Sector	CO	NOx	VOC
Area	1.35	1.35	7.49
Biogenic	1.63	0.63	15.15
Nonroad	73.19	11.37	12.80
On-Road	63.66	14.95	4.85
Point	405.01	80.11	4.70
Total	544.84	108.40	44.98

Table 5-74 Summerday Emissions - Posey County

Sector	CO	NOx	VOC
Area	0.35	0.26	1.92
Biogenic	1.69	0.82	9.47
Nonroad	9.17	4.13	1.35
On-Road	31.40	4.69	2.46
Point	25.34	29.67	3.75
Total	67.95	39.57	18.96

Table 5-75 Summerday Emissions - Pulaski County

Sector	CO	NOx	VOC
Area	0.17	0.13	1.44
Biogenic	1.47	0.93	10.40
Nonroad	4.36	1.71	0.49
On-Road	10.44	1.65	0.91
Point			0.13
Total	16.45	4.42	13.36

Table 5-76 Summerday Emissions - Putnam County

Sector	CO	NOx	VOC
Area	0.48	0.30	2.32
Biogenic	1.70	0.64	11.84
Nonroad	9.89	3.10	1.09
On-Road	39.13	5.85	3.11
Point	0.66	4.44	0.97
Total	51.86	14.33	19.34

Table 5-77 Summerday Emissions - Randolph County

Sector	CO	NOx	VOC
Area	0.31	0.30	2.24
Biogenic	1.52	0.82	7.07
Nonroad	9.02	2.38	1.05
On-Road	18.52	2.78	1.70
Point	0.31	1.82	1.38
Total	29.67	8.10	13.45

Table 5-78 Summerday Emissions - Ripley County

Sector	CO	NOx	VOC
Area	0.49	0.34	2.04
Biogenic	1.48	0.47	10.44
Nonroad	8.31	1.77	1.19
On-Road	24.99	3.85	2.02
Point	0.02	0.08	4.34
Total	35.28	6.51	20.03

Table 5-79 Summerday Emissions - Rush County

Sector	CO	NOx	VOC
Area	0.18	0.16	1.73
Biogenic	1.22	0.67	5.28
Nonroad	4.99	2.01	0.37
On-Road	11.99	1.82	1.11
Point	0.04	0.05	0.22
Total	18.42	4.71	8.69

Table 5-80 Summerday Emissions - Scott County

Sector	CO	NOx	VOC
Area	0.39	0.25	1.69
Biogenic	1.48	0.40	12.82
Nonroad	5.88	0.65	0.67
On-Road	21.79	3.16	1.83
Point	0.04	0.06	0.47
Total	29.57	4.52	17.49

Table 5-81 Summerday Emissions - Shelby County

Sector	CO	NOx	VOC
Area	0.54	0.60	3.29
Biogenic	1.40	0.78	6.77
Nonroad	13.02	2.74	0.91
On-Road	38.80	5.71	3.21

Point	0.89	3.61	1.99
Total	54.65	13.44	16.17

Table 5-82 Summerday Emissions - Spencer County

Sector	CO	NOx	VOC
Area	0.59	0.21	1.78
Biogenic	1.90	0.58	15.08
Nonroad	8.10	3.64	1.02
On-Road	23.66	3.64	1.87
Point	6.63	92.81	1.06
Total	40.89	100.89	20.81

Table 5-83 Summerday Emissions - St Joseph County

Sector	CO	NOx	VOC
Area	2.39	2.65	14.41
Biogenic	1.62	0.64	12.17
Nonroad	85.00	9.35	6.71
On-Road	130.46	17.10	12.78
Point	1.23	5.73	5.71
Total	220.71	35.47	51.78

Table 5-84 Summerday Emissions - Starke County

Sector	CO	NOx	VOC
Area	0.25	0.17	1.96
Biogenic	1.53	0.73	12.54
Nonroad	6.90	1.95	0.98
On-Road	15.55	2.45	1.37
Point	0.04	0.41	0.01
Total	24.28	5.70	16.86

Table 5-85 Summerday Emissions - Steuben County

Sector	CO	NOx	VOC
Area	0.65	0.63	3.48

Biogenic	1.29	0.53	7.11
Nonroad	20.77	1.67	3.68
On-Road	49.55	7.37	3.62
Point			0.08
Total	72.25	10.20	17.96

Table 5-86 Summerday Emissions - Sullivan County

Sector	CO	NOx	VOC
Area	0.25	0.11	1.83
Biogenic	1.92	0.81	13.45
Nonroad	6.41	2.17	1.21
On-Road	12.96	2.03	1.15
Point	2.36	42.75	0.28
Total	23.90	47.86	17.92

Table 5-87 Summerday Emissions - Switzerland County

Sector	CO	NOx	VOC
Area	0.18	0.04	0.57
Biogenic	0.88	0.17	5.90
Nonroad	2.26	1.11	0.42
On-Road	5.10	0.82	0.46
Point			0.13
Total	8.42	2.14	7.48

Table 5-88 Summerday Emissions - Tippecanoe County

Sector	CO	NOx	VOC
Area	1.71	1.79	8.20
Biogenic	1.68	1.10	8.15
Nonroad	42.50	6.88	3.71
On-Road	84.67	11.80	8.00
Point	2.40	6.40	7.82
Total	132.97	27.97	35.89

Table 5-89 Summerday Emissions - Tipton County

Sector	CO	NOx	VOC
Area	0.15	0.13	1.33
Biogenic	0.94	0.64	3.70
Nonroad	4.14	1.32	0.29
On-Road	10.42	1.60	0.95
Total	15.64	3.69	6.27

Table 5-90 Summerday Emissions - Union County

Sector	CO	NOx	VOC
Area	0.08	0.03	0.56
Biogenic	1.00	0.43	5.90
Nonroad	3.63	1.28	0.67
On-Road	5.62	0.89	0.49
Total	10.33	2.64	7.62

Table 5-91 Summerday Emissions - Vanderburgh County

Sector	CO	NOx	VOC
Area	1.84	1.94	10.48
Biogenic	1.61	0.81	8.89
Nonroad	68.54	7.27	4.65
On-Road	98.73	13.24	9.77
Point	1.10	5.85	3.26
Total	171.82	29.11	37.04

Table 5-92 Summerday Emissions - Vermillion County

Sector	CO	NOx	VOC
Area	0.20	0.14	1.37
Biogenic	1.50	0.77	8.93
Nonroad	5.25	2.09	0.81
On-Road	16.80	2.50	1.37
Point	2.87	27.19	2.57
Total	26.63	32.68	15.06

Table 5-93 Summerday Emissions - Vigo County

Sector	CO	NOx	VOC
Area	1.10	0.99	6.62
Biogenic	1.78	0.72	12.70
Nonroad	31.31	5.62	2.93
On-Road	75.17	10.12	7.43
Point	3.45	33.63	6.52
Total	112.81	51.07	36.20

Table 5-94 Summerday Emissions - Wabash County

Sector	CO	NOx	VOC
Area	0.52	0.50	2.43
Biogenic	1.39	0.74	6.79
Nonroad	12.59	3.18	1.72
On-Road	21.20	3.05	2.03
Point	29.73	1.17	1.41
Total	65.43	8.64	14.39

Table 5-95 Summerday Emissions - Warren County

Sector	CO	NOx	VOC
Area	0.10	0.05	1.01
Biogenic	1.43	0.88	6.62
Nonroad	3.59	2.10	0.66
On-Road	6.44	1.01	0.56
Point	0.00	0.02	0.00
Total	11.56	4.07	8.85

Table 5-96 Summerday Emissions - Warrick County

Sector	CO	NOx	VOC
Area	0.63	0.34	3.25
Biogenic	1.88	0.63	15.67
Nonroad	10.52	1.61	1.61
On-Road	50.51	7.29	4.17
Point	64.59	64.34	1.90
Total	128.12	74.20	26.61

Table 5-97 Summerday Emissions - Washington County

Sector	CO	NOx	VOC
Area	0.53	0.27	1.93
Biogenic	1.73	0.46	14.70
Nonroad	5.52	1.63	0.53
On-Road	14.95	2.32	1.42
Point	0.13	0.07	1.45
Total	22.86	4.75	20.03

Table 5-98 Summerday Emissions - Wayne County

Sector	CO	NOx	VOC
Area	0.84	0.89	5.29
Biogenic	1.39	0.70	6.94
Nonroad	17.04	3.30	1.62
On-Road	55.43	7.96	4.95
Point	1.24	4.96	1.56
Total	75.94	17.81	20.36

Table 5-99 Summerday Emissions - Wells County

Sector	CO	NOx	VOC
Area	0.32	0.32	2.32
Biogenic	1.29	0.66	6.06
Nonroad	8.41	2.08	0.77
On-Road	14.53	2.19	1.38
Point	3.15	0.37	0.31
Total	27.70	5.63	10.85

Table 5-100 Summerday Emissions - White County

Sector	CO	NOx	VOC
Area	0.34	0.33	2.60
Biogenic	1.52	1.14	8.13
Nonroad	11.73	3.19	1.87
On-Road	26.98	4.04	2.12

Point	0.08	0.05	0.50
Total	40.66	8.75	15.22

Table 5-101 Summerday Emissions - Whitley County

Sector	CO	NOx	VOC
Area	0.48	0.43	2.47
Biogenic	1.39	0.63	7.10
Nonroad	11.85	2.99	1.28
On-Road	20.07	3.04	1.86
Point	0.63	0.26	1.10
Total	34.42	7.35	13.80

Appendices

Appendix A – Environ Report for Locomotive, Commercial Marine

ENVIRON

International Corporation *Air Sciences*

(Revised)
FINAL

LADCO NONROAD EMISSION INVENTORY PROJECT FOR LOCOMOTIVE, COMMERCIAL MARINE, AND RECREATIONAL MARINE EMISSION SOURCES

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December 2004

Appendix B- Pechan, Nonroad Emissions Inventory Project

LADCO NONROAD EMISSIONS INVENTORY PROJECT - DEVELOPMENT OF LOCAL DATA FOR CONSTRUCTION AND AGRICULTURAL EQUIPMENT

FINAL REPORT

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Appendix C – Raw Data

See attached database.