

# **8-HOUR OZONE ATTAINMENT DEMONSTRATION AND TECHNICAL SUPPORT DOCUMENT**

*For the Indiana portion of the*

**Chicago-Gary-Lake County, IL-IN  
“Moderate” Ozone Nonattainment Area**

**Lake and Porter Counties, Indiana**

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## **1.0 Overview**

### **1.1 Introduction**

Ozone is 1 of 6 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 6 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<sub>x</sub>) and volatile organic compounds (VOCs) in the presence of sunlight and heat. As a result, ozone is a summertime air pollutant. Therefore, the United States 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 at 0.085 ppm or above (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 3 consecutive years is equal to or greater than 0.085 ppm. This 3-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.

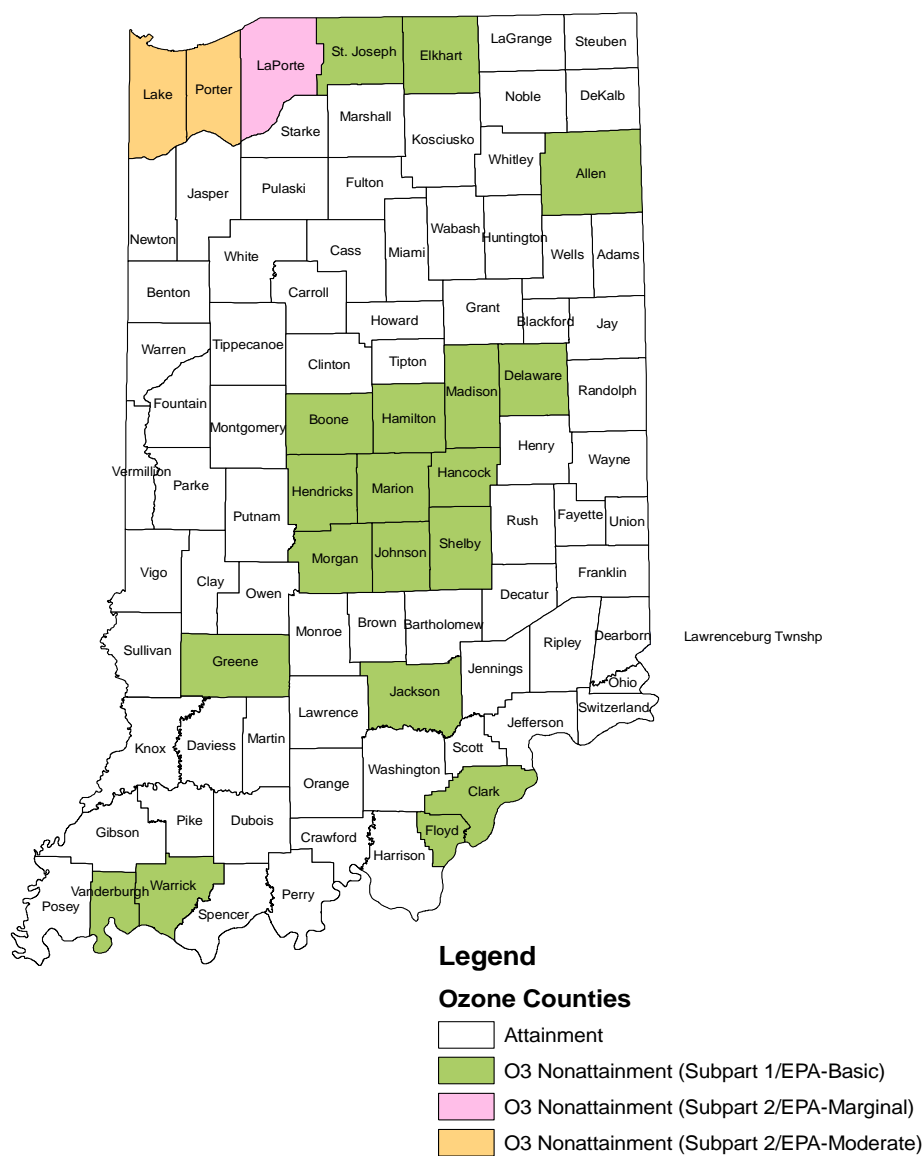
US EPA designated areas under the 8-hour ozone standard as attainment, nonattainment or unclassifiable, on April 15, 2004. The Chicago-Gary-Lake County, IL-IN Area was designated as a "Moderate" nonattainment under Subpart 2 of Section 107 of the Clean Air Act (CAA). Designations were made based upon 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 Chicago area. The area's controlling design value was monitored at a Lake County, Indiana ambient air quality monitor at 0.090 ppm.

These designations became effective on June 15, 2004. In Indiana, there were several areas designated as nonattainment (Figure 1.1). As of September 2008, only 2 ozone Nonattainment Areas remained within Indiana (Figure 1.2). Every ozone Nonattainment Area within Indiana that contains a monitor has measured attainment of the 8-hour ozone standard, has been redesignated to attainment, or redesignation has been requested and is pending approval by US EPA.

This submittal covers Lake and Porter counties, IN, which were designated nonattainment as part of the Chicago-Gary-Lake County, IL-IN "Moderate" Ozone Nonattainment Area, under Subpart 2 of Section 107 of the CAA.

The Clean Air Act Amendments of 1990 (1990 CAA) required areas designated nonattainment for the ozone NAAQS to develop State Implementation Plans (SIPs) to expeditiously attain and maintain the standard. Section 172 of the 1990 CAA stipulates

Figure 1.1  
Ozone Nonattainment Areas  
Based on U.S. EPA Designations  
April 15, 2004



**Figure 1.2**  
**Current Ozone Attainment Status**  
**November 2008**



**Table 1.1 Chicago 2001-2003 Air Quality Data Used for Designation**

Site ID	County	Year	1st 8-HR	2nd 8-HR	3rd 8-HR	4th 8-HR	2001-2003 Average
180890022	Lake, IN	2001	0.094	0.087	0.085	0.083	0.084
		2002	0.111	0.099	0.096	0.094	
		2003	0.081	0.080	0.077	0.076	
180892008	Lake, IN	2001	0.097	0.094	0.090	0.091	0.090
		2002	0.104	0.103	0.101	0.101	
		2003	0.088	0.088	0.084	0.081	
181270020	Porter, IN	2001	0.093	0.090	0.084	0.082	0.086
		2002	0.113	0.104	0.098	0.097	
		2003	0.081	0.081	0.081	0.079	
181270024	Porter, IN	2001	0.095	0.093	0.085	0.085	0.087
		2002	0.119	0.105	0.101	0.101	
		2003	0.086	0.084	0.080	0.077	
181270026	Porter, IN	2001	0.079	0.078	0.078	0.077	0.086
		2002	0.110	0.105	0.101	0.100	
		2003	0.090	0.090	0.082	0.082	
170310001	Cook, IL	2001	0.081	0.079	0.078	0.077	0.082
		2002	0.097	0.096	0.094	0.094	
		2003	0.090	0.080	0.078	0.077	
170310032	Cook, IL	2001	0.098	0.091	0.089	0.087	0.087
		2002	0.106	0.103	0.100	0.096	
		2003	0.087	0.086	0.080	0.080	
170310042	Cook, IL	2001	0.090	0.087	0.085	0.085	0.088
		2002	0.116	0.113	0.109	0.103	
		2003	0.091	0.081	0.079	0.078	
170310050	Cook, IL	2001	0.074	0.074	0.072	0.071	0.074
		2002	0.091	0.090	0.088	0.084	
		2003	0.073	0.073	0.072	0.069	
170310064	Cook, IL	2001	0.079	0.078	0.076	0.076	0.076
		2002	0.093	0.090	0.087	0.085	
		2003	0.072	0.069	0.069	0.067	
170310072	Cook, IL	2001	0.086	0.085	0.082	0.081	0.080
		2002	0.112	0.098	0.097	0.085	
		2003	0.086	0.078	0.075	0.075	
170311003	Cook, IL	2001	0.084	0.084	0.083	0.078	0.082
		2002	0.097	0.094	0.093	0.092	
		2003	0.084	0.078	0.077	0.077	
170311601	Cook, IL	2001	0.077	0.071	0.070	0.068	0.074
		2002	0.096	0.091	0.087	0.081	
		2003	0.099	0.080	0.076	0.075	
170314002	Cook, IL	2001	0.074	0.070	0.069	0.067	0.073
		2002	0.087	0.086	0.086	0.084	
		2003	0.075	0.072	0.071	0.070	

**Table 1.1 Chicago 2001-2003 Air Quality Data Used for Designation (cont.)**

Site ID	County	Year	1st 8-HR	2nd 8-HR	3rd 8-HR	4th 8-HR	2001-2003 Average
170314201	Cook, IL	2001	0.090	0.087	0.083	0.082	0.085
		2002	0.096	0.090	0.088	0.087	
		2003	0.084	0.083	0.081	0.088	
170317002	Cook, IL	2001	0.103	0.090	0.086	0.086	0.086
		2002	0.105	0.095	0.092	0.091	
		2003	0.091	0.089	0.082	0.082	
170436001	DuPage, IL	2001	0.078	0.071	0.071	0.071	0.073
		2002	0.091	0.087	0.086	0.084	
		2003	0.083	0.069	0.067	0.066	
170890005	Kane, IL	2001	0.086	0.082	0.081	0.080	0.079
		2002	0.090	0.087	0.086	0.082	
		2003	0.078	0.077	0.077	0.076	
170971002	Lake, IL	2001	0.095	0.091	0.084	0.082	0.082
		2002	0.106	0.105	0.100	0.090	
		2003	0.081	0.081	0.076	0.074	
170971007	Lake, IL	2001	0.088	0.087	0.084	0.083	0.087
		2002	0.116	0.113	0.112	0.100	
		2003	0.084	0.082	0.079	0.078	
171110001	McHenry, IL	2001	0.089	0.088	0.086	0.084	0.084
		2002	0.093	0.091	0.091	0.090	
		2003	0.084	0.080	0.080	0.079	
171971008	Will, IL	2001	0.086	0.078	0.078	0.076	0.079
		2002	0.094	0.088	0.087	0.086	
		2003	0.093	0.080	0.079	0.077	
171971011	Will, IL	2001	0.085	0.080	0.080	0.078	0.079
		2002	0.095	0.088	0.087	0.087	
		2003	0.085	0.079	0.075	0.073	

the requirements nonattainment areas must meet, including the development of a plan to reduce VOC and NO<sub>x</sub> 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 Chicago-Gary-Lake County Nonattainment Area has met and will continue to meet the ozone standard through the attainment date and beyond. This document contains the 8-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 2009.

The Federal control measures that were modeled included the Tier II vehicle standards; the Heavy-Duty Gasoline and Diesel Highway Vehicle Standards; Low Sulfur Gasoline and Diesel Fuels; Large Non-Road Diesel Engine Standards and the Non-Road Spark-Ignition Engine and Recreational Engine Standard.

The State control measures that were modeled include the NO<sub>x</sub> SIP Call and the Clean Air Interstate Rule (CAIR). CAIR was vacated by the US Court of Appeals for the District of Columbia Circuit (DC Circuit Court) on July 11, 2008. US EPA filed a petition to the DC Circuit Court on September 24, 2008 for a rehearing on the vacatur of CAIR. On December 23, 2008, CAIR was remanded without vacatur by the D.C. Circuit Court. CAIR was intended primarily as a PM<sub>2.5</sub> control strategy and had minimal modeled impacts on ozone concentrations. However, CAIR was modeled with and without its associated emissions reductions to determine 8-hour ozone future year design values. The latest modeled results presented in this document do not include CAIR as a state control strategy. 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 RRF is further explained in Section 5.1.10. The benchmark for attainment is that the predicted maximum ozone concentration in every grid cell is below the 8-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 (2005) and the attainment modeling year (2009). Table 1.2 lists the attainment test results for Indiana's portion of the Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area. The first 3 columns are the monitor identification number, the monitor site, and the county in which the monitor is located. The next 3 columns are the modeling base year design value, the RRF, and the future design value. As shown in Table 1.2, the modeled results for 2009 show that all ozone monitors in Lake and Porter counties will meet the 8-hour ozone standard.

**Table 1.2**  
**Attainment Test Results for Lake and Porter counties**  
**in the Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area**

Monitor ID	Monitor Site	County	Design Value 2003-2007 (ppm)	Future Year RRF	Basecase 2009 (ppm)
180890022	Gary	Lake	0.0777	0.970	0.075
180890030	Whiting	Lake	0.0810	0.971	0.077
180892008	Hammond	Lake	0.0793	0.971	0.075
181270024	Ogden Dunes	Porter	0.0783	0.966	0.075
181270026	Valparaiso	Porter	0.0753	0.963	0.072

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, a summary of emissions reductions still to occur in 2008 and 2009, and 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 Chicago-Gary-Lake County IL-IN Ozone 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 Chicago-Gary-Lake County, IL-IN “Moderate” 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 are bringing the area into attainment as expeditiously as possible;
- Regional modeling performed by the Lake Michigan Air Directors’ Consortium (MRPO) and US EPA lead to the same conclusion, that with regional NO<sub>x</sub> 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**

Lake and Porter counties are located in Northwest Indiana and contain such cities as Gary, Hammond, East Chicago, Portage, and Valparaiso. Lake and Porter counties are bordered by Lake Michigan to the north, Indiana counties of Newton and Jasper to the south, and LaPorte to the east. The Illinois counties of Cook, Kankakee, and Will border Lake County to the west. This area is depicted in Figure 2.1.

US EPA designated areas under the 8-hour ozone standard as attainment, nonattainment or unclassifiable, on April 15, 2004. The Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area was designated as “Moderate” nonattainment of the ozone standard pursuant to the CAA. As a result, Section 172(c) of the CAA set forth requirements for Illinois and Indiana’s State Implementation Plan (SIP) submittals.

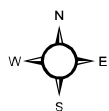
The agencies responsible for assuring the Nonattainment Area complies with the CAA requirements are:

- The Illinois Environmental Protection Agency (IEPA), which is responsible for Cook, DuPage, Grundy (partial), Kane, Kendall (partial), Lake, McHenry, and Will counties, Illinois; and
- The Indiana Department of Environmental Management (IDEM), which is responsible for Lake and Porter counties, Indiana.

These state agencies have worked cooperatively with US EPA Region V to address attainment planning issues.

Although the agencies 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.

**Figure 2.1**  
**Indiana Portion of the Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area**



0 2.5 5 10 Miles

**Legend**

- ▲ 2004 O<sub>3</sub> Monitors
- Interstate Highways
- US Highways
- County
- Lk Michigan

**STATES**

- Illinois
- Indiana

### **3.0 Clean Air Act Requirements**

Section 172(c) of the CAA specifies the various planning requirements that apply to basic ozone Nonattainment Areas. Sections 182(a) and 182(b) outline additional requirements that are applicable to “Moderate” Nonattainment Areas. Also, because the Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area includes portions of 2 States, Section 182(j) of the CAA adds additional plan provisions. The CAA specifies the following requirements:

- General requirements for Reasonably Available Control Measures (RACM)/Reasonably Available Control Technology (RACT);
- Reasonable Further Progress (RFP);
- Emission inventories;
- Basic/enhanced vehicle monitoring (previously required under the 1-hour ozone standard)
- Stage 2 vapor recovery (previously required under the 1-hour ozone standard)
- Identification and quantification of emissions;
- Permit program for new and modified sources;
- Other measures;
- Compliance with section 110(a)(2);
- Equivalent techniques;
- Contingency measures;
- Demonstration of attainment based upon photochemical grid modeling or equivalent analytical method; and
- Mobile source emission budget.

These components were due June 15, 2007. However, Indiana submitted a redesignation request in 2007 which was intended to fulfill the state’s obligations under the CAA. The following section provides an overview of Indiana’s current progress in meeting the CAA requirements mentioned above.

#### **3.1 General Requirements**

##### **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.

Per Table 3.1, the Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area has already attained the 8-hour ozone standard. Therefore, no additional controls are necessary to attain the standard prior to June 15, 2009. Nonetheless, several control measures have been implemented in Lake and Porter counties as part of previous SIP submittals. The following information outlines the measures implemented in association

with previous SIP submittals that have resulted in permanent and enforceable emission reductions in Lake and Porter counties:

15% Rate of Progress (ROP) Plan

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

1. Enhanced Vehicle Inspection and Maintenance Program  
*Regulatory Basis:* 326 IAC 13-1.1  
*Implementation Status:* Control remains in place.
2. Stage II Vapor Recovery  
*Regulatory Basis:* 326 IAC 8-11-2  
*Implementation Status:* Control remains in place.
3. Reformulated Gasoline Program  
*Regulatory Basis:* CAA-Federal Control Program  
*Implementation Status:* Control remains in place.
4. National Volatile Organic Compound Emission Standards for Architectural Coatings Rule  
*Regulatory Basis:* 40 CFR Part 59  
*Implementation Status:* Control remains in place.
5. Residential Opening Burning Ban  
*Regulatory Basis:* 326 IAC 4-1  
*Implementation Status:* Control remains in place.
6. Non-CTG RACT  
*Regulatory Basis:* 326 IAC 8  
*Implementation Status:* Control remains in place.

1999 9 % Rate of Progress (ROP) Plan

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

1. The National Emission Standards for Benzene from Coke Oven By-Product Recovery Plants  
*Regulatory Basis:* 40 CFR 61 Subpart L  
*Implementation Status:* Control remains in place.
2. National Emission Standards for Coke Oven Batteries,  
*Regulatory Basis:* 40 CFR 63 Subpart L  
*Implementation Status:* Control remains in place.

3. Federal Phase I Reformulated Gasoline on Small Non-Road Engines  
*Regulatory Basis:* CAA; Section 211 of the Clean Air Act  
*Implementation Status:* Control remains in place.
4. Federal Controls on Small Spark-Ignited Engines  
*Regulatory Basis:* Court-ordered standards for small spark-ignited engines; 40 CFR Part 90  
*Implementation Status:* Control remains in place.
5. Commercial/Consumer Solvent Reformulation Rule  
*Regulatory Basis:* CAA; Federal Rule 60 FR 15264  
*Implementation Status:* Control remains in place.
6. Volatile Organic Liquid Storage RACT  
*Regulatory Basis:* 326 IAC 8-9  
*Implementation Status:* Control remains in place.

#### 2002 9 % Rate of Progress (ROP) Plan

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

1. Additional Reductions from Federal Controls on Small Spark-Ignited Engines  
*Regulatory Basis:* Court-ordered standards for small spark-ignited engines; 40 CFR Part 90  
*Implementation Status:* Control remains in place.
2. Sinter Plant Rule  
*Regulatory Basis:* 326 IAC 8-13  
*Implementation Status:* Control remains in place.
3. Municipal Solid Waste Landfill  
*Regulatory Basis:* State rule based on the federal New Source Performance Standards for new and existing sources (326 IAC 8-8 and 326 IAC 8-8.1)  
*Implementation Status:* Control remains in place.

#### 2005 9 % Rate of Progress (ROP) Plan

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

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

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

*Implementation Status:* Control remains in place.

#### 2007 6 % Rate of Progress (ROP) Plan

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

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

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

*Implementation Status:* Control remains in place.

2. Commercial/Consumer Solvent Reformulation Rule

*Regulatory Basis:* CAA; Federal Rule 60 FR 15264

*Implementation Status:* Control remains in place.

3. Petroleum Refineries NESHAP

*Regulatory Basis:* CAA

*Implementation Status:* Control remains in place.

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

*Control Method:* Halts the use of untreated water for quenching (NESHAP-Post ROP).

*Implementation Status:* Control remains in place.

5. Volatile Organic Liquid Storage RACT

*Regulatory Basis:* 326 IAC 8-9

*Implementation Status:* Control remains in place.

6. Cold Cleaners

*Regulatory Basis:* 326 IAC 8-3-8

*Implementation Status:* Control remains in place.

#### 3.1.2 Reasonably Available Control Technology (RACT)

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

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

### **3.2 Reasonable Further Progress**

Lake and Porter counties were previously nonattainment under the 1-hour ozone standard. The area met all of its 1-hour ozone SIP obligations, including an EPA-approved attainment demonstration. All of the control measures outlined within the post-1999 (2002, 2005, and 2007) Rate of Progress plans have been fully implemented.

### **3.3 Emission Inventories**

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<sub>x</sub>)) representative of the base year (2002 in this case per the 1997 ozone NAAQS), and a projection of the emissions inventory to the attainment year (2009). The comprehensive 2002 emission inventory for Indiana is included as Appendix C-1. Detailed 2005 point source emissions data for Lake and Porter counties is included as Appendix C-2. The LADCO Technical Support Document is included as Appendix C-3. This document summarizes how the 2005 and 2009 modeling inventories were prepared. Detailed information concerning the 2005 and 2009 modeling inventories by source sector are available at [www.LADCO.org](http://www.LADCO.org).

### **3.4 Identification and Quantification of Emissions**

Section 172(c)(4) requires the SIP to identify and quantify the emissions of NO<sub>x</sub> 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 that 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 Sources**

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 326 IAC 2-3. Indiana's NSR program was approved by US EPA, on October 7, 1994 (94 FR 24838), as part of the SIP.

Any facility that is not listed in the 2005 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**

In addition to the area already measuring attainment of the standard, modeling conducted by US EPA and the MRPO for future year ozone design values consistently shows that existing emission control measures will bring the Chicago-Gary-Lake County IL-IN Ozone Nonattainment 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 Chicago-Gary-Lake County IL-IN 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 demonstrates that the Chicago-Gary-Lake County IL-IN Ozone 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) of the CAA**

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, have addressed the relevant requirements associated with rule development, state implementation plan submissions, and implementation and enforcement of required control measures.

### **3.8 Equivalent Techniques**

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) 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

#### 3.10.1 Photochemical Grid Modeling

A detailed discussion of the photochemical grid modeling, model selection, methodologies, meteorology, and model input and analysis methods is included in the Photochemical Modeling Analysis Section of the Technical Elements 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 Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area. The data show emissions are decreasing (see section 3.10.3 and 5.3), air quality peak values are on the decline (see section 5.2), and the number of exceedances is also decreasing.

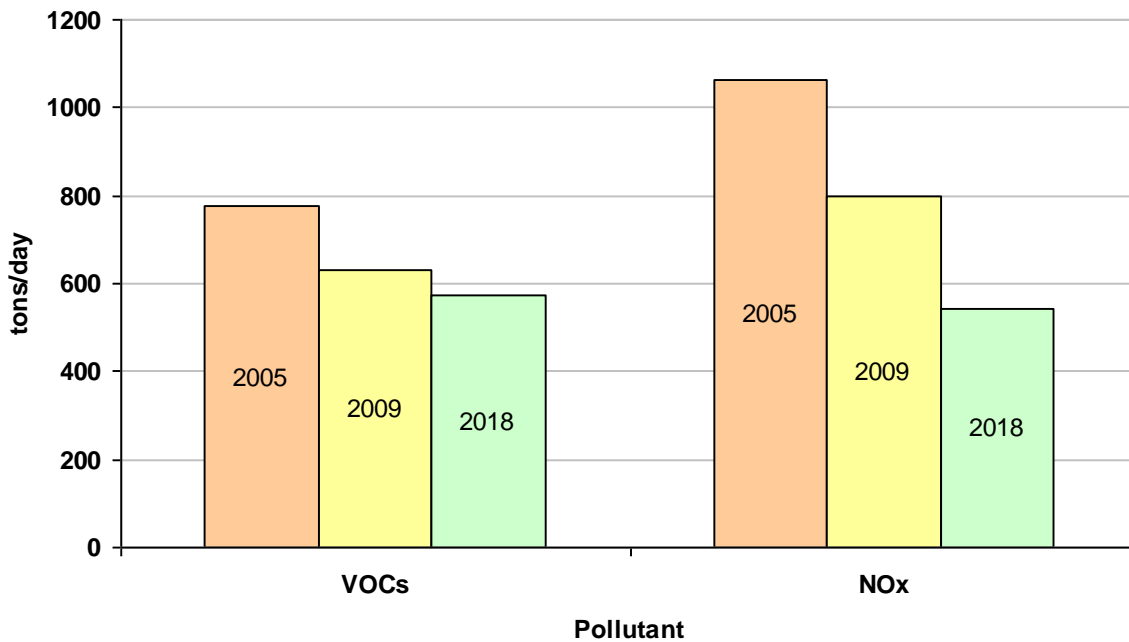
**Table 3.1 Controlling Ozone Design Values  
for the Chicago Ozone Nonattainment Area**

Year	Value (ppm)	3-Year Period
2005	0.08	2003-2005
2006	0.077	2004-2006
2007	0.085	2005-2007
2008	0.077	2006-2008

#### 3.10.3 Emissions Trends Analysis

Control measures have been implemented requiring substantial emissions reductions from mobile, point, and area sources. Chart 3.1 shows the overall drop in both VOC and NO<sub>x</sub> emissions from 2005 to 2009 and the projected continued drop by 2018.

**Chart 3.1 Emission Trends**  
**All Sources**



A more detailed discussion of emission trends is included in Section 5.3.

### **3.11 Mobile Source Emission Budgets**

US EPA requirements outlined in 40 CFR 93.118(e)(4) stipulate that a mobile source emissions budget (for both NO<sub>x</sub> 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 SIP.

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.

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 II Vehicle Standards**

Federal Tier II 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<sub>x</sub> per mile. Implementation began in 2004, and should be completely phased in by 2009. The Tier II 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 I 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. Most gasoline sold in Indiana prior to January 2006 had a sulfur content of about 500 ppm. The Tier II standards also reduce the sulfur content of gasoline to 30 ppm starting in January 2006. Sulfur occurs naturally in gasoline, but interferes with the operation of catalytic converters on vehicles resulting in higher NO<sub>x</sub> emissions. Lower sulfur gasoline is necessary to achieve the Tier II vehicle emission standards.

### **4.2 Heavy-Duty Gasoline and Diesel Highway Vehicle Standards**

New US EPA standards designed to reduce NO<sub>x</sub> 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 began in 2007, reducing particulate matter from heavy-duty highway engines, and also reducing highway diesel fuel sulfur content to 15 ppm. This reduction in sulfur content enables after-treatment exhaust technologies to perform appropriately. The total program is expected to achieve a 90% reduction in direct particulate matter (PM) emissions and a 95% reduction in NO<sub>x</sub> emissions for these new engines using low sulfur diesel, compared to existing engines using higher-content sulfur diesel.

### **4.3 Large Non-Road Diesel Engine 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 will limit sulfur content to 15 ppm in 2010. The combined engine and fuel rules would reduce NO<sub>x</sub> 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 Non-Road Spark-Ignition Engines and Recreational Engine Standards**

The standard, effective in July 2003, regulates NO<sub>x</sub>, VOCs, and carbon dioxide (CO), for groups of previously unregulated non-road engines. The new standard applies to all 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 I of this standard was implemented in 2004 and Tier II started in 2007. Like the large spark-ignition engines, 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 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<sub>x</sub>, and 56% reduction in CO emissions are expected by 2020. These controls will help reduce ambient concentrations of ozone, CO and PM.

#### **4.5 NO<sub>x</sub> SIP Call**

The US EPA NO<sub>x</sub> SIP Call required 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 31 % of all NO<sub>x</sub> emissions statewide compared to previous uncontrolled years.

A total of 21 other states have also adopted these rules, including Illinois. The result is that significant reductions have occurred upwind and within the Chicago-Gary-Lake County IL-IN Ozone Nonattainment Area because of the number of affected units within the region.

## **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 CAA requires that photochemical grid modeling be used to demonstrate attainment in multi-state ozone Nonattainment Areas. The attainment modeling analysis for the Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area was performed in conjunction with the fine particulate matter (PM<sub>2.5</sub>) and regional haze modeling conducted by the Midwest Regional Planning Organization (MRPO). The MRPO is made up of the 5 Midwest states (Illinois, Indiana, Michigan, Ohio, and Wisconsin). 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 3.7
- Emissions Model: Emissions Modeling System (EMS-2003) and Consolidated Community Emissions Processing Tool (CONCEPT)
- Air Quality Model: Comprehensive Air Quality Model with Extensions (CAMx version 4.50).

Additionally, a base year is selected that represents typical meteorological conditions in the region when high ozone, PM, 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, PM, 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 2005 (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 2009, since the mandatory attainment date for Lake and Porter counties is June 15, 2010. The attainment date is set prior to the completion of the 2010 ozone season; therefore, attainment of the standard would have to be met by the end of the 2009 ozone season. These 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 concentrations, which is used in the attainment demonstration.

Following US EPA guidelines, a modeling protocol was prepared by MRPO 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 2005 meteorological and emissions data and evaluate CAMx model performance;
- prepare future-year (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

Specific recommendations for photochemical models to be used for attainment demonstrations are not provided in Title 40 CFR, Part 51, Appendix W. 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 4.50), 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 PM. 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

Domain and grid resolution for the modeling analyses included a national Regional Planning Organization grid at 36 kilometers for both the meteorological and emissions modeling. Landuse files were based on the Biogenic Emissions Landuse Database,

version 3 (BELD3) 1 kilometer data and photolysis rates were calculated with the Tropospheric Ultraviolet-Visible (TUV) radiation model.

The final version of the US EPA's "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub> 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.

There are 4 criteria recommended by US EPA to be met in order to establish meteorology and time periods to base an adequate attainment demonstration. The 4 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 Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area. Temperature information was taken from the National Weather Service (NWS) Station at O'Hare International Airport in Chicago, Illinois (Station Number 230700). Table 5.1 shows the average maximum temperatures and the % difference from normal for each year.

**Table 5.1**  
**Analysis of Maximum Temperatures for the Chicago-Gary-Lake County**  
**IL-IN Ozone Nonattainment Area**  
 (% Change from Maximum Temperature (°F) Normal (1971 – 2000))

		May	June	July	August	September	AVE. May-Sept.
<b>Normal Max</b>		69.9	79.2	83.5	81.2	73.9	77.5
<b>1998</b>	<b>Max</b>	75.5	78.1	81.8	81.2	79.4	79.2
	<b>%</b>	8	-1	-2	0	7	2
<b>1999</b>	<b>Max</b>	73.5	80	86.7	77.6	76.7	78.9
	<b>%</b>	5	1	4	-4	4	2
<b>2000</b>	<b>Max</b>	71.8	76.8	78.5	80.7	74.5	76.5
	<b>%</b>	3	-3	-6	-1	1	-1
<b>2001</b>	<b>Max</b>	71.5	77	82.3	82.8	73.2	77.4
	<b>%</b>	2	-3	-1	2	-1	0
<b>2002</b>	<b>Max</b>	65.2	81.3	85.9	81.8	79.1	78.7
	<b>%</b>	-7	3	3	1	7	1
<b>2003</b>	<b>Max</b>	65.4	74.5	81	82.1	72.1	75
	<b>%</b>	-6	-6	-3	1	-2	-3

		May	June	July	August	September	AVE. May-Sept.
<b>Normal Max</b>		69.9	79.2	83.5	81.2	73.9	77.5
<b>2004</b>	<b>Max</b>	71.3	76.4	79.6	75.1	77.1	75.9
	<b>%</b>	2	-4	-5	-8	4	-2
<b>2005</b>	<b>Max</b>	67.6	82.6	85	82.5	79.3	79.4
	<b>%</b>	-3	4	2	2	7	2
<b>2006</b>	<b>Max</b>	69.7	78.8	85.7	83	71.1	77.7
	<b>%</b>	0	-1	3	2	-4	0
<b>2007</b>	<b>Max</b>	75.5	81.6	83.5	83.2	79.2	80.6
	<b>%</b>	8	3	0	2	7	4
<b>2008</b>	<b>Max</b>	66.2	80.9	83.5	81.8	75.2	77.6
	<b>%</b>	-5	2	0	1	2	0

Monthly maximum temperatures for the previous 10 years (1998 – 2008) 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, 2005, 2007, and 2008 summer months were as much as 3% above normal while temperatures during the 2000, 2001, 2003, 2004 and 2006 summer months were at normal to 3% lower than the normal temperatures.

The modeling used for this attainment demonstration focused on the summer months of June, July and August of 2005. The meteorological period meets the 4 criteria listed above. The number of days that were modeled with concentrations at 0.085 ppm or greater for each of the Indiana, Illinois, and Wisconsin monitors with the maximum number of days modeled at 0.085 ppm or greater can be found in Table 5.2.

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

State	County	Site	Monitor ID	Number of Days at .085 ppm or greater
Indiana	Lake	Gary	180890022	27
Indiana	Lake	Whiting	180890030	19
Indiana	Lake	Hammond	180892008	19
Indiana	Porter	Ogden Dunes	181270024	30
Indiana	Porter	Valparaiso	181270026	21
Illinois	Cook	Evanston	170317002	21
Wisconsin	Kenosha	Chiwaukee	550590019	16

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 RRF for the attainment test. There were more than the required

10 days for the attainment test for the Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area attainment test analysis. Table 5.3 lists the actual number of days modeled at each monitor within Indiana's portion of the nonattainment area.

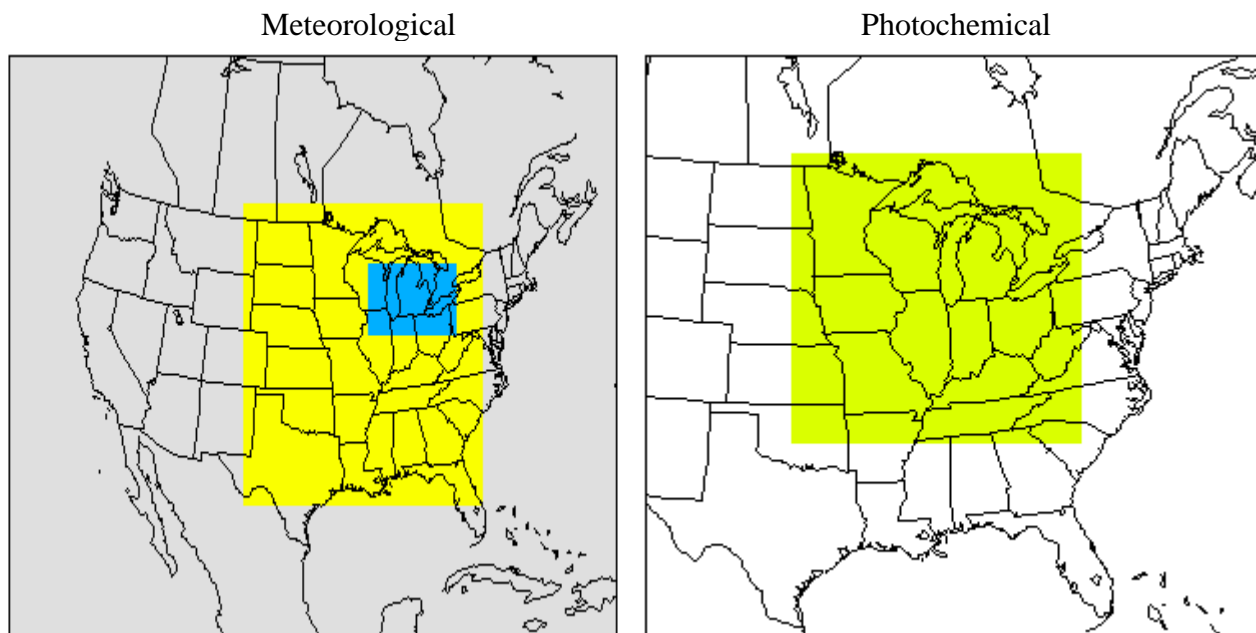
**Table 5.3**  
**Number of Days Modeled for Attainment Test**

County	Monitor	# of days
Lake	Gary	27
Lake	Whiting	19
Lake	Hammond	19
Porter	Ogden Dunes	30
Porter	Valparaiso	21

#### 5.1.5 Modeling Domain

The domain for this modeling analysis was approximately centered on the Midwest portion of the country, including the Chicago-Gary-Lake County, IN-IL Ozone 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 inputs were processed using MM5 versions 3.6.3 and 3.7. A more detailed explanation of the inputs for the MM5 model can be found in the “Regional Air Quality Analyses for Ozone, PM<sub>2.5</sub> and Regional Haze: Technical Support Document” (MRPO 2008), included in Appendix H.

#### 5.1.6 Emissions and Chemistry Inputs

Emissions data for input to the photochemical model were processed using EMS-2003 and CONCEPT. Anthropogenic emissions were determined for weekday, Saturday and Sunday for each month. Point and area source emission inventories were developed from 2005 National Emission Inventory (NEI) and State Consolidated Emissions Reporting Rule (CERR), as well as submittals and inventories received from surrounding Regional Planning Organizations. Electric generating units (EGU) annual and summer season emissions were based on continuous emissions monitoring (CEM) data.

On-road emissions were estimated using the CONCEPT model and vehicle miles traveled (VMT) supplied by the state and local planning agencies in the MRPO states and Minnesota traffic networks. On-road temporal data were based on traffic count data and default temporal tables were modified for better weekend day VMT data. Non-road emissions were estimated with NONROAD2004 and National Mobile Inventory Model (NMIM) models while railroad and commercial marine emissions were prepared by Environ contractors.

Biogenic emissions were estimated with an updated version of the CONCEPT/MEGAN biogenic model. Land use dataset, taken from the 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 2005 (CB05) and Statewide Air Pollution Research Center (SAPRC99) mechanisms. The Secondary Organic Aerosol Formation/ Partitioning (SOAP) organic chemistry and Inorganic Aerosol Thermodynamics/Partitioning (ISORROPIA) sectional models for inorganic chemistry were used in CAMx v4.50.

#### 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: Its performance can be verified by comparing modeled episodes to actual episodes of the baseline year. The modeled concentrations were similar to actual 2005 monitored concentrations both in character and ozone level. The combination of high temperatures, lighter winds and clear days that maximize ozone production and transport were evident in 2005. The year 2005 is considered an above normal ozone summer because 8-hour ozone readings throughout the Midwest were at high levels in many areas of the modeling domain.

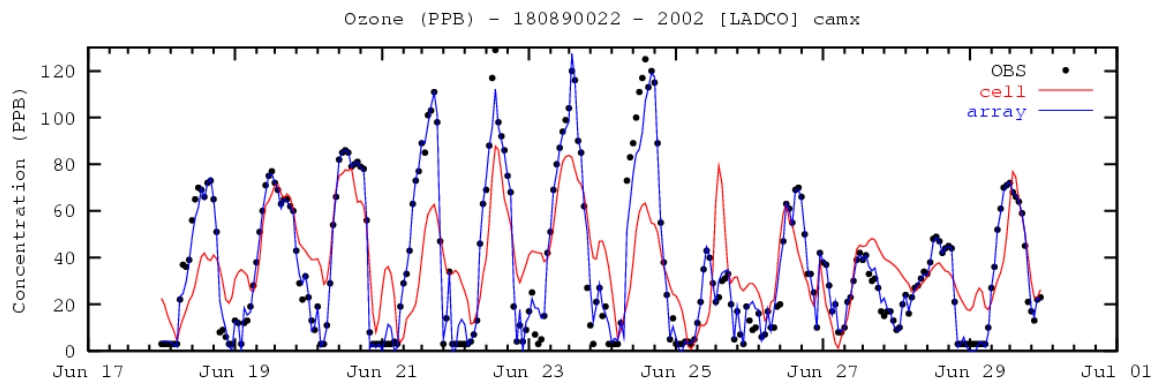
### 5.1.8 Model Performance

Various inputs such as emissions, air quality, and meteorology were assembled and the model was run for the summer of 2005. This simulation used actual emissions and meteorology from 2005 that 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.

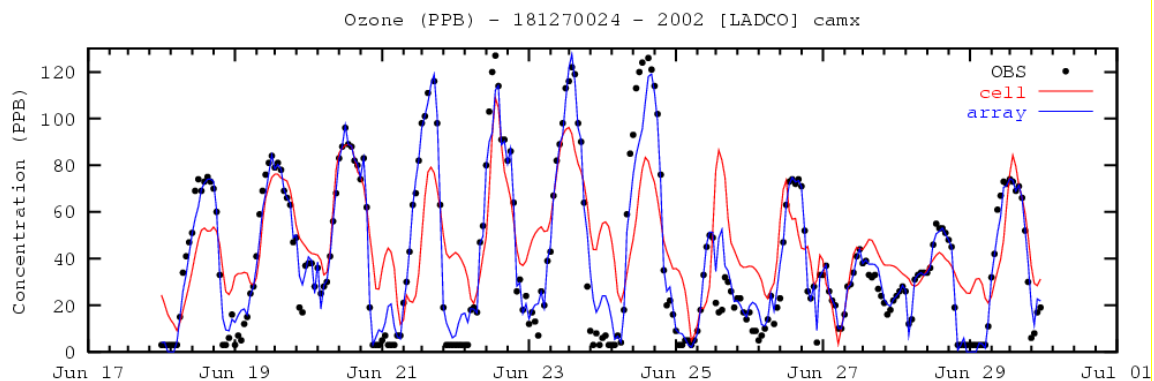
One way to assess model performance is to compare the time series plots which compare the observed monitored data with the modeled concentrations. By comparing the modeled data to the monitored data in this way, model performance can be qualitatively assessed. The stronger the correlation between the modeled and monitored data, the better the model has performed. Figure 5.2 below shows the time series plots for Lake and Porter counties' 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 surrounding the monitor.

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

Gary, Lake County



Ogden Dunes, Porter County

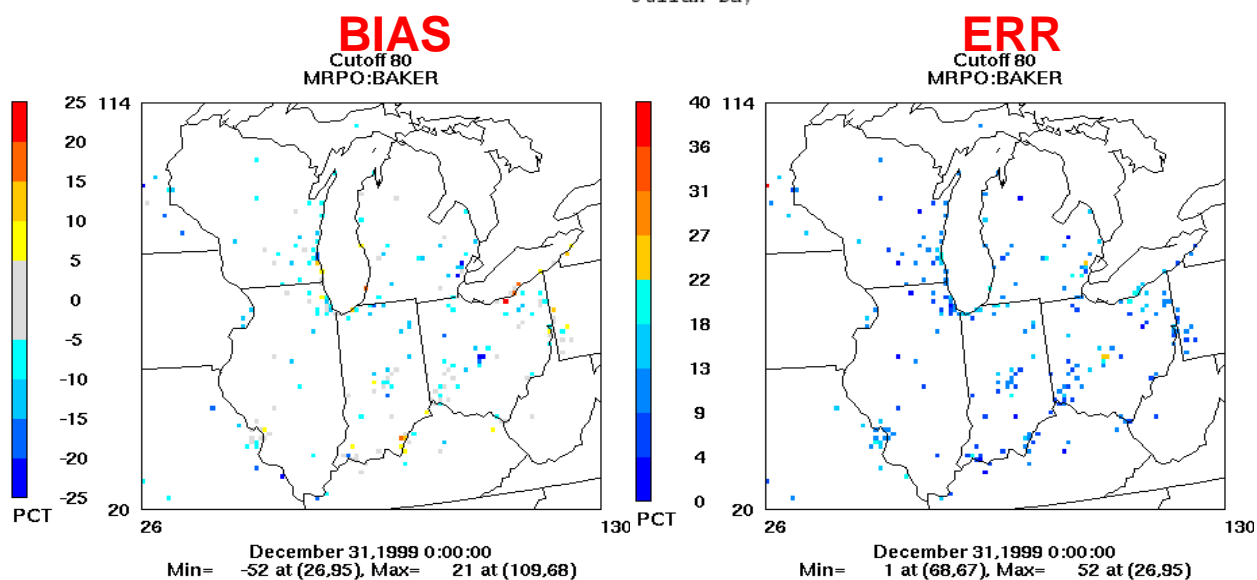
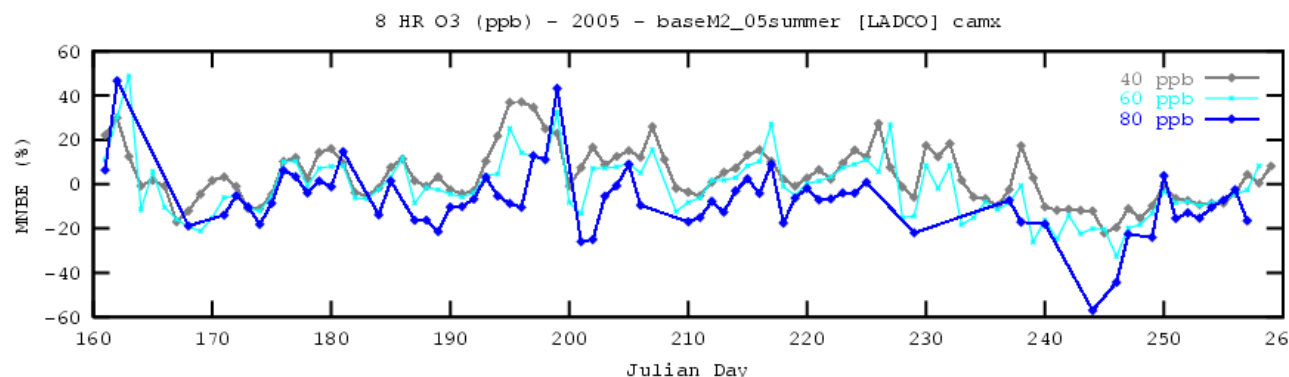


Model performance metrics that US EPA recommend be used to evaluate the accuracy of the modeled concentrations compared to the observed concentrations are:

- 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 MRPO Round 5 model performance, based on the mean normalized bias, are found in Figure 5.3. As shown in this figure, the overall model performance for predicting ozone improves as the minimum 8-hour ozone threshold increases, from 0.040 ppm to 0.060 or 0.080 ppm. When more days are used in the attainment test (i.e., all days where ozone reaches at least 0.040 ppm or higher), the model does not predict ozone as accurately to the observed values as when a higher 8-hour ozone threshold of 0.060 or 0.080 ppm is evaluated. The higher 8-hour ozone threshold for attainment demonstrations is consistent with US EPA criteria.

**Figure 5.3**  
**Model Performance Metrics for MRPO's Round 5 Attainment Demonstration**  
**Mean Normalized Bias**



US EPA guidance recommends that model performance thresholds for Mean Normalized Bias fall within  $\pm 15\%$  and Mean Normalized Error fall within  $\pm 35\%$ . The Bias and Error tile plots show the statistical difference between the observed and modeled concentrations. As can be seen in Indiana, the bias is within  $\pm 15\%$  and the error is within 20%. Results of the model performance show that the MRPO Round 5 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 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<sub>x</sub> SIP Call as well as the latest gasoline and engine control measures.

#### 5.1.10 Results of 2005/2009 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 (RRFs) and are used to determine the relative response of modeled concentrations to emission control strategies 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 RRF 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**

$$DV_f = RRF \times DV_b$$

DV<sub>b</sub> = baseline concentration monitored design value

RRF = RRF

DV<sub>f</sub> = estimated future design value for the attainment period

Table 5.4 shows the results of the 2009 modeling and illustrates that all monitored areas in the the Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area will attain the NAAQS.

**Table 5.4**  
**MRPO Round 5 Modeling for the Chicago-Gary-Lake County, IN-IL Ozone**  
**Nonattainment Area Modeled Attainment Year 2009 (ppm)**

Monitor	County	Site	AVGDV	RRF	FYDV
180890022	Lake	Gary	0.077	0.970	0.075
180890030	Lake	Whiting	0.081	0.955	0.077
180892008	Lake	Hammond	0.079	0.971	0.077
181270024	Porter	Ogden Dunes	0.078	0.971	0.075
181270026	Porter	Valparaiso	0.075	0.960	0.073
550590019	Kenosha	Chiwaukee	0.084	0.972	0.082
550790026	Milwaukee	SER HQ	0.076	0.962	0.073
550790041	Milwaukee	UW-Milwaukee	0.081	0.962	0.078
550790085	Milwaukee	Bayside	0.082	0.965	0.079
550890008	Ozaukee	Grafton	0.081	0.972	0.079
550890009	Ozaukee	Harrington Beach	0.083	0.961	0.080
551010017	Racine	Racine	0.080	0.965	0.077

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.

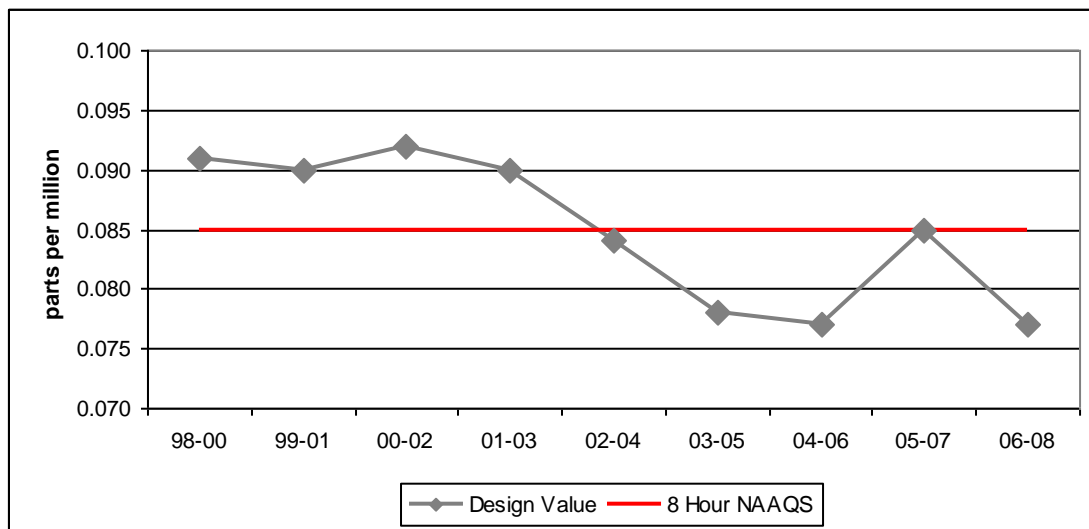
## 5.2 Air Quality Trends

One benchmark for attainment with the ozone standard is the area’s design value. Table 5.5 shows the yearly trend in the design values for the area since 2003. Chart 5.1 is a visual representation of the trend in design values for 1998 to 2008. These values are obtained from the fourth-highest value from all the monitor locations in the nonattainment area for the 3 year period of interest. The average of these fourth-high readings is the design value. These values show an overall decrease trend in the nonattainment area’s design values over time. They also indicate that the area has met and should continue to meet the ozone standard.

**Table 5.5**  
**Yearly Ozone Design Values for the Chicago-Gary-Lake Co., IL-IN Ozone Nonattainment Area**  
**2003-2008**

	Site	4th Highest Values						Design Values			
		2003	2004	2005	2006	2007	2008	03-05	04-06	05-07	06-08
Indiana	Gary	0.076	0.064	0.089	0.073	0.085	0.058	0.076	0.075	0.082	0.072
	Hammond	0.081	0.067	0.087	0.075	0.077	0.065	0.078	0.076	0.079	0.073
	Ogden Dunes	0.077	0.069	0.09	0.07	0.084	0.069	0.078	0.076	0.081	0.074
	Valparaiso	0.082	0.072	0.078	0.071	0.08	0.061	0.077	0.073	0.076	0.07
	Whiting		0.064	0.088	0.081	0.088	0.061		0.077	0.085	0.077
Illinois	Alsip	0.077	0.065	0.084	0.078	0.085	0.059	0.075	0.075	0.082	0.074
	Chicago-Cheltenham	0.08	0.067	0.076	0.075	0.082	0.054	0.074	0.073	0.078	0.07
	Chicago-Adams	0.078	0.069	0.08	0.073	0.084		0.076	0.074	0.08	
	Chicago-Luella	0.069						0.069			
	Chicago-Ellis Ave	0.067	0.054	0.084	0.07	0.079	0.052	0.068	0.069	0.076	0.066
	Chicago-Ohio St	0.075	0.06	0.081	0.065	0.075	0.051	0.072	0.068	0.073	0.063
	Chicago-Lawndale		0.068	0.084	0.075	0.08	0.056	0.076	0.075	0.08	0.07
	Chicago-Hurlbut St	0.077	0.067	0.083	0.077	0.079	0.054	0.076	0.075	0.08	0.07
	Lemont	0.075	0.067	0.086	0.07	0.085	0.059	0.076	0.074	0.08	0.07
	Cicero	0.07	0.059	0.075	0.06	0.068	0.051	0.068	0.064	0.066	0.06
	Des Plaines	0.073	0.064	0.079				0.072	0.072		
	Northbrook	0.08	0.068	0.081	0.068	0.076	0.056	0.076	0.072	0.076	0.066
	Evanston	0.082	0.075	0.082	0.072	0.08	0.05	0.08	0.076	0.076	0.066
	Lisle	0.066	0.065	0.078	0.062	0.072	0.052	0.07	0.068	0.07	0.063
	Elgin	0.076	0.069	0.087	0.062	0.075	0.055	0.077	0.072	0.075	0.064
	Waukegan	0.074	0.068	0.087	0.071	0.081	0.053	0.076	0.075	0.08	0.068
	IL Beach St Pk	0.078	0.071	0.09	0.068	0.08	0.059	0.08	0.076	0.079	0.069
	Cary	0.079	0.068	0.087	0.057	0.074	0.057	0.078	0.071	0.073	0.063
	Sout	0.077	0.064					0.071	0.021		
	Essex Rd	0.073	0.068	0.077	0.068	0.071	0.054	0.073	0.071	0.072	0.064

**Chart 5.1 Trends in Northwest Indiana 8-Hour Design Values**  
**1998 through 2008**



### 5.3 Emissions Trends Analysis

Overall emissions of VOCs and NO<sub>x</sub> within the Nonattainment Area are projected to decline sharply over the next 10 years. Table 5.6 displays VOC and NO<sub>x</sub> emissions that were modeled, broken down by state and by emission source sectors (point, area, mobile, and non-road). The projected 2009 and 2018 emissions from each of the nonattainment counties were derived from the MRPO emission inventory files (Appendix J), which includes Indiana's own emissions inventory information. Charts 5.2 and 5.3 are graphical representations of the projected change in emissions over this period. Only point sources show an appreciable increase in emissions, and this increase is more than offset by large decreases in the mobile and nonroad emission sectors. These overall decreases in both VOC and NO<sub>x</sub> emissions should result in continued decreases in ozone concentrations within the area.

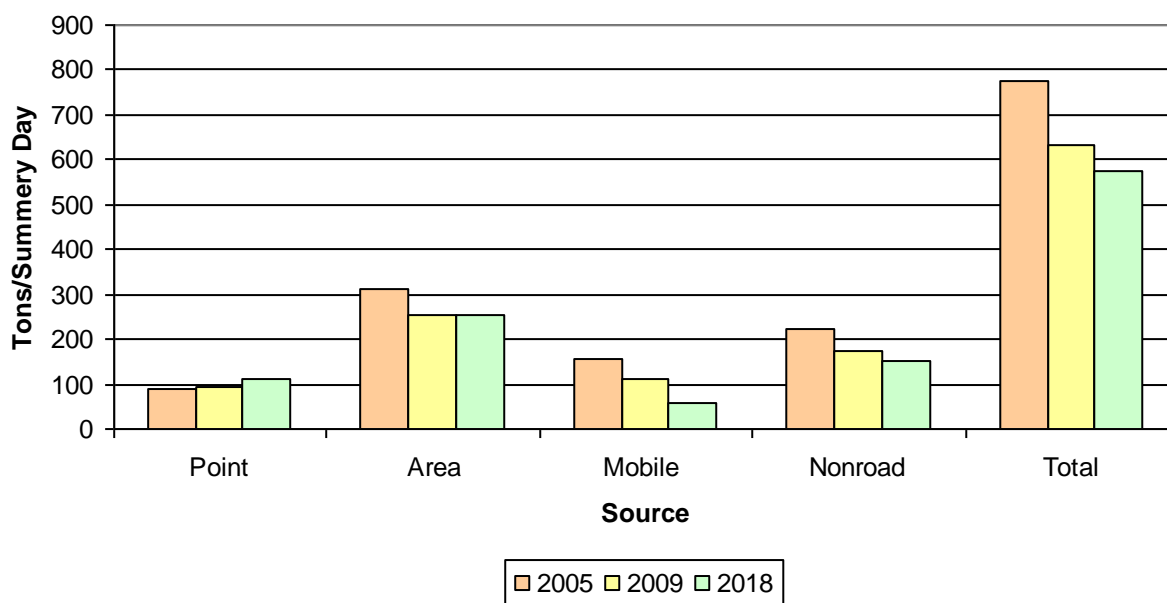
**Table 5.6 – Projected Change in Emissions 2005-2018**

		Tons/Summer Day							
		VOCs				NO <sub>x</sub>			
		2005	2009	2018	Change	2005	2009	2018	Change
Indiana	Point	18	18	22	22%	136	110	115	-15%
	Area	32	29	29	-9%	6	7	7	17%
	Mobile	16	11	6	-63%	65	44	12	-82%
	Nonroad	17	14	12	-29%	31	29	21	-32%
	<b>Total</b>	<b>83</b>	<b>72</b>	<b>69</b>	<b>-17%</b>	<b>238</b>	<b>190</b>	<b>155</b>	<b>-35%</b>
Illinois	Point	69	75	90	30%	176	137	147	-16%
	Area	281	225	225	-20%	33	34	34	3%
	Mobile	139	99	52	-63%	359	225	76	-79%
	Nonroad	205	160	138	-33%	259	214	129	-50%
	<b>Total</b>	<b>694</b>	<b>559</b>	<b>505</b>	<b>-27%</b>	<b>827</b>	<b>610</b>	<b>386</b>	<b>-53%</b>
Total	Point	87	93	112	29%	312	247	262	-16%
	Area	313	254	254	-19%	39	41	41	5%
	Mobile	155	110	58	-63%	424	269	88	-79%
	Nonroad	222	174	150	-32%	290	243	150	-48%
	<b>Total</b>	<b>777</b>	<b>631</b>	<b>574</b>	<b>-26%</b>	<b>1065</b>	<b>800</b>	<b>541</b>	<b>-49%</b>

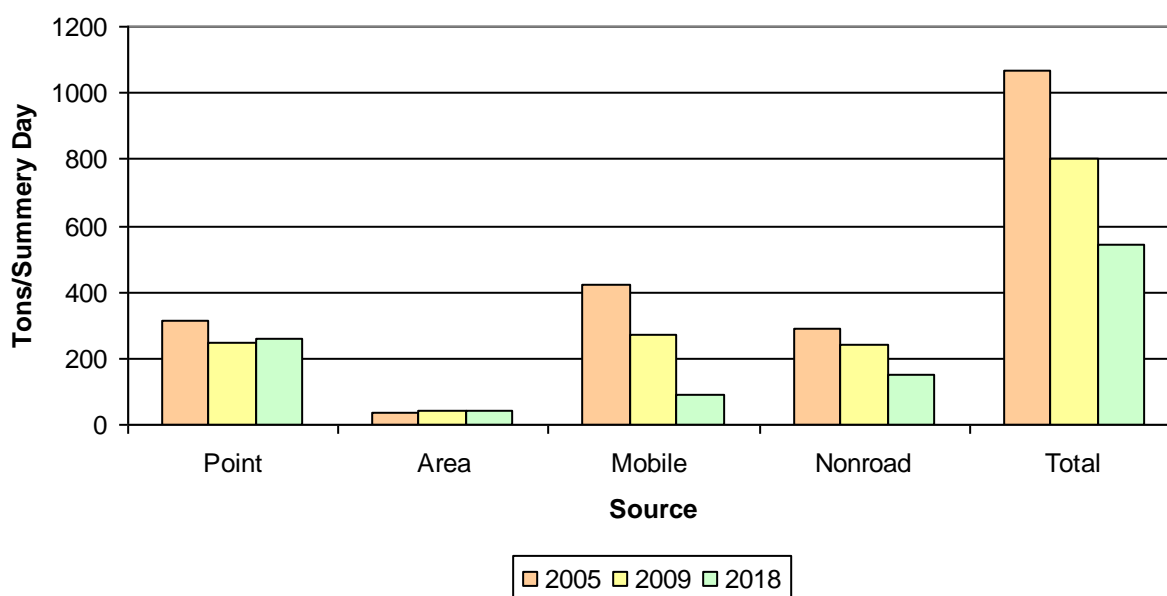
**Table 5.7 – Demonstration of Reasonable Further Progress 2002-2010**

Tons/Summer Day			
	2002	2010	Change
NO <sub>x</sub>	287	196	91(-32%)
VOC	110	91	19(-17%)

**Chart 5.2**  
**Chicago-Gary-Lake County, IL-IN Ozone Non-Attainment Area**  
**VOC Emissions 2005-2018**



**Chart 5.3**  
**Chicago-Gary-Lake County, IL-IN Ozone Non-Attainment Area**  
**NO<sub>x</sub> Emissions 2005-2018**



### Local Reductions

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

The last operating year for the NIPSCO Mitchell electric generation utility was 2001. If it were proposed to be restarted, it would be required to go through IDEM's PSD/NSR process. Annual reductions in NO<sub>x</sub> are greater than 3000 tons and VOCs are approximately 40 tons.

Through an agreed order with IDEM, in 2005, USS Gary Works shut Coke Battery #3 down. This resulted in annual reductions of over 650 tons of VOCs and over 500 tons of NO<sub>x</sub>.

In 2000, the U.S. EPA and BP entered into a consent decree, which included the Whiting Refinery. This agreement called for installation of NO<sub>x</sub> control equipment and fuel changes for several units at the refinery. In 2000, annual NO<sub>x</sub> emissions were 9798 tons, which were reduced to 3635 tons in 2007, a reduction of over 6000 tons annually. These reductions have been incorporated into BP's Title V permits and are therefore federally enforceable.

## **5.4 NO<sub>x</sub> Emissions**

The US EPA NO<sub>x</sub> SIP Call required 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 accounted for a reduction of approximately 31% of all NO<sub>x</sub> emissions statewide from affected sources compared to the previous year (2003), and more than 55% compared to 1999 levels.

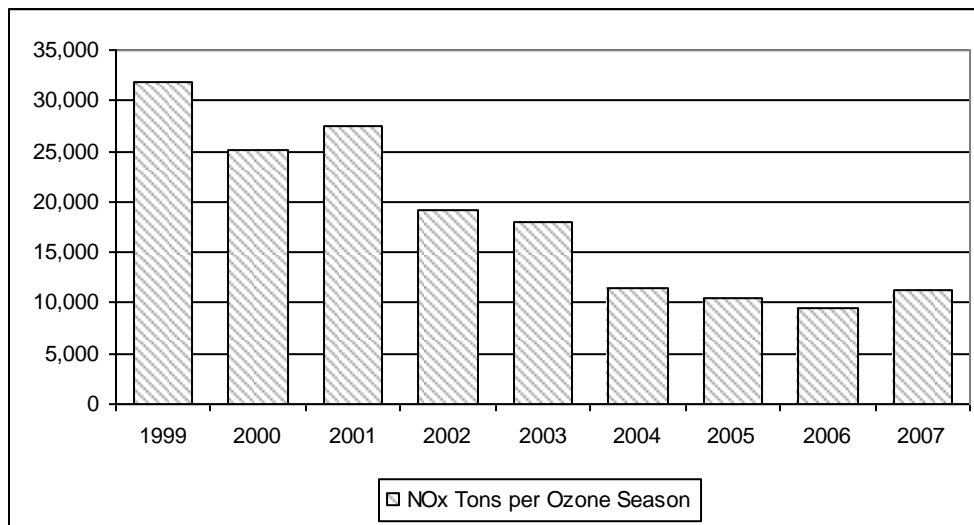
Twenty-two other states have also adopted these rules. The result is that significant reductions will occur upwind and within the Nonattainment Area because of the number affected units within the region. Table 5.8, compiled from data taken from the US EPA Clean Air Markets website, quantifies the gradual NO<sub>x</sub> reductions that have occurred in Indiana as a result of Title IV of the CAA and the beginning of the NO<sub>x</sub> SIP Call Rule.

Further, US EPA has recently implemented Phase II of the NO<sub>x</sub> 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 compressor gas stations by 4,263 tons during the ozone season. This rule became effective in Indiana on February 26, 2006 and was implemented in 2007.

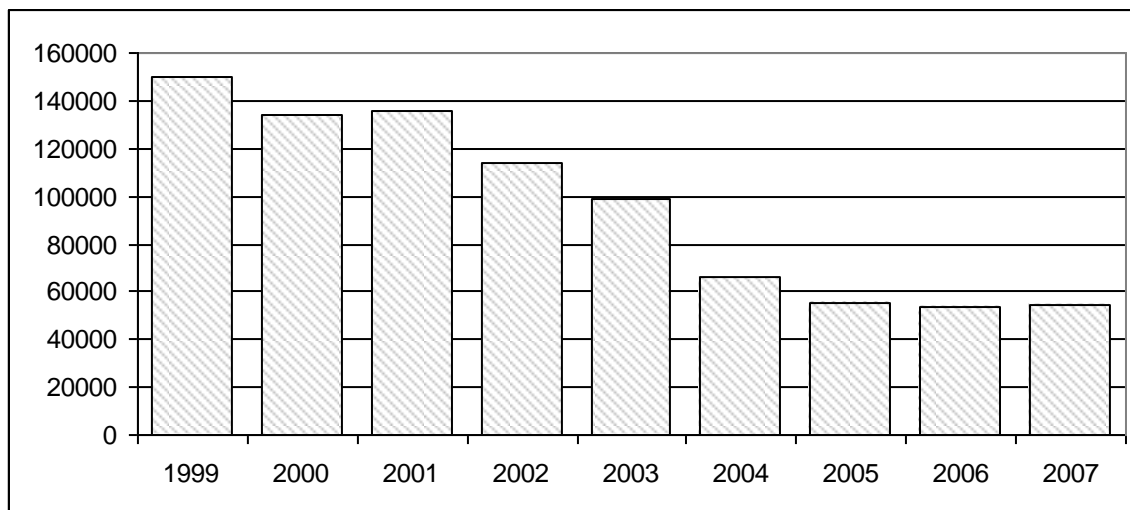
**TABLE 5.8 Trends in EGU Ozone Season  
NO<sub>x</sub> Emissions Statewide in Indiana  
Tons/Ozone Season**

Year	NO <sub>x</sub> Emissions
1997	152,834
1998	159,931
1999	149,827
2000	133,881
2001	136,052
2002	113,996
2003	99,283
2004	66,568
2005	55,486
2006	53,768
2007	54,816
Cap 2004-2015	43,654
2015 and Beyond	39,273

**Chart 5.4 NO<sub>x</sub> Emissions from Northwest Indiana Electric Generating Units  
1999-2007**



**Chart 5.5 Statewide NO<sub>x</sub> Emissions from Electric Generating Units  
1999-2007**



## **5.5 Additional Control Measures**

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

### **5.5.1 Federal Control Measures**

#### *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. They also proposed testing 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 are expected to be 18% by 2009 and 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. US EPA anticipates that when fully implemented, the proposed standards would result in a 70% reduction in hydrocarbon and NO<sub>x</sub> emissions and a 20% reduction in CO from new engines' exhaust, as well as a 70% reduction in evaporative emissions.

### 5.5.2 State Control Measures – Indiana

#### *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<sub>x</sub> SIP Call”, referred to as CAIR. This rule established the requirement for States to adopt rules limiting the emission of NO<sub>x</sub> and sulfur dioxide (SO<sub>2</sub>) 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 particulates and ozone. CAIR was vacated by the US Court of Appeals for the District of Columbia Circuit (D.C. Circuit Court) on July 11, 2008. US EPA filed a petition to the D.C. Circuit Court on September 24, 2008 for a rehearing on the vacatur. On December 23, 2008, CAIR was remanded without vacatur by the D.C. Circuit Court.

CAIR would apply 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 1/3 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 would provide annual State caps for NO<sub>x</sub> and SO<sub>2</sub> in 2 phases, with the Phase I caps for NO<sub>x</sub> and SO<sub>2</sub> 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 in the program.

On July 11, 2008, the D.C. Circuit Court of Appeals vacated U.S. EPA's Clean Air Interstate Rule (CAIR). CAIR was created primarily as a control strategy for PM<sub>2.5</sub>. Modeling results for ozone with or without CAIR do not differ significantly (0.001 parts per million or less) because the summertime CAIR program is essentially the same as the NO<sub>x</sub> SIP Call, which remains in effect. Nevertheless, Indiana is proceeding with a Clean Air Interstate Replacement Rule to ensure that the reductions associated with CAIR are realized in the State of Indiana.

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<sub>x</sub> trading program, and an annual SO<sub>2</sub> trading program. This rule requires compliance beginning in 2009.

CAIR was modeled with and without its associated emissions reductions to determine 8-hour ozone future year design values. The latest modeled results presented in this document do not include CAIR as a state control strategy.

#### *Consumer and Commercial Products (326 IAC 8)*

This is a proposed new rule to adopt the OTC model rule with additional product coverage and more stringent VOC limits, 14.2 % reduction beyond the 40 CFR 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 the OTC model rule, 21% reduction beyond the 40 CFR 59 limits.

#### *Automobile Refinishing Operations (326 IAC 8-10)*

This rule extends existing regulations statewide. It became effective on April 26, 2009 and is expected to provide 55% reduction from uncontrolled emissions, 24% reduction beyond the 40 CFR 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 Lake and Porter counties. Reducing the vapor pressure of the solvent used in turn results in decreased emission of VOC and Hazardous Air Pollutants (HAPs). 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 install 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. The most recent documents related to these rulemakings are in Appendix K.

## **6.0 Weight of Evidence (WOE) Demonstration**

### **6.1 Results from Existing Modeling**

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

The US EPA performed modeling to support the associated emission reductions from CAIR. US EPA's modeling conducted a basecase future year run to show future year concentrations resulting from existing emissions controls, then conducted future year modeling with emission reductions attributed to CAIR. Results in Table 6.1 show the modeled results without CAIR emission reductions included. The modeling was based on 1999 – 2003 design values. Future year modeling was conducted, including for Lake and Porter counties, and the future year design values for 2010 and 2015 were evaluated for attainment of the 8-hour ozone NAAQS, as shown below in Table 6.1. Results of the base future year modeling without CAIR show that both Indiana counties will attain the 8-hour ozone NAAQS in 2010 with modeled concentrations below 0.085 ppm. With further reductions projected in CAIR for 2015, all design values continue to decrease and attain the 8-hour ozone NAAQS.

On July 11, 2008, the D.C. Circuit Court of Appeals vacated CAIR. On December 23, 2008, CAIR was remanded without vacatur by the D.C. Circuit Court. While NO<sub>x</sub> emission reductions associated with CAIR were projected to lower ozone concentrations in Northwest Indiana by 0.001 ppm or less, CAIR was created primarily as a control strategy for PM<sub>2.5</sub>. Therefore, air quality benefits for reducing ozone concentrations as a result of CAIR are not as great and the vacatur of CAIR does not significantly impact future year 8-hour ozone design values when modeled without CAIR.

**Table 6.1**  
**Modeling Results from US EPA for the Clean Air Interstate Rule**

County	MSA/CMSA	Design Value (ppm)	Future Year Design Value (ppm)	Future Year Design Value (ppm)
		1999-2003	2010 Base	2015 Base
Lake Co., IN	Chicago, IL-IN	0.0907	0.0830	0.0810
Porter Co., IN	Chicago, IL-IN	0.0890	0.0810	0.0790
Cook Co., IL	Chicago, IL-IN	0.0877	0.0821	0.0821
DuPage Co., IL	Chicago, IL-IN	0.0707	0.0667	0.0671
Kane Co., IL	Chicago, IL-IN	0.0777	0.0720	0.0710
Lake Co., IL	Chicago, IL-IN	0.0833	0.0770	0.0754
McHenry Co., IL	Chicago, IL-IN	0.0833	0.0769	0.0754
Will Co., IL	Chicago, IL-IN	0.0793	0.0707	0.0699
Kenosha Co., WI	Chicago, IL-IN	0.0987	0.0913	0.0894
Milwaukee Co., WI	Milwaukee, WI	0.0907	0.0825	0.0796
Ozaukee Co., WI	Milwaukee, WI	0.0953	0.0862	0.0829
Racine Co., WI	Milwaukee, WI	0.0917	0.0842	0.0820

While US EPA's modeling showed modeled results were over the 8-hour ozone standard for Kenosha and Ozaukee Counties in Wisconsin, the design values used in the modeling were much higher than current design values and therefore would yield higher results than when current design values are used. Table 6.2 below shows a comparison of the design values EPA modeled (1999-2003) and the current design values (2004-2008). On average, the reduction was over 0.01 ppm for all sites, while the Kenosha and Ozaukee County design values were approximately 0.016 ppm lower. Therefore, the modeled results would be lower, and they would fall below the standard under current design values.

**Table 6.2**  
**Comparison of Modeled and Current Design Values for EPA's CAIR Modeling**

County	MSA/CMSA	Design Value (ppm)	Design Value (ppm)	Difference in Design Values (ppm)
		1999-2003	2004-2008	
Lake Co., IN	Chicago, IL-IN	0.0907	0.0800	-0.0107
Porter Co., IN	Chicago, IL-IN	0.0890	0.0773	-0.0117
Cook Co., IL	Chicago, IL-IN	0.0877	0.0781	-0.0096
DuPage Co., IL	Chicago, IL-IN	0.0707	0.0680	-0.0027
Kane Co., IL	Chicago, IL-IN	0.0777	0.0713	-0.0064
Lake Co., IL	Chicago, IL-IN	0.0833	0.0758	-0.0075
McHenry Co., IL	Chicago, IL-IN	0.0833	0.0693	-0.0140
Will Co., IL	Chicago, IL-IN	0.0793	0.0701	-0.0092
Kenosha Co., WI	Chicago, IL-IN	0.0987	0.0823	-0.0164
Milwaukee Co., WI	Milwaukee, WI	0.0907	0.0791	-0.0116
Ozaukee Co., WI	Milwaukee, WI	0.0953	0.0789	-0.0164
Racine Co., WI	Milwaukee, WI	0.0917	0.0768	-0.0149

### 6.1.2 US EPA Modeling Analysis for HDE Final Rulemaking

US 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 Rule and its expected impact on ozone levels. “Technical Support Document for the Heavy Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements: Air Quality Modeling Analyses” (EPA420-R-00-028) was referenced for support of this ozone attainment demonstration for the 2 counties. Base year emissions from 1996 were modeled for 3 ozone episodes: June 12-24, 1995; July 5-15, 1995; and August 7-21, 1995. Results of this modeling show that ozone impacts from these fuel emission control measures, as well as the NO<sub>x</sub> SIP Call, would be substantial in Lake and Porter counties. RRFs were calculated for each monitor in Lake and Porter County for future years 2007 and 2020. These RRFs were applied to the 3-year (2001-2003) design values for each monitor in Lake and Porter County. The resulting future year design values for 2007 and 2020 were calculated and shown below in Table 6.3. The modeled future year design values for all monitors in Lake and Porter counties will attain the 8-hour ozone NAAQS of 0.085ppm.

**Table 6.3 - Modeling Results from US EPA HDE Rulemaking  
for the Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area**

Monitor ID	Site Name	County	State	DV 2001- 2003	2007		2020	
					Modeled RRFs	Modeled Future Year DV	Modeled RRFs	Modeled Future Year DV
180890022	Gary	Lake	IN	0.0843	0.9042	0.0763	0.8940	0.0754
180892008	Hammond	Lake	IN	0.0907	0.9049	0.0820	0.9015	0.0817
180890024	Lowell	Lake	IN	0.0813	0.8893	0.0723	0.8669	0.0705
181270024	Ogden Dunes	Porter	IN	0.0877	0.9042	0.0793	0.8940	0.0784
181270026	Valparaiso	Porter	IN	0.0863	0.9246	0.0798	0.9113	0.0787
181270020	National Lakeshore	Porter	IN	0.0860	0.9077	0.0788	0.9077	0.0781
170310001	4500 W. 123rd St.	Cook	IL	0.083	0.9265	0.0766	0.9462	0.0782
170310032	3300 E. Cheltenham	Cook	IL	0.088	0.9111	0.0799	0.9071	0.0795
170310050	103rd And Luella	Cook	IL	0.075	0.9111	0.0680	0.9071	0.0677
170310064	5720 S. Ellis Ave	Cook	IL	0.076	0.9163	0.0696	0.9165	0.0697
170310072	1000 E. Ohio	Cook	IL	0.080	0.9363	0.0752	0.9444	0.0759
170311003	6545 W. Hurlbut St.	Cook	IL	0.082	0.9022	0.0743	0.8897	0.0733
170311601	729 Houston	Cook	IL	0.075	0.9292	0.0694	0.9254	0.0691
170314002	1820 S. 51st Ave.	Cook	IL	0.074	0.9114	0.0671	0.8994	0.0663
170314201	750 Dundee Rd.	Cook	IL	0.083	0.9171	0.0761	0.9268	0.0769
170317002	531 E. Lincoln	Cook	IL	0.086	0.9171	0.0792	0.9268	0.0800
170436001	Rt. 53	DuPage	IL	0.079	0.9390	0.0692	0.9441	0.0695
170890005	665 Dundee Rd	Kane	IL	0.082	0.9417	0.0747	0.9441	0.0749
170971002	Golf & Jackson Sts	Lake	IL	0.087	0.9168	0.0752	0.9044	0.0754
170971007	IL Beach State Park	Lake	IL	0.083	0.9250	0.0805	0.9226	0.0803
171110001	First St & 3 Oaks Rd	McHenry	IL	0.079	0.9389	0.0792	0.9404	0.0738
171971008	South Lockport	Will	IL	0.080	0.9281	0.0739	0.9268	0.0692
171971011	36400 S. Essex Rd.	Will	IL	0.079	0.8908	0.0707	0.8722	0.0782
550590019	Pleasant Prairie	Kenosha	WI	0.101	0.9250	0.0934	0.9226	0.0932
550790041	UW-Milwaukee	Milwaukee	WI	0.087	0.9132	0.0794	0.8979	0.0781
550790085	Bayside	Milwaukee	WI	0.095	0.9026	0.0857	0.8814	0.0837
550890008	Grafton	Ozaukee	WI	0.093	0.9091	0.0845	0.8939	0.0831
550890009	Harrington Beach	Ozaukee	WI	0.098	0.9183	0.0900	0.9064	0.0888
551010017	Racine	Racine	WI	0.095	0.9214	0.0875	0.9196	0.0874

DV – Design Value

RRF – Relative Response Factor

### 6.1.3 MRPO Modeling Analysis for 8-Hour Ozone Standard Assessment

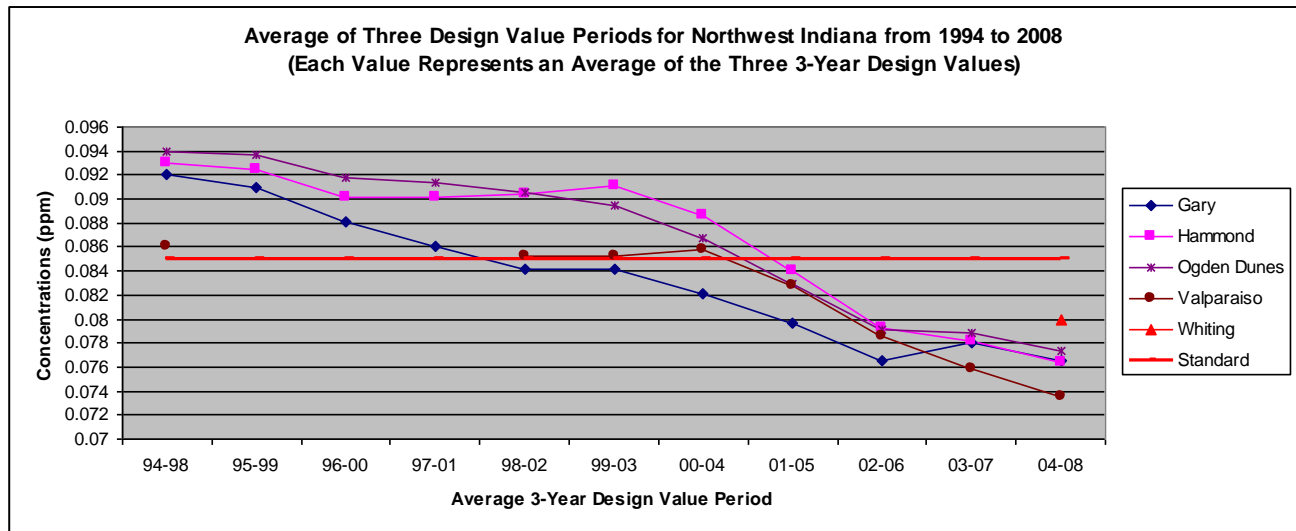
MRPO performed modeling to evaluate the effect of the NO<sub>x</sub> SIP Call and Tier II / Low Sulfur rule for future-year 2007 ozone in the Lake Michigan area. This modeling was originally designed to assess the 1-hour ozone standard. Further analysis was conducted and documented in MRPO's White Paper "8-Hour Ozone Assessment," dated May 2, 2001. Base year design values used were the average of the design values for the 3 3-year periods (1994-1996, 1995-1997, and 1996-1998). Base year emissions were taken from 1996 and 4 ozone episodes were evaluated: June 22-28, 1991; July 14-21, 1991; June 13-25, 1995; and July 7-18, 1995. Results are shown in Table 6.4 below.

**Table 6.4**  
**MRPO Modeling Results for 8-Hour Ozone Assessment**

Monitor Name	County	State	Base Year Average Design Value (ppm)	Future Year Design Value
			'94-'96, '95-'97, '96-'98	2007
Gary	Lake	Indiana	0.092	0.084
Hammond	Lake	Indiana	0.093	0.085
Lowell	Lake	Indiana	0.087	0.079
Ogden Dunes	Porter	Indiana	0.094	0.085
Valparaiso	Porter	Indiana	0.086	0.078
National Lakeshore	Porter	Indiana	0.090	0.082
Northbrook	Cook	Illinois	0.085	0.084
Des Plaines	Cook	Illinois	0.085	0.085
Evanston	Cook	Illinois	0.087	0.084
Chicago-SWFP	Cook	Illinois	0.088	0.082
Chicago-Jardine	Cook	Illinois	0.086	0.081
Pleasant Prairie	Kenosha	Wisconsin	0.095	0.090
Racine	Racine	Wisconsin	0.090	0.085
South Milwaukee	Milwaukee	Wisconsin	0.091	0.084
Milwaukee-Alverno	Milwaukee	Wisconsin	0.085	0.079
Milwaukee-UWMN	Milwaukee	Wisconsin	0.085	0.080
Milwaukee-Bayside	Milwaukee	Wisconsin	0.093	0.087
Grafton	Ozaukee	Wisconsin	0.092	0.086
Harrington Beach	Ozaukee	Wisconsin	0.093	0.087

The resulting future year design values were calculated for Hammond at 0.085 ppm for Lake County and for Ogden Dunes, Porter County, respectively. Base-year average design values (1994-1996, 1995-1997, 1996-1998) used in the MRPO modeling were 0.005 to 0.010 ppm greater than current base -year average design values (2004-2006, 2005-2007, 2006-2008) for most monitors. Therefore, the modeling results would be lower if the current base year average design values were used. Chart 6.1 below shows a comparison of the 3 base-year average design values over the past 14 years. The trend for the design values at all monitors has dropped over this time period.

**Chart 6.1**  
**Comparison of Design Values from 1994 through 2008**



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

**Table 6.5**  
**Comparison of Modeled Design Values:**  
**'94-'96, '95-'97, '96-'98 versus '04-'06, '05-'07, '06-'08**

Monitor Name	County	State	Base Year Average Design Value (ppm) 1990s	Base Year Average Design Value (ppm) 2000s	Difference
Gary	Lake	IN	0.092	0.077	-0.015
Hammond	Lake	IN	0.093	0.076	-0.017
Lowell	Lake	IN	0.087	Not Operational	
Ogden Dunes	Porter	IN	0.094	0.077	-0.017
Valparaiso	Porter	IN	0.086	0.074	-0.012
National Lakeshore	Porter	IN	0.090	Not Operational	
Northbrook	Cook	IL	0.085	0.072	-0.013
Des Plaines	Cook	IL	0.085	0.072	-0.013
Evanston	Cook	IL	0.087	0.075	-0.012
Chicago-SWFP	Cook	IL	0.088	0.077	-0.011
Chicago-Jardine	Cook	IL	0.086	0.077	-0.009
Pleasant Prairie	Kenosha	WI	0.095	0.082	-0.013
Racine	Racine	WI	0.090	0.077	-0.013
South Milwaukee	Milwaukee	WI	0.091	Not Operational	
Milwaukee-Alverno	Milwaukee	WI	0.085	0.073	-0.012
Milwaukee-UWMN	Milwaukee	WI	0.085	0.077	-0.008
Milwaukee-Bayside	Milwaukee	WI	0.093	0.079	-0.014
Grafton	Ozaukee	WI	0.092	0.077	-0.015
Harrington Beach	Ozaukee	WI	0.093	0.079	-0.014

#### 6.1.4 MRPO Round 5 Modeling for 8-Hour Ozone Standard

MRPO recently performed updated CAMx modeling for ozone to support attainment demonstrations for the 5-state MRPO region. Meteorology and base year emissions for 2005 were used to conduct Round 5 modeling. The Round 5 modeling included several scenarios for attaining the ozone NAAQS. One scenario included the implementation of "on-the-books" controls for future years such as the NO<sub>x</sub> SIP Call and the US EPA motor vehicle and fuel standards without the inclusion of the CAIR. The future years modeled were 2009, 2012 and 2018. Modeling results show ozone concentrations in Northwest Indiana will be below the 8-hour ozone standard of 0.08 ppm. All sites in the Lake Michigan area modeled attainment by 2012. Table 6.6 shows all the modeled results for 2009, 2012 and 2018 for ozone monitors in the Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area.

**Table 6.6**  
**Application of Round 5 RRFs to Most Current Base-Year Design Values**  
**for the Chicago-Gary-Lake County, IN-IL Ozone Nonattainment Area**

Monitor ID	Site	2003-2007 Base DV	2009 RRF	2009 Future DV	2012 RRF	2012 Future DV	2018 RRF	2018 Future DV
180890022	Gary	0.078	0.97	0.075	0.96	0.074	0.919	0.071
180890030	Whiting	0.079*	0.971	0.077	0.96	0.076	0.922	0.073
180892008	Hammond	0.078	0.971	0.075	0.96	0.074	0.922	0.071
181270024	Ogden Dunes	0.078	0.966	0.075	0.953	0.074	0.909	0.071
181270026	Valparaiso	0.075	0.963	0.072	0.949	0.071	0.907	0.068
170310032	Cheltenham, IL	0.072	0.969	0.071	0.958	0.068	0.924	0.068
170314201	Northbrook, IL	0.072	0.981	0.072	0.973	0.069	0.933	0.055
170317002	Evanston, IL	0.075	0.976	0.075	0.967	0.071	0.926	0.071
170971007	IL Beach, IL	0.076	0.976	0.075	0.962	0.070	0.908	0.070
550590019	Chiwaukee, WI	0.085	0.972	0.082	0.956	0.080	0.900	0.076
550890009	Harrington Beach, WI	0.083	0.961	0.080	0.939	0.078	0.870	0.072
551010017	Racine, WI	0.080	0.965	0.077	0.947	0.076	0.886	0.071
551170006	Sheboygan, WI	0.088	0.955	0.081	0.930	0.079	0.857	0.075

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

#### 6.1.5 Summary of Existing Modeling Results

US EPA and MRPO modeling shows that existing national emission control measures have brought Lake and Porter counties into attainment of the 8-hour ozone NAAQS. Rulemakings to be implemented in the next several years will provide even greater assurance that air quality will continue to meet the standard into the future. Modeling support for the NO<sub>x</sub> SIP Call, Heavy Duty Engine and Highway Diesel Fuel and Tier II/Low Sulfur Fuel and CAIR shows future year design values for Lake and Porter counties will attain the ozone standard with modeled future year design values below 0.08 ppm. CAIR was vacated on July 11, 2008 and as a result, MRPO conducted modeling without the emissions reductions associated with CAIR. MRPO's results continue to show future year design values below 0.08 ppm without CAIR. US EPA

modeled base case future years with existing emission controls only and showed that Lake and Porter counties would attain the 8-hour ozone NAAQS without proposed additional national emission control strategies. The application of the most current RRFs from MRPO's Round 5 modeling demonstrates that the area will continue to attain the standard into the future. Future national and local emission control strategies would ensure that each county's attainment will be maintained with an increasing margin of safety over time.

## **7.0 Mobile Source Emissions Budgets**

US EPA requirements outlined in 40 CFR 93.118(e)(4) stipulate that mobile source emissions budgets for VOC and NO<sub>x</sub> be established as part of a SIP. The mobile source emissions budgets are necessary to demonstrate conformance of transportation plans and transportation improvement programs with the SIP.

An example of the detailed mobile input and output calculation files is located in Appendix I.

### **7.1 On-Road Emissions Estimates**

The Northwest Indiana Regional Planning Commission (NIRPC) is the Metropolitan Planning Organization (MPO) for the area that includes Lake and Porter counties. This organization maintains a travel demand forecast model that is used to simulate the traffic in the area and is used to predict what that traffic would be like in future years given growth expectations. The model is used mostly to identify where travel capacity will be needed and to determine the infrastructure requirements necessary to meet that need. It is also used to support the calculation of mobile source emissions. The travel demand forecast model is used to predict the total daily VMT and a US EPA software program called MOBILE6 is used to calculate the emissions per mile. The product of these 2 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 determine "emission factors", which are the average emissions per mile (grams/mile) for ozone precursors NO<sub>x</sub> and VOCs. There are numerous variables that can affect the emission factors. The vehicle fleet (vehicles on the road) age and the vehicle types have a major effect on the emission factors. The facility-type the vehicles are traveling on (MOBILE6 facility-types are Freeway, Arterial, Local and Ramp) and the vehicle speeds also affect the emission factor values. Meteorological factors such as air temperature and humidity, and the area's Inspection/Maintenance program affect the emission factors as well. Once emission factors are determined, the emission factor(s) is multiplied by the VMT to ultimately determine the quantity of vehicle emissions.

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

### 7.3 Emissions Estimations

Table 7.1 outlines the on-road emission estimates for the Lake and Porter counties for the years 2005 and 2009. The 2005 emission estimates are based on the actual travel demand model network for the year 2005 under the Connections 2030 Regional Transportation Plan. The 2009 emission estimates are interpolated values based on the travel demand model network projected to exist for 2005 and 2010 under the Connections 2030 Regional Transportation Plan.

**Table 7.1 - Emission Estimations for On-Road Mobile Sources for the Lake and Porter Ozone Nonattainment Area**

Lake and Porter	2005	2009
VOC (tons/day)	16.16	11.18
NO <sub>x</sub> (tons/day)	65.45	44.01

Table 7.2 contains the 2009 regional motor vehicle emissions budget for the Lake and Porter counties.

**Table 7.2 - Motor Vehicle Emission Budgets for the Lake and Porter Ozone Nonattainment Area**

Lake and Porter	2009
VOC (tons/day)	11.8
NO <sub>x</sub> (tons/day)	46.3

This budget includes the emission estimates calculated for 2009 with a 5% cushion. This budget is based on the emission estimations for on-road mobile sources for the year 2009 as listed in Table 7.1. For purposes of establishing the motor vehicle emission budget, the cushion was applied and the final budget was then rounded up to the next tenth of a ton. The emission estimates derive from the NIRPC travel demand model and MOBILE6 as described above under the NIRPC 2030 Long Range Plan, which was adopted on June 21, 2007. The emissions calculation methodology, latest planning assumptions, and cushion were determined through the interagency consultation process described in the Transportation Conformity Memorandum of Understanding (MOU) for NIRPC.

Base M (2005) CAMx modeling results, excluding electric generating unit emission reductions from CAIR, indicated a worst case future year (2009) design value for the Lake and Porter ozone Nonattainment Area of 0.077 ppm. In an effort to accommodate future variations in travel demand models (TDM) and VMT forecast when no change to the network is planned, IDEM consulted with the interagency consultation group for Lake and Porter counties, including US EPA, to determine a reasonable approach to address this variation. Based on this discussion, a 5% cushion was approved and has been added to the MVEB as described above for the Lake and Porter ozone Nonattainment Area.

A 5% cushion is appropriate because; 1) there is an acknowledged 1 to 2 % 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 5% increase in projected mobile source emissions will still provide for modeled attainment of the Lake and Porter ozone 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.

## **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.

As part of the regional planning effort through the MRPO, Indiana and Illinois, along with Ohio, Michigan and Wisconsin, agreed to implement various VOC control measures to help maintain air quality in the Chicago 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.

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

should ever be necessary, it is unlikely that a significant number (i.e., all those listed below) will be required.

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

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 are not finalized and effective prior to the beginning of the 2009 ozone season. Draft and final rules that IDEM has begun the rulemaking process are included in Appendix K.

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

## **9.0 Indiana's Potential Impact on Downwind Nonattainment Areas**

Since the original designation of this area as nonattainment under the 1-hour standard and continuing with the 8-hour designations, monitors outside the area in southeastern Wisconsin as well as LaPorte County, Indiana have, at various times, been considered the controlling monitors in developing attainment strategies. The ozone values at these sites have steadily declined as controls have been implemented and now show attainment as well. Therefore, the Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area is no longer contributing to violations of the NAAQS in these areas.

In addition, modeling is currently being conducted to determine the impacts of the Chicago-Gary-Lake County, IL-IN Ozone Nonattainment Area on Holland, MI. Upon completion of the work, an addendum to this attainment demonstration may be submitted detailing the findings.

## **10.0 Public Participation**

Please refer to Appendix D of the Redesignation Request and Maintenance Plan that accompanies this submittal.

## **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, Lake and Porter counties have already attained the NAAQS for ozone as has the rest of the Nonattainment Area.

It is clear that NO<sub>x</sub> 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 maintain attainment of the ozone standard well beyond June 15, 2009.

Indiana has performed an analysis that shows the air quality improvements are due to permanent and enforceable measures and that significant regional NO<sub>x</sub> reductions will ensure continued compliance (maintenance) with the standard. Indiana will also demonstrate that the redesignation of Lake and Porter counties will not adversely affect a downwind area's ability to attain the standard. Additionally, Indiana has ensured that all CAA requirements necessary to support redesignation have been met.

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

In addition to the corrective actions (should they be necessary) outlined in this submittal, Indiana continues to participate in the regional air quality planning efforts sponsored by MRPO. The current goal of the planning process is to establish a regional control strategy that provides for attainment of the ozone and fine particle standards throughout Illinois, Indiana, Michigan, Ohio, and Wisconsin. Along with the other MRPO states, Indiana is considering the implementation of local and statewide emission control

measures, where photochemical modeling and culpability analyses demonstrate a clear need, and cost-effectiveness analyses justify the implementation of such measures.

This 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 the plan from Illinois, 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.

# **APPENDIX A**

## **MRPO Identification and Evaluation of Candidate Control Measures**





# **Identification and Evaluation of Candidate Control Measures**

## **Phase II Final Report**

### **Prepared for:**

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**June, 2006**



# **Identification and Evaluation of Candidate Control Measures**

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**June, 2006**



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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 PM<sub>2.5</sub> 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](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 NO<sub>x</sub> and SO<sub>2</sub> 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 NO<sub>x</sub> non-fuel combustion process emissions are from nitrogen-based fertilizer manufacturers operating nitric acid plants. The largest sources of non-fuel combustion process SO<sub>2</sub> emissions include facilities operating sulfuric plants in the production of inorganic chemicals. A wide array of chemical processing facilities are generating VOC and PM<sub>2.5</sub> process emissions including plants producing inorganic and organic chemicals, inorganic fertilizers, plastics and ethanol. The PM<sub>2.5</sub> 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 NO<sub>x</sub> and SO<sub>2</sub>. For NO<sub>x</sub>, we are assuming that sources could achieve a 25 percent reduction from uncontrolled levels through combustion modifications such as low-NO<sub>x</sub> burners, similar to that required in SJVUAPCD proposed new rule 4309. Sources could reduce SO<sub>2</sub> emissions by switching to natural gas or low-sulfur fuel oil; however, we cannot determine an SO<sub>2</sub> 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 NO<sub>x</sub> emissions. These options include combustion modifications (low NO<sub>x</sub> 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 NO<sub>x</sub> emissions (for example, low NO<sub>x</sub> 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 NO<sub>x</sub> 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 regulating aircraft engine emissions), it is difficult to prescribe a particular control measure 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 NO<sub>x</sub> emissions through GSE and GAV electrification or use of alternative fuels. For this White Paper, we are suggesting that NO<sub>x</sub> 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 effectiveness 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**

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

**TABLE 2 – COMMENTS RECEIVED FROM STAKEHOLDERS  
REGARDING OTHER SOURCE CATEGORIES**

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

**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		

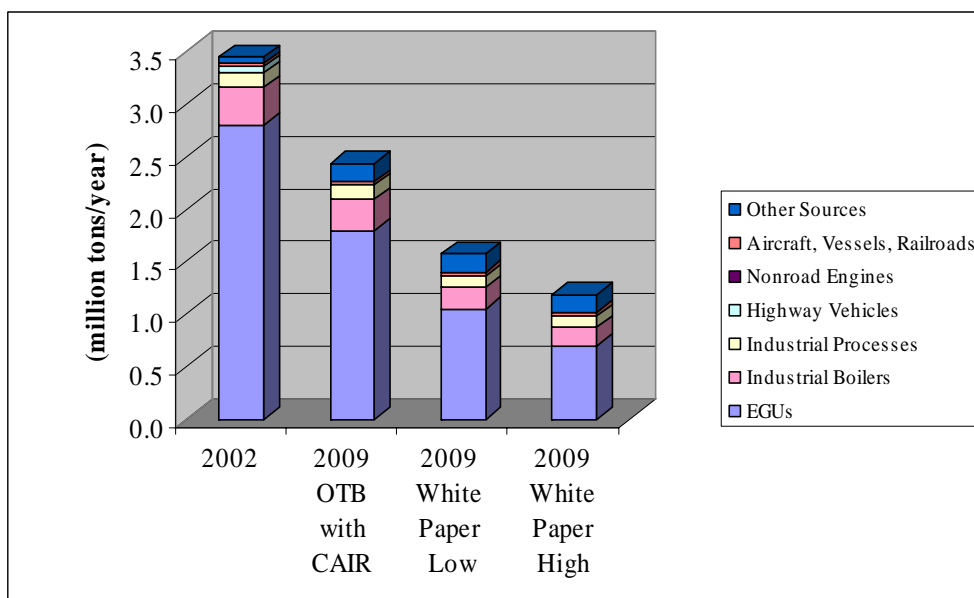
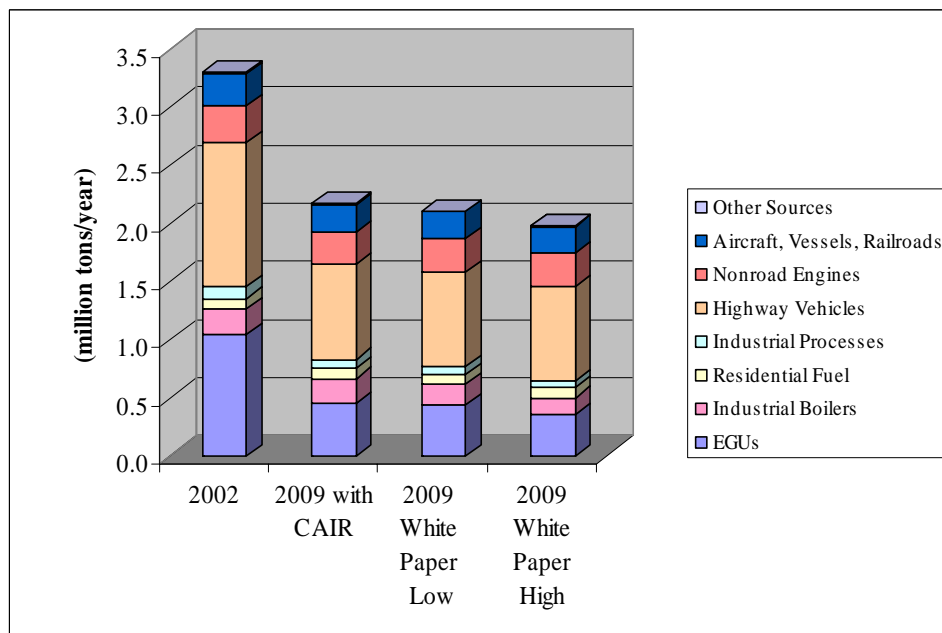
\* The additional reductions for ICI Boilers, Petroleum Refineries, Iron & Steel Plants, and Chemical Plants were due to emission controls discussed in the *MRPO Best Available Retrofit Engineering Analysis* reports for these categories prepared by MACTEC. Emission reductions from BART are not expected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

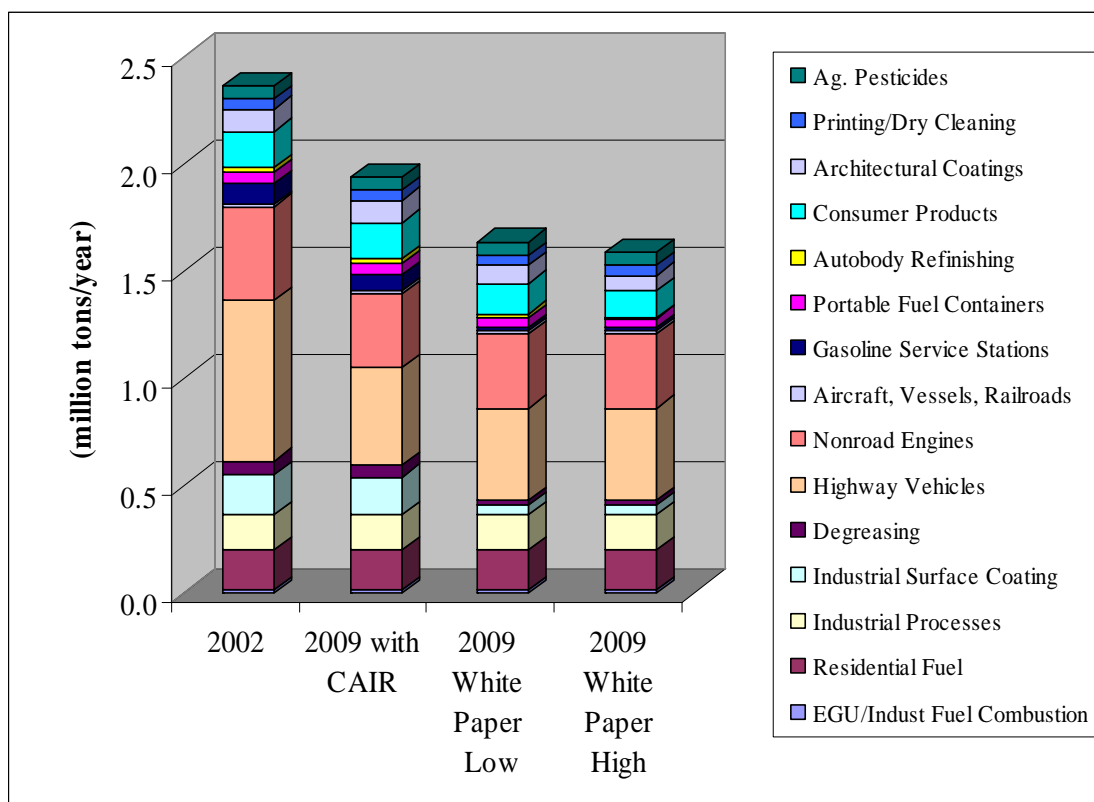
Figures 2a through 2c summarize the emissions from the 2002 LADCO inventory and various control scenarios in 2009 for the five LADCO States (Illinois, Indiana, Michigan, Ohio, and Wisconsin). The first bar in each figure shows the 2002 emissions. The second bar shows the projected 2009 emissions that 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 SO<sub>2</sub>, NO<sub>x</sub>, and VOC are as follows:

- With the implementation of the final CAIR and other Federal onroad/nonroad rules, total SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> emissions by 38 percent from projected 2009 levels.
- With the implementation of the final CAIR and other Federal onroad/nonroad rules, total NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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 SO<sub>2</sub> EMISSIONS FOR 5-STATE MRPO AREA****FIGURE 2b – COMPARISON OF 2002 AND 2009 NO<sub>x</sub> 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			
			2002 (tpy)	OTB 2009 (tpy)	Candidate Controls 2009 (tpy)	Reduction (tpy)	2002 (tpy)	OTB 2009 (tpy)	Candidate Controls 2009 (tpy)	Reduction (tpy)	2002 (tpy)	OTB 2009 (tpy)	Candidate Controls 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			
			2002 (tpy)	OTB 2009 (tpy)	Candidate Controls 2009 (tpy)	Reduction (tpy)	2002 (tpy)	OTB 2009 (tpy)	Candidate Controls 2009 (tpy)	Reduction (tpy)	2002 (tpy)	OTB 2009 (tpy)	Candidate Controls 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)
	<i>Reductions from White Paper Control Measures (reductions shown for 2009 are from the 2009 OTB levels)</i>	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 NO<sub>x</sub> 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 NO<sub>x</sub> SIP CALL and Refinery Enforcement Settlement. In those cases, we included only the NO<sub>x</sub> SIP CALL control level to avoid double counting of reductions and to reflect that the reductions from the NO<sub>x</sub> SIP CALL will occur sooner than 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 SO<sub>2</sub> 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 SO<sub>2</sub>, NO<sub>x</sub>, 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 SO<sub>2</sub>, NO<sub>x</sub>, and VOC to reflect reduction identified in the settlement.
4. We added SO<sub>2</sub> 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 Weyerhaeuser (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 analyses 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.	
<b>File Name</b>	<b>Geographic Coverage</b>
MidwestRPOPointControls10jan06.TXT	Specific point sources affected by MACT standards, recent enforcement settlements, and information provided by states and stakeholders
<b>Control Measure ID</b>	<b>Control Measure Description</b>
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 facilities in Minnesota and two in Michigan; an industrial boiler in Minnesota
<b>Field Name</b>	<b>How Populated?</b>
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	XXXXXXXXXXXXXXXX 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	<a href="mailto:ejسابو@mactec.com">ejسابو@mactec.com</a> <a href="mailto:jwilson@pechan.com">jwilson@pechan.com</a>

**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.	
<b>File Name</b>	<b>Geographic Coverage</b>
NonEGU_MRPO_2009.txt (dated 2/15/2006)	Applies to all medium and large ICI boilers (defined as SO <sub>2</sub> or NO <sub>x</sub> > 100 tpy), cement kilns, and glass/fiberglass furnaces
<b>Control Measure ID</b>	<b>Control Measure Description</b>
ICI1	Apply 40% SO <sub>2</sub> and 60% NO <sub>x</sub> reduction to all medium and large ICI boilers
ICI3	Apply 90% SO <sub>2</sub> and 80% NO <sub>x</sub> reduction (similar to BART) to all medium and large ICI boilers
KILN1	Apply reasonably available controls (90% SO <sub>2</sub> and 50% NO <sub>x</sub> reduction) to all cement kilns in the region
GLASS1	Apply “highly” cost-effective controls (30% NO <sub>x</sub> reduction) to all glass/fiberglass furnaces in the region
GLASS2	Apply cost-effective controls (75% NO <sub>x</sub> reduction) to all glass/fiberglass furnaces in the region
<b>Field Name</b>	<b>How Populated?</b>
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	XXXXXXXXXXXXXXXX from NIF files
EMISSION UNIT ID	xxxxxx from NIF files
EMISSION RELEASE POINT ID	xxxxxx from NIF files
POLLUTANT CODE	SO <sub>2</sub> or NO <sub>x</sub>
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	<a href="mailto:ejsabo@mactec.com">ejsabo@mactec.com</a>

**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.	
<b>File Name</b>	<b>Geographic Coverage</b>
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
<b>Control Measure ID</b>	<b>Control Measure Description</b>
ICI2	Apply Likely Controls (90% SO <sub>2</sub> and 80% NO <sub>x</sub> Reduction) to ICI Boilers subject to the proposed BART requirements
REF1	Apply likely controls (90% SO <sub>2</sub> and 80% NO <sub>x</sub> Reduction) to sources subject to the proposed BART requirements
I&S1	Apply likely controls (90% SO <sub>2</sub> and 80% NO <sub>x</sub> Reduction) to sources subject to the proposed BART requirements
KILN2	Apply likely controls (95% SO <sub>2</sub> and 80% NO <sub>x</sub> reduction) to kilns subject to the proposed BART requirements
CHEM1	Apply likely controls (90% SO <sub>2</sub> and 80% NO <sub>x</sub> Reduction) to chemical plant boilers subject to the proposed BART requirements
<b>Field Name</b>	<b>How Populated?</b>
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	XXXXXXXXXXXXXXXX from NIF files
EMISSION UNIT ID	xxxxxx from NIF files
EMISSION RELEASE POINT ID	xxxxxx from NIF files
POLLUTANT CODE	SO <sub>2</sub> or NO <sub>x</sub>
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	<a href="mailto:ejsabo@mactec.com">ejsabo@mactec.com</a>

## **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 of 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 PM<sub>2.5</sub>, 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.	
<b>File Name</b>	<b>Geographic Coverage</b>
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
<b>Control Measure ID</b>	<b>Control Measure Description</b>
SOLV3A	Portable Fuel Containers - OTC Model Rule
SOLV3B	Portable Fuel Containers - OTC Model Rule Plus Accelerated Phase-In in Nonattainment Areas
<b>Field Name</b>	<b>How Populated?</b>
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	<a href="mailto:ejsabo@mactec.com">ejsabo@mactec.com</a>

**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	
<b>File Name</b>	<b>Geographic Coverage</b>
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
<b>Control Measure ID</b>	<b>Control Measure Description</b>
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
<b>Field Name</b>	<b>How Populated?</b>
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, xxxxxxxxxxxxxxxx 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	<a href="mailto:ejisabo@mactec.com">ejisabo@mactec.com</a>

## 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 SO<sub>2</sub> emission caps and winter/summer NO<sub>x</sub> 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 SO<sub>2</sub>, a single annual average control factor was calculated on a unit-by-unit basis. For NO<sub>x</sub>, 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 NO<sub>x</sub> SIP Call have lower average NO<sub>x</sub> 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 NO<sub>x</sub> 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 SO<sub>2</sub> record, one summer NO<sub>x</sub> record, and two winter NO<sub>x</sub> 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	xxxxxxxx from Pechan NIF files
SITEID	XXXXXXXXXXXXXXXX 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	<a href="mailto:ejisabo@mactec.com">ejisabo@mactec.com</a>

## 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 NO<sub>x</sub>, since the final CAIR specifies ozone season NO<sub>x</sub> 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 SO<sub>2</sub> allowances is incorrect (i.e., SO<sub>2</sub> 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 NO<sub>x</sub> emission caps are on an annual basis, and address the implications of maintaining the summer ozone season CAIR NO<sub>x</sub> emission cap.

**Response:** Tables 1 and 2 were updated to show the ozone season NO<sub>x</sub> emissions in 2002, projected emissions under the CAIR, and projected emissions under EGU1 and EGU2. For now, the NO<sub>x</sub> 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 SO<sub>2</sub> and 0.10 lbs/mmBtu for NO<sub>x</sub>, to be fully implemented by 2013; “BACT levels for new plants” of 0.10 lbs/mmBtu for SO<sub>2</sub> and 0.07 lbs/mmBtu for NO<sub>x</sub>, 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 coal-fired units equipped with FGDs and SCR.
- 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 SO<sub>2</sub> 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 measures 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 NO<sub>x</sub> (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 SO<sub>2</sub> 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 SO<sub>2</sub> allowances.

**Comment:** Need to address how state-specific mercury reduction requirements, which are more stringent than CAMR, impact SO<sub>2</sub> and NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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 and

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 Planning Organization'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 associated 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's 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 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 solvent-based 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 than 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 very 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.

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### **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 Paper are 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 – SO<sub>2</sub> CONTROL MEASURE SUMMARY FOR EGUs**

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

TABLE B.2 – NO<sub>x</sub> CONTROL MEASURE SUMMARY FOR EGUs

Control Measure Summary	<b>Annual NO<sub>x</sub> Emissions (tons/year) in MRPO Region</b>	
<b>2002 Existing measures (MRPO average NO<sub>x</sub> is 0.43 lbs/mmBtu):</b> NSPS; PSD/NSR; State RACT Rules; Title IV NO <sub>x</sub> Requirements	2002 Base:	1,047,484
<b>2009 On-the-Way:</b> CAIR (IPM estimates 57% reduction from 2002 levels)	Reduction: 2009 Remaining:	<u>-597,854</u> 449,630
<b>Candidate measure ID EGU1: Adopt Emission Caps Based on “Retrofit NO<sub>x</sub> BACT Level” of 0.10 lbs/mmBtu by 2013 (with Interim Cap Based on 0.15 lbs/mmBtu in 2009)</b> <i>Emission Reductions:</i> 58% reduction from 2002 levels in 2009 70% reduction from 2002 levels in 2013 <i>Control Cost:</i> \$700/ton to \$1,600/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:  2013 Reduction: 2013 Remaining:	<u>-609,687</u> 437,797  <u>-736,934</u> 310,550
<b>Candidate measure ID EGU2: Adopt Emission Caps Based on “NO<sub>x</sub> BACT Level for New Plants” of 0.07 lbs/mmBtu by 2013 (with Interim Cap Based on 0.12 lbs/mmBtu in 2009)</b> <i>Emission Reductions:</i> 67% reduction from 2002 levels in 2009 79% reduction from 2002 levels in 2013 <i>Control Cost:</i> \$700/ton to \$2,100/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:  2013 Reduction: 2013 Remaining:	<u>-697,246</u> 350,238  <u>-830,099</u> 217,385

Control Measure Summary	<b>Ozone Season NO<sub>x</sub> Emissions (tons/season) in MRPO Region</b>	
<b>2002 Existing measures (MRPO average NO<sub>x</sub> is 0.43 lbs/mmBtu):</b> NSPS; PSD/NSR; State RACT Rules; Title IV NO <sub>x</sub> Requirements	2002 Base:	439,374
<b>2009 On-the-Way:</b> CAIR (IPM estimates 57% reduction from 2002 levels)	Reduction: 2009 Remaining:	<u>-249,049</u> 190,325
<b>Candidate measure ID EGU1: Adopt Emission Caps Based on “Retrofit NO<sub>x</sub> BACT Level” of 0.10 lbs/mmBtu by 2013 (with Interim Cap Based on 0.15 lbs/mmBtu in 2009)</b> <i>Emission Reductions:</i> 57% reduction from 2002 levels in 2009 69% reduction from 2002 levels in 2013 <i>Control Cost:</i> \$700/ton to \$1,600/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:  2013 Reduction: 2013 Remaining:	<u>-249,765</u> 189,609  <u>-304,124</u> 135,250
<b>Candidate measure ID EGU2: Adopt Emission Caps Based on “NO<sub>x</sub> BACT Level for New Plants” of 0.07 lbs/mmBtu by 2013 (with Interim Cap Based on 0.12 lbs/mmBtu in 2009)</b> <i>Emission Reductions:</i> 65% reduction from 2002 levels in 2009 78% reduction from 2002 levels in 2013 <i>Control Cost:</i> \$700/ton to \$2,100/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:  2013 Reduction: 2013 Remaining:	<u>-287,687</u> 151,687  <u>-344,699</u> 94,675

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

Control Measure Summary	SO2 Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State RACT Rules	2002 Base:	362,347
<b>2009 On-the-Books measures:</b> Enforcement settlements and Alcoa announced scrubbers	Reduction: 2009 OTB:	<u>-66,826</u> 295,521
<b>Candidate measure ID ICI1: OTB measures plus 40% SO2 Reduction to All Medium and Large ICI Boilers</b> <i>Emission Reductions:</i> overall reduction of 29% from the 2009 on-the-books estimate, based on 40% reduction in SO2 emissions from ICI boilers > 100 mmBtu/hr <i>Control Cost:</i> \$633 to \$1,075 per ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 OTB: 2009 Reduction: 2009 Remaining:	295,521 <u>-86,425</u> 209,096
<b>Candidate measure ID ICI2: OTB Measures plus Likely Controls to ICI Boilers subject to the proposed BART requirements</b> <i>Emission Reductions:</i> 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 <i>Control Cost:</i> \$1,622 to 5,219 per ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> 5-State MRPO region	2009 OTB 2013 Reduction: 2013 Remaining:	295,521 <u>-117,721</u> 177,800
<b>Candidate measure ID ICI3: OTB Measures plus 90% SO2 Reduction (similar to BART) to All Medium and Large ICI Boilers</b> <i>Emission Reductions:</i> overall reduction of 66% from the 2009 on-the-books estimate, based on 90% reduction in SO2 emissions from ICI boilers > 100 mmBtu/hr <i>Control Cost:</i> \$1,622 to 5,219 per ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 OTB 2009 Reduction: 2009 Remaining:	295,521 <u>-194,456</u> 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 – NO<sub>x</sub> CONTROL MEASURE SUMMARY FOR ICI BOILERS**

Control Measure Summary	NO <sub>x</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State RACT Rules	2002 Base:	218,547
<b>2009 On-the-Books measures:</b> NO <sub>x</sub> SIP Call for large boilers, enforcement settlements	Reduction: 2009 OTB:	<u>-5,264</u> 213,283
<b>Candidate measure ID ICI1: OTB Measures plus 60% Reduction (similar to NO<sub>x</sub> SIP Call) to all Medium and Large ICI Boilers</b> <i>Emission Reductions:</i> overall reduction of 19% from 2009 on-the-books estimates, based on 60% reduction for all ICI boilers > 100 mmBtu/hr <i>Control Cost:</i> \$280 to 1,399 per ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 OTB:2009 Reduction: 2009 Remaining:	213,283 <u>-39,714</u> 173,569
<b>Candidate measure ID ICI2: OTB Measures plus Likely Controls to ICI Boilers subject to the proposed BART requirements</b> <i>Emission Reductions:</i> overall reduction of 8% from 2009 on-the-books estimates, based on 80% reduction for ICI boilers subject to BART requirements <i>Control Cost:</i> \$536 to 4,493 per ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> 5-State MRPO region	2009 OTB:2013 Reduction: 2013 Remaining:	213,283 <u>-17,007</u> 196,276
<b>Candidate measure ID ICI3: OTB Measures plus 80% Reduction (similar to BART) to all Medium and Large ICI Boilers</b> <i>Emission Reductions:</i> overall reduction of 31% from 2009 on-the-books estimates, based on 80% reduction for ICI boilers > 100 mmBtu/hr <i>Control Cost:</i> \$536 to 4,493 per ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 OTB:2009 Reduction: 2009 Remaining:	213,283 <u>-66,330</u> 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 – SO<sub>2</sub> CONTROL MEASURE SUMMARY FOR PETROLEUM REFINERIES**

Control Measure Summary	SO <sub>2</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State RACT Rules, MACT standards	2002 Base:	75,223
<b>On-the-Books measures:</b> Refinery Enforcement Settlements (contols on FCCUs, boilers/heaters, sulfur recovery units, flaring, equipment leaks, and wastewater treatment)	2009 Reduction:	<u>-49,942</u>
	2009 Remaining:	25,281
	2012 Reduction:	<u>-55,641</u>
	2012 Remaining:	19,582

**TABLE B.6 – NO<sub>x</sub> CONTROL MEASURE SUMMARY FOR PETROLEUM REFINERIES**

Control Measure Summary	NO <sub>x</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State RACT Rules, MACT standards	2002 Base:	31,831
<b>On-the-Books measures:</b> Refinery Enforcement Settlements (contols on FCCUs, boilers/heaters, sulfur recovery units, flaring, equipment leaks, and wastewater treatment); NO <sub>x</sub> SIP Call	2009 Reduction:	<u>-9,299</u>
	2009 Remaining:	22,532
	2012 Reduction:	<u>-13,941</u>
	2012 Remaining:	17,890

**TABLE B.7 - SO<sub>2</sub> CONTROL MEASURE SUMMARY FOR IRON & STEEL PLANTS**

Control Measure Summary	SO <sub>2</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State Rules	2002 Base:	47,786
<b>Candidate measure ID REF1: Apply Likely Controls to Refinery Sources subject to the proposed BART requirements</b> <i>Emission Reductions:</i> overall reduction of 25% from the iron and steel category, based on 90% reduction in SO <sub>2</sub> emissions from boilers, furnaces, and process units identified as being subject to BART <i>Control Cost:</i> \$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 <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> Affected BART sources in MRPO region	2013 Reduction: 2013 Remaining:	<u>-12,047</u> 35,739

**TABLE B.8 - NO<sub>x</sub> CONTROL MEASURE SUMMARY FOR IRON & STEEL PLANTS**

Control Measure Summary	NO <sub>x</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State Rules	2002 Base:	43,479
<b>Candidate measure ID REF1: Apply Likely Controls to Refinery Sources subject to the proposed BART requirements</b> <i>Emission Reductions:</i> overall reduction of 16% from the iron and steel category, based on 80% reduction in NO <sub>x</sub> emissions from boilers, furnaces, and process units identified as being subject to BART <i>Control Cost:</i> \$850 per ton for boilers; \$2,018 per ton for furnaces <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> Affected BART sources in MRPO region	2013 Reduction: 2013 Remaining:	<u>-6,964</u> 36,515

**TABLE B.9 – SO<sub>2</sub> CONTROL MEASURE SUMMARY FOR CEMENT KILNS**

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

**TABLE B.10– NO<sub>x</sub> CONTROL MEASURE SUMMARY FOR CEMENT KILNS**

Control Measure Summary	NO <sub>x</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State RACT Rules	2002 Base:	34,032
<b>2009 On-the-Books measures:</b> NO <sub>x</sub> SIP Call for cement kilns (30% reduction from uncontrolled levels)	Reduction: 2009 Remaining:	<u>-10,210</u> 23,822
<b>Candidate measure ID KILN1: Apply Reasonably Available Controls to All Kilns in Region</b> <i>Emission Reductions:</i> overall reduction of 50% from 2002 Base emissions and 29% reduction from NO <sub>x</sub> SIP call levels <i>Control Cost:</i> \$-310/ton to \$2,500/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:	<u>-17,016</u> 17,016
<b>Candidate measure ID KILN2: Apply Likely Controls to Kilns subject to the proposed BART requirements</b> <i>Emission Reductions:</i> overall reduction of 28% from 2002 emissions category and 40% from NO <sub>x</sub> SIP Call levels, based on 80% reduction for cement kilns identified as being BART-eligible <i>Control Cost:</i> \$1,500/ton to \$2,500/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2013 <i>Implementation Area:</i> 5-State MRPO region	2013 Reduction: 2013 Remaining:	<u>-9,408</u> 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	
<b>2002 existing measures:</b> 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 <u>-242,799</u> 70,380
<b>2009 On-the Books measures:</b> 10-year MACT surface coating standards, incremental reduction of 20% from 2002 actual levels	2002 Base: 2009 Reduction: 2009 Remaining:	70,380 <u>-13,790</u> 56,590
<b>Candidate measure: Adopt More Stringent RACT regulations, lower applicability thresholds, and extend geographic coverage</b> <i>Measure ID:</i> SOLV5A <i>Emission Reductions:</i> reduction of 42-83% from 2002 levels depending on the geographic coverage <i>Control Cost:</i> varies considerably by process, ranging from \$100 for uncontrolled high concentration streams to \$21,000 per ton for very low-VOC concentration streams. <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2009 <i>Implementation Area:</i> (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 <u>-58,216</u> 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	
<b>2002 existing measures:</b> None identified	2002 Base:	118,036
<b>2009 On-the Books measures:</b> None identified	2002 Base: 2009 Reduction: 2009 Remaining:	118,036 -0 118,036
<b>Candidate measure: Adopt More Stringent RACT regulations, lower applicability thresholds, and extend geographic coverage</b> <i>Measure ID:</i> SOLV5B <i>Emission Reductions:</i> reduction of 42-72% from 2002 levels depending on the geographic coverage <i>Control Cost:</i> varies considerably by process, ranging from \$100 for uncontrolled high concentration streams to \$21,000 per ton for very low-VOC concentration streams. <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2009 <i>Implementation Area:</i> (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 <u>-84,986</u> 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	
<b>2002 existing measures:</b> CTG Requirements in 1-hour nonattainment areas; halogenated solvent cleaning MACT standard	2002 Base:	61,226
<b>2009 On-the Books measures:</b> 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 <u>-4,931</u> 56,295
<b>Candidate measure: Adopt Chicago/Metro East Cold Cleaning Regulations in additional counties</b> <i>Measure ID:</i> SOLV6A <i>Emission Reductions:</i> reduction of 36-63% from 2002 levels depending on the geographic coverage <i>Control Cost:</i> \$1,400 per ton <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2009 <i>Implementation Area:</i> (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 <u>-38,436</u> 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	
<b>2002 existing measure: Federal AIM rules 40CFR Part 59</b> <i>Emission Reductions:</i> 20% reduction from uncontrolled levels <i>Control Cost:</i> \$250 per ton <i>Timing of Implementation:</i> Compliance required by September 1999 <i>Implementation Area:</i> Nationwide	Uncontrolled: 2002 Reduction: 2002 Base:	130,300 <u>-26,060</u> 104,240
<b>Candidate measure: Adopt more stringent VOC limits for AIM coatings based on OTC Model Rule and Wisconsin NR433.17</b> <i>Measure ID:</i> SOLV1A <i>Emission Reductions:</i> 31% beyond Federal AIM rule (for a total reduction of 36% from uncontrolled emissions) <i>Control Cost:</i> \$6,400 per ton <i>Timing of Implementation:</i> Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 <i>Implementation Area:</i> 5-state MRPO region	2002 Base:   2009 Reduction: 2009 Remaining:	104,240   <u>-20,783</u> 83,457
<b>Candidate measure: Adopt SCAQMD Phase III VOC limits in addition to OTC Model Rule</b> <i>Measure ID:</i> SOLV1B <i>Emission Reductions:</i> 13.4% beyond OTC Model Rule (for a total reduction of 44% from uncontrolled emissions) <i>Control Cost:</i> \$20,000 per ton <i>Timing of Implementation:</i> Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 <i>Implementation Area:</i> 5-state MRPO region	2002 Base:   2009 Reduction: 2009 Remaining:	104,240   <u>-31,944</u> 72,296
<b>Candidate measure: Develop Reactivity-Based Limits</b> <i>Measure ID:</i> SOLV1C <i>Emission Reductions:</i> cannot be determined at this time <i>Control Cost:</i> cannot be determined at this time <i>Timing of Implementation:</i> 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	
<b>2002 existing measure: None</b> <i>Emission Reductions:</i> none <i>Control Cost:</i> \$0 per ton <i>Timing of Implementation:</i> n/a <i>Implementation Area:</i> n/a	2002 Base:	50,970
<b>Candidate measure: Adopt OTC Model Rule for PFCs</b> <i>Measure ID:</i> SOLV3A <i>Emission Reductions:</i> 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 <i>Control Cost:</i> \$250 per ton to \$480 per ton <i>Timing of Implementation:</i> Assuming 2007 effective date of rule and 10% per year turnover, full reductions are achieved in 2015 <i>Implementation Area:</i> 5-state MRPO region	2002 Base:  2009 Reduction: 2009 Remaining:  2015 Reduction: 2015 Remaining:	50,970  <u>-9,175</u> 41,795  <u>-27,524</u> 23,446
<b>Candidate measure: Adopt Incentive Programs in Nonattainment Areas to Accelerate Phase-In of Compliant PFCs</b> <i>Measure ID:</i> SOLV3B <i>Emission Reductions:</i> 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 <i>Control Cost:</i> \$4,600 per ton <i>Timing of Implementation:</i> 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 <i>Implementation Area:</i> Nonattainment counties only	2002 Base:  2009 Reduction: 2009 Remaining:  2015 Reduction: 2015 Remaining:	50,970  <u>-12,281</u> 38,690  <u>-27,524</u> 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	
<b>2002 existing measures: Federal Auto Body Refinishing rules 40CFR Part 59 and RACT in 1-hour ozone nonattainment counties</b> <i>Emission Reductions:</i> 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 <i>Control Cost:</i> \$118 per ton for Part 59 rules <i>Timing of Implementation:</i> Part 59 compliance required by January 1999 <i>Implementation Area:</i> Part 59 – Nationwide; RACT only in 1-hour nonattainment counties in IL, IN, and WI	Uncontrolled: 2002 Reduction: 2002 Base:	42,545 <u>-17,226</u> 25,319
<b>Candidate measure: Extend the existing IL/IN/WI RACT regulations beyond 1-hr nonattainment counties</b> <i>Measure ID:</i> SOLV4A <i>Emission Reductions:</i> reduction of 55% from uncontrolled emissions, with an incremental reduction of 15-24 percent from 2002 levels depending on the geographic coverage <i>Control Cost:</i> \$1,354 per ton <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2009 <i>Implementation Area:</i> (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  <u>-6,168</u> 19,133
<b>Candidate measure: Adopt More Stringent RACT regulations based on SCAQMD 1151</b> <i>Measure ID:</i> SOLV4B <i>Emission Reductions:</i> reduction of 89% from uncontrolled emissions, with an incremental reduction of 55-82 percent from 2002 levels depending on the geographic coverage <i>Control Cost:</i> \$2,860 per ton incremental cost from going from IL/IN/WI RACT rules to new SCAQMD 1151 <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2009 <i>Implementation Area:</i> (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  <u>-20,624</u> 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	
<b>2002 existing measure: Federal Consumer and Commercial Products rules 40CFR Part 59</b> <i>Emission Reductions:</i> Overall 8.0% from uncontrolled levels (20% reduction for products covered by rule, only 40% of all products are covered by the rule) <i>Control Cost:</i> \$237 per ton <i>Timing of Implementation:</i> Compliance required by December 1998 <i>Implementation Area:</i> Nationwide	Uncontrolled: 2002 Reduction: 2002 Base:	180,168 <u>-14,339</u> 165,829
<b>Candidate measure: Adopt OTC Model Rule with additional product coverage and more stringent VOC limits</b> <i>Measure ID:</i> SOLV2A <i>Emission Reductions:</i> 14.2% beyond Federal Part 59 rule (for a total reduction of 21.0% from uncontrolled emissions) <i>Control Cost:</i> \$800 per ton <i>Timing of Implementation:</i> Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 <i>Implementation Area:</i> 5-state MRPO region	2002 Base:  2009 Reduction: 2009 Remaining:	165,829  <u>-23,548</u> 142,281
<b>Candidate measure: Adopt CARB 2003 SIP requirements with additional products and more stringent VOC limits (in addition to OTC Model Rule)</b> <i>Measure ID:</i> SOLV2B <i>Emission Reductions:</i> 12.5% beyond OTC Model Rule (for a total reduction of 30.9% from uncontrolled emissions) <i>Control Cost:</i> \$4,800 per ton <i>Timing of Implementation:</i> Assuming 2007 effective date of rule and 2-year sell-through period, emission reductions are achieved in 2009 <i>Implementation Area:</i> 5-state MRPO region	2002 Base:  2009 Reduction: 2009 Remaining:	165,829  <u>-41,333</u> 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	
<b>2002 existing measures:</b> Submerged fill and vapor balance/recovery in selected counties	2002 Base:	42,463
<b>2009 On-the Books measures:</b> None	2002 Base: 2009 Reduction: 2009 Remaining:	42,463 -0 42,463
<b>Candidate measure: Adopt CARB EVR Stage I requirements in 8-hour nonattainment areas and adjacent counties</b> <i>Measure ID:</i> SOLV7A <i>Emission Reductions:</i> reduction of 29-77% from 2002 levels depending on the geographic coverage* <i>Control Cost:</i> \$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 <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2011 with CARB's four-year window for existing facilities to upgrade equipment <i>Implementation Area:</i> (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 <u>-32,666</u> 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	
<b>2002 existing measures:</b> Stage II vapor recovery systems in moderate, serious, and severe for 1-hour ozone nonattainment areas	2002 Base:	44,815
<b>2009 On-the Books measures:</b> 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 <u>-23,312</u> 21,503
<b>Candidate measure: Adopt CARB EVR Stage II requirements in 8-hour nonattainment areas and adjacent counties</b> <i>Measure ID:</i> SOLV7B <i>Emission Reductions:</i> reduction of 45-83% from 2002 levels depending on the geographic coverage <i>Control Cost:</i> \$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 <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2011 with CARB's four-year window for existing facilities to upgrade equipment <i>Implementation Area:</i> (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 <u>-40,550</u> 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	
<b>2002 existing measures:</b> P/V valve in Chicago and Metro East areas	2002 Base:	10,194
<b>2009 On-the Books measures:</b> None	2002 Base: 2009 Reduction: 2009 Remaining:	10,194 -0 10,194
<b>Candidate measure: Require Air Pollution Control Device for UST Vent</b> <i>Measure ID:</i> SOLV7C <i>Emission Reductions:</i> reduction of 28 to 72% from 2002 levels depending on the geographic coverage <i>Control Cost:</i> minimal if system recovers gasoline vapors and returns to storage tank <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2009 <i>Implementation Area:</i> (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 <u>-7,340</u> 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	
<b>2002 existing measures:</b> CTG Requirements	2002 Base:	48,348
<b>Candidate measure: Adopt SCAQMD 1108.1 VOC content limit for emulsified asphalt</b> <i>Measure ID:</i> SOLV8A <i>Emission Reductions:</i> 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% <i>Control Cost:</i> Not Available <i>Timing of Implementation:</i> Assuming 2007 effective date of rule, emission reductions are achieved in 2009 <i>Implementation Area:</i> (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 <u>-16,106</u> 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	
<b>2002 Existing measures :</b> NSPS; PSD/NSR; State RACT Rules	2002 Base:	15,354
<b>2009 On-the-Books measures:</b> Wisconsin Rule 428.05	Reduction: 2009 Remaining:	<u>-338</u> 15,016
<b>Candidate measure: Apply “Highly Cost-Effective” Reasonably Available Controls to all Glass Manufacturing Plants in Region</b> <i>Measure ID:</i> GLASS1 <i>Emission Reductions:</i> average of 30% control from 2002 in MRPO region <i>Control Cost:</i> less than \$2,000/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:	<u>-4,269</u> 10,748
<b>Candidate measure: Apply “Cost-Effective” Reasonably Available Controls to all Glass Manufacturing Plants</b> <i>Measure ID:</i> GLASS2 <i>Emission Reductions:</i> average of 75% control from 2002 in MRPO region <i>Control Cost:</i> \$2,000/ton to \$4,000/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:	<u>-11,262</u> 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	NO <sub>x</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> State fuel combustion rules	2002 Base:	4,014
<b>2009 On-the-Books measures:</b> None identified	Reduction: 2009 Remaining:	<u>-0</u> 4,014
<b>Candidate measure: Apply Available Combustion Modification Controls to All Asphalt Manufacturing Plants</b> <i>Emission Reductions:</i> 25% control from 2002 in MRPO region <i>Control Cost:</i> \$17,630/ton to \$21,084/ton <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 5-State MRPO region	2009 Reduction: 2009 Remaining:	<u>-1,004</u> 3,011

Control Measure Summary	SO <sub>2</sub> Emissions (tons/year) in 5-state MRPO Region	
<b>2002 Existing measures :</b> State fuel combustion rules	2002 Base:	3,614
<b>2009 On-the-Books measures:</b> None identified	Reduction: 2009 Remaining:	<u>-0</u> 3,614
<b>Candidate measure: Apply Available Fuel Switching Controls (Natural Gas or Low-Sulfur Fuel Oil) Where Feasible to All Asphalt Manufacturing Plants</b> <i>Emission Reductions:</i> cannot be estimated at this time – requires site-by-site analysis of availability of natural gas <i>Control Cost:</i> cannot be estimated at this time – requires site-by-site analysis of availability of natural gas <i>Timing of Implementation:</i> Assumes full reductions achieved in 2009 <i>Implementation Area:</i> 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 <sub>x</sub> Emissions (tons/year) in 5-State MRPO Region	
<b>2002 existing measure:</b> None Identified	2002 Base:	1,266
<b>2009 On-the-Books measures:</b> None identified	Reduction: 2009 Remaining:	<u>-0</u> 1,266
<b>Candidate measure: Convert or replace gasoline and diesel GSE engines to alternative fuels</b> <i>Measure ID:</i> GSE01 <i>Emission Reductions:</i> 90% reduction of NO <sub>x</sub> emissions over a ten year period <i>Control Cost:</i> Varies from cost savings to \$5,800 per ton, depending upon the type of equipment being replaced <i>Timing of Implementation:</i> 25% reduction by 2009, 50% reduction by 2012, and 90% reduction by 2018 <i>Implementation Area:</i> 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  <u>-316</u> 949  <u>-633</u> 633  <u>-1,139</u> 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

# **APPENDIX B**

## **Final Rule to Implement the 8-Hour Ozone NAAQS**





# Federal Register

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**Tuesday,  
November 29, 2005**

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## **Part II**

## **Environmental Protection Agency**

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**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](mailto: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](mailto: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](mailto: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<sub>x</sub> 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, PM<sub>2.5</sub>, and regional haze?
  - K. What emissions inventory requirements should apply under the 8-hour ozone NAAQS?
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  - 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.<sup>1</sup> 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](http://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<sub>x</sub>, particulate matter having a nominal aerodynamic diameter less than or equal to 10 microns (PM<sub>10</sub>), 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> as an ozone

<sup>1</sup> 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<sub>x</sub>) 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<sub>x</sub> SIP Call Rule already is achieving significant reductions in NO<sub>x</sub> 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<sub>2</sub>) and NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub>) 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub>?

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.<sup>2</sup> 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<sub>x</sub> 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<sub>x</sub> SIP Call requirements or, in States achieving CAIR reductions solely from electric generating units (EGUs), the CAIR NO<sub>x</sub> requirements.<sup>3</sup> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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.<sup>4</sup>

*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<sub>2.5</sub>, and regional haze?*

We are continuing our policy of encouraging each State with an ozone nonattainment area which overlaps or is nearby a PM<sub>2.5</sub> 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

<sup>2</sup> This is generally expected with the submission of the attainment demonstration.

<sup>3</sup> Alternatively, a State need not perform a NO<sub>x</sub> RACT analysis for sources subject to Federal implementation plan that implements the emission reductions required by the NO<sub>x</sub> SIP call or the CAIR.

<sup>4</sup> Memorandum dated January 14, 2005, "Guidance on Limiting Nitrogen Oxides (NO<sub>x</sub>) 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<sub>10</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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.<sup>5</sup>

<sup>5</sup> 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

*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<sub>x</sub> 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<sub>x</sub> emissions budgets based on highly cost-effective NO<sub>x</sub> emissions

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.<sup>6</sup>

The NO<sub>x</sub> 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<sub>x</sub> reductions achieved as a result of the NO<sub>x</sub> SIP Call are an important factor in this improvement. The compliance date for achieving the required NO<sub>x</sub> reductions under phase I of the NO<sub>x</sub> 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<sub>x</sub> SIP Call and are implementing their NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>2.5</sub> and 8-hour ozone NAAQS in other States. The rule requires these States to submit SIP revisions to reduce SO<sub>2</sub> and/or NO<sub>x</sub> emissions.

To reduce interstate ozone transport, the rule established statewide ozone-season NO<sub>x</sub> 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<sub>x</sub>, the first phase starts in 2009 (covering 2009–2014);<sup>7</sup> the second phase of NO<sub>x</sub> reductions begins in 2015 (covering 2015 and thereafter).

The 25 States that are required to meet a summertime NO<sub>x</sub> 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<sub>x</sub> SIP Call, adopted in 1998.<sup>8</sup> 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<sub>x</sub>.

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<sub>x</sub> controls is 0.4 ppb, and the maximum improvement is 1.4 ppb (70 FR 25254, Table VI–12.) The 2009 CAIR NO<sub>x</sub> 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<sub>x</sub> reductions will assist attainment and maintenance of the 8-hour standard.<sup>9</sup>

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

<sup>7</sup> The CAIR first phase also provides an annual NO<sub>x</sub> budget, which also starts in 2009.

<sup>8</sup> The CAIR requires summertime NO<sub>x</sub> reductions in the following States not covered by the NO<sub>x</sub> SIP Call: Arkansas, Florida, Iowa, Louisiana, Mississippi, and Wisconsin. The NO<sub>x</sub> 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.

<sup>9</sup> 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.)

<sup>6</sup> In light of various challenges to the 8-hour NAAQS, we stayed the 8-hour basis for the NO<sub>x</sub> SIP Call Rule (65 FR 56245; September 18, 2000).

nonattainment areas into attainment.<sup>10</sup> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>2.5</sub> formation.

*Response:* We believe that the NO<sub>x</sub> 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<sub>x</sub> 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

<sup>10</sup> 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<sub>2.5</sub> 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.]<sup>11</sup>

#### 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).<sup>12</sup>

#### 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.<sup>13</sup> 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

<sup>11</sup> 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.

<sup>12</sup> 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).

<sup>13</sup> 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)]<sup>14</sup> 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<sub>x</sub> 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.<sup>15</sup> 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.<sup>16</sup> 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

<sup>14</sup> 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.

<sup>15</sup> 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).

<sup>16</sup> 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.<sup>17</sup>

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.<sup>18</sup>

#### 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

<sup>17</sup> 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).

<sup>18</sup> 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<sub>x</sub> 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.<sup>19</sup>

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,<sup>20</sup> 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.<sup>21</sup> 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<sup>22</sup> (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.<sup>23</sup> 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

<sup>19</sup> 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.

<sup>20</sup> 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.

<sup>21</sup> 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).

<sup>22</sup> See 40 CFR 51.900(g) for definition.

<sup>23</sup> 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.<sup>24</sup>

*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<sub>2.5</sub> 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

<sup>24</sup> 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.<sup>25</sup> 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<sup>26</sup> 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.<sup>27</sup> 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<sup>28</sup> 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.<sup>29</sup> 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.

<sup>25</sup> 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/policyem33d.pdf>.

<sup>26</sup> 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).

<sup>27</sup> 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/policyem33d.pdf>.

<sup>28</sup> 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).

<sup>29</sup> 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/policyem33d.pdf>.

## 6. Multi-Pollutant Assessments (One-Atmosphere Modeling)<sup>30</sup>

### a. Background

The proposal noted that many factors affecting formation and transport of secondary fine particles (i.e., PM<sub>2.5</sub> 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<sub>2.5</sub> 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.

### 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<sub>2.5</sub> 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<sub>2.5</sub>, 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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

<sup>30</sup> 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.

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.<sup>31</sup> 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,<sup>32</sup> and because the Phase 1 final implementation rule for the 8-hour O<sub>3</sub> 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.<sup>33</sup> 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<sub>x</sub> for VOC emissions reductions for reductions required under section 182(c)(2)(B). The EPA's policy, NO<sub>x</sub> Substitution Guidance (December 15, 1993; available at <http://www.epa.gov/ttn/oarpg/t1pgm.html>), addresses the substitution of NO<sub>x</sub> 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

<sup>31</sup> 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<sub>2.5</sub> 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."

<sup>32</sup> 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.

<sup>33</sup> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> reductions under

CAIR starts in 2009 (covering 2009–2014); the second phase of NO<sub>x</sub> reductions begins in 2015 (covering 2015 and thereafter).

With respect to timing of reductions, the following table shows how summertime NO<sub>x</sub> 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 <sub>x</sub> 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 <sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub>. 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<sub>x</sub> (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<sup>34</sup>, 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

<sup>34</sup> 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 PM<sub>10</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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).<sup>35</sup> 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<sub>x</sub> 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.<sup>36</sup>

- 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<sub>x</sub> controls, then the area should be able to reduce NO<sub>x</sub> 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<sub>x</sub> as meeting RFP requirements.

*Response:* The CAA’s RFP provisions do not appear to provide for variations

<sup>35</sup> With today’s rulemaking, this provision is now codified as 40 CFR 51.908(d).

<sup>36</sup> 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 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 the 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub>) 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<sub>x</sub>) 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<sub>x</sub> 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<sub>x</sub> reductions rather than VOC reductions to bring about reduced ambient ozone levels. Areas do not have the flexibility to control NO<sub>x</sub> under the 15 percent requirement—NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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.<sup>37</sup>

<sup>37</sup> 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<sub>x</sub> 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.<sup>38</sup>

*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<sub>x</sub> 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

<sup>38</sup> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> emissions reductions or a combination of both.

Section 182(b)(1)(A) is the only statutory provision that limits State discretion to substitute NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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 1-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<sub>x</sub>** 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<sub>x</sub> 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<sub>x</sub> 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<sub>2.5</sub> standards.<sup>39</sup>

#### 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.

<sup>39</sup> Memorandum of November 18, 2002, from Lydia Wegman and Peter Tsirigotis, "2002 Base Year Emission Inventory SIP Planning: 8-hr Ozone, PM<sub>2.5</sub> and Regional Haze Programs." This document is available at the following Web site: <http://www.epa.gov/ttn/oarpg/meta.442.1.2002baseinv.pdf>.

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.<sup>40</sup> 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).

<sup>40</sup> 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<sub>x</sub>. 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.<sup>41</sup>

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

<sup>41</sup> 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<sub>x</sub>—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<sub>x</sub>) needed to provide for attainment by the beginning of the ozone season prior to the area's attainment date.<sup>42</sup> 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 181(b)(1) 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<sub>x</sub>, 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<sub>x</sub> 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.1.6 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<sub>x</sub>) 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<sub>x</sub>) 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

<sup>42</sup> 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)(1)(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<sub>x</sub> 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.<sup>43</sup> 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

<sup>43</sup> 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<sup>44</sup> 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<sub>x</sub>, 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<sub>x</sub> emissions reductions could be relied on to meet the 15 percent reduction requirement, consistent with EPA's NO<sub>x</sub> substitution policy.<sup>45</sup> 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

<sup>44</sup> 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.

<sup>45</sup> NO<sub>x</sub> 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<sub>x</sub> emissions reductions could be substituted for some or all of the 15 percent reduction requirement, consistent with EPA's NO<sub>x</sub> 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<sub>x</sub> 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.<sup>46</sup> This second RFP SIP must

<sup>46</sup> 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

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

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.<sup>47</sup> 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-

<sup>47</sup> 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.<sup>48</sup>

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<sub>x</sub>] 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.

<sup>48</sup> [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<sub>x</sub> 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<sub>x</sub>?

[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<sub>x</sub> and VOC controls that occur outside the nonattainment areas ["Guidance for Implementing the 1-Hour Ozone and Pre-Existing PM<sub>10</sub> NAAQS, December 29, 1997"]. Specifically, the guidance allows credit for VOC reductions occurring up to 100 km outside the area and for NO<sub>x</sub> reductions occurring up to 200 km outside the area (statewide where a regional NO<sub>x</sub> 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<sub>x</sub> reductions is 200 km from the nonattainment area with the possibility for additional expansion of the NO<sub>x</sub> 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<sub>x</sub> control strategy such as the NO<sub>x</sub> SIP Call. All other States implementing a NO<sub>x</sub> 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.<sup>49</sup> 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<sub>10</sub> 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<sub>x</sub> toward 15 percent RFP plans, and this in turn could encourage jurisdictions in need of these tonnage

<sup>49</sup> 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<sub>x</sub> 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<sub>x</sub> 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.<sup>50</sup> 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.<sup>51</sup> 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<sub>x</sub> 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<sub>x</sub> 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

<sup>50</sup> 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.

<sup>51</sup> 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<sub>x</sub>, 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<sup>52</sup> (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.<sup>53</sup>

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.<sup>54</sup>

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

<sup>52</sup> With this rulemaking, this provision is codified as 40 CFR 51.908(d).

<sup>53</sup> 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.

<sup>54</sup> 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<sub>x</sub> 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<sup>55</sup> 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<sup>[56]</sup>, 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

<sup>55</sup> 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.

<sup>56</sup> 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>.

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)

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<sub>x</sub> 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.<sup>57</sup>

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.<sup>58</sup>

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<sub>x</sub> SIP Call cap-and-trade program could be determined to meet the 8-hour ozone RACT requirement.

<sup>58</sup> 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<sub>2.5</sub> 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.

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.<sup>59</sup> 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<sub>x</sub> 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<sub>x</sub> RACT requirement, the State need not perform (or submit) a NO<sub>x</sub> 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<sub>x</sub> SIP Call requirements or, in States achieving CAIR reductions solely from EGUs, the CAIR NO<sub>x</sub> requirements. The EPA believes that the SIP provisions for

<sup>59</sup> This is generally expected with the submission of the attainment demonstration.

<sup>57</sup> 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).

those sources meet the ozone NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub>, 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<sub>x</sub> 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<sub>x</sub> 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.3d 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<sub>x</sub> 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<sub>x</sub> control requirements would also meet the NO<sub>x</sub> RACT requirement.

The EPA also received comments from several States opposing EPA's proposed approach. These commenters believe the NO<sub>x</sub> and VOC guidance is too old, needs updating and, in the case of NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> RACT for boilers as combustion modification, consistent with title IV acid rain requirements. For all other NO<sub>x</sub> 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<sub>x</sub> removed. In the NO<sub>x</sub> SIP Call Rule, we reviewed all major NO<sub>x</sub> source categories and stated in the final rule that the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> ACT documents between 1992 and 1995. In September 2000, updates to the NO<sub>x</sub> ACT documents were completed for stationary internal combustion engines and cement kilns. The NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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.<sup>60</sup> 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<sub>x</sub> SIP Call compliance and want this option preserved under the 8-hour ozone standard since requiring sources

<sup>60</sup> 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<sub>x</sub> RACT requirements would greatly increase the costs of compliance at sources already subject to the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP Call Rule achieve emissions reductions at lower costs. The EPA's NO<sub>x</sub> 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<sub>x</sub>" 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,<sup>61</sup> 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<sub>x</sub> 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<sub>x</sub> SIP Call. These commenters stated that the level of emissions reductions required by the NO<sub>x</sub> SIP Call is far greater than the level of reductions achieved by controls that have been determined to be NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP Call cap-and-trade programs, and EPA is without authority to invent such an exception. Because the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP call trading program is subsumed by the CAIR trading program. As described below, EPA believes that sources meet ozone NO<sub>x</sub> RACT requirements if they comply with the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP call. In a NO<sub>x</sub> SIP Call State that ensures such reductions from non-EGUs, the State need not perform a NO<sub>x</sub> 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<sub>x</sub> SIP call SIP. In addition, the State need not perform a NO<sub>x</sub> RACT analysis for EGUs subject to a State cap-and-trade program that meets CAIR and achieves CAIR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP Call:* All States submitting SIP revisions to meet the NO<sub>x</sub> 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.<sup>62</sup> As described in the June 2, 2003 proposal, these sources collectively achieve more emissions reductions within the SIP

<sup>61</sup> The EPA's NO<sub>x</sub> RACT guidance (NO<sub>x</sub> 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.

<sup>62</sup> The cost of purchasing allowances will often be higher than the cost for achieving a RACT level of control. In the 1998 NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP Call rule, EPA estimated that in the NO<sub>x</sub> SIP Call control case, EGUs would achieve a 64 percent reduction beyond the base case requirements,<sup>63</sup> and that the non-EGUs subject to the States' cap-and-trade program would achieve a 60 percent reduction from uncontrolled levels.<sup>64</sup> These EGU and non-EGU reductions were clearly beyond the 30–50 percent expected from a RACT program.<sup>65</sup> We stated in the final NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP call constitutes RACT for those sources covered by the NO<sub>x</sub> 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<sub>x</sub> SIP call region, such that States need not submit RACT analyses for sources subject to the NO<sub>x</sub> SIP call that are in compliance with a SIP approved as meeting the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP Call trading system to the CAIR trading system. After 2008, EPA will no longer administer the NO<sub>x</sub> SIP Call trading system and will only administer the CAIR trading system. A State subject to the NO<sub>x</sub> SIP Call has three choices for the transition. One, a State can bring its non-EGU sources that are subject to the NO<sub>x</sub> SIP Call trading program into the CAIR trading program with the same emissions budget allowed by the State's current NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP Call responsibilities, in whole or in part, by regulating sources other than the non-EGU sources regulated by the State's current NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> SIP Call (i.e., 30 percent reduction), the State may choose to accept the NO<sub>x</sub> SIP Call requirements as meeting the NO<sub>x</sub> RACT requirements for the 8-hour standard and need not perform a new NO<sub>x</sub> RACT analysis for those sources. In its RACT SIP submission, the State should identify the cement plants that are subject to NO<sub>x</sub> 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<sub>x</sub> SIP Call control level for stationary internal combustion engines<sup>66</sup> as meeting the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> cap is specifically designed to eliminate all NO<sub>x</sub> emissions from EGUs that are highly cost effective to control (the first cap represents an interim step toward that end).<sup>67</sup> In general, we expect that the largest-emitting sources will be the first to install NO<sub>x</sub> 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<sub>x</sub> 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,

<sup>63</sup> The EPA's 1992 NO<sub>x</sub> 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<sub>x</sub> SIP Call (0.45–0.50 lb/mmBtu versus 0.15). Base case refers to the situation absent NO<sub>x</sub> SIP call controls.

<sup>64</sup> 63 FR 57434–5.

<sup>65</sup> Memorandum of March 16, 1994, from D. Kent Berry re: “Cost-Effective Nitrogen Oxides (NO<sub>x</sub>) Reasonably Available Control Technology (RACT).” U.S. Environmental Protection Agency, Research Triangle Park, North Carolina.

<sup>66</sup> As described in the April 21, 2004 rule (69 FR 21608).

<sup>67</sup> CAIR achieves about 80% of its NO<sub>x</sub> 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<sub>x</sub> controls meet the definition of RACT for NO<sub>x</sub> (in States that require all CAIR NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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-EQU 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<sub>x</sub> SIP call level of control to CAIR by the first two transition options for non-EGUs discussed above, the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> reductions from any source (including CAIR or NO<sub>x</sub> SIP Call

sources), and has an obligation to demonstrate attainment as expeditiously as practicable. In certain areas, States may require NO<sub>x</sub> 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.<sup>68</sup> 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.

<sup>68</sup> This assumes the ozone season in this example begins May 1.

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<sup>69</sup> (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<sub>x</sub> RACT SIP revisions for the 1-hour standard subject to the 30-month CAA period, EPA approved NO<sub>x</sub> 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,

<sup>69</sup> 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<sup>70</sup> 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.<sup>71</sup> 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<sub>x</sub> RACT through compliance with CAIR would be subject to the CAIR NO<sub>x</sub> 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.<sup>72</sup> 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<sub>x</sub> and SO<sub>2</sub> 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<sub>x</sub> emission controls. We believe that the CAIR rule appropriately reflects the constraints the EGU sector faces in achieving NO<sub>x</sub> reductions (and the CAIR SO<sub>2</sub> reductions) in a way that is as expeditious as practicable. States should recognize these constraints in developing their own compliance schedules for NO<sub>x</sub> 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<sub>2</sub> and NO<sub>x</sub> caps under CAIR.

Based on our experience developing the NO<sub>x</sub> 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<sub>x</sub> 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

<sup>70</sup> 57 months from June 15, 2004 effective date of designation (27 months to submission plus 30 months to implementation).

<sup>71</sup> Note, since the CAA requires attainment as expeditiously as practicable, some moderate nonattainment areas may have an attainment date earlier than June 15, 2010.

<sup>72</sup> "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](http://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.<sup>73</sup> 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.<sup>74</sup> 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

<sup>73</sup> Ibid.

<sup>74</sup> 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.<sup>75</sup> 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<sub>x</sub> 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.]

<sup>75</sup> In "A State 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 comment 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.

#### 1. Background

While NO<sub>x</sub> emissions are necessary for the formation of ozone in the lower atmosphere, a local decrease in NO<sub>x</sub> emissions can, in some cases, increase local ozone concentrations. This potential "NO<sub>x</sub> disbenefit" resulted in Congress including the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> in certain ozone nonattainment areas and throughout States in the OTR.<sup>76</sup> In addition, section 182(f) specifies circumstances under which these NO<sub>x</sub> requirements would be limited or would not apply ("NO<sub>x</sub> exemption"). Further, areas granted a NO<sub>x</sub> 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.<sup>77</sup>

In the June 2, 2003 action, we indicated the NO<sub>x</sub> requirements and exemption provisions in section 182(f) would apply for subpart 2 nonattainment areas and in OTRs.<sup>78</sup> In addition, we proposed to allow subpart 1 nonattainment areas to seek a NO<sub>x</sub> exemption, where appropriate. Further, we proposed that areas previously granted a NO<sub>x</sub> 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<sup>79</sup> on draft guidance intended to update the existing 1-hour ozone guidance<sup>80</sup> regarding section 182(f) for application to the 8-hour ozone program. We issued the updated

<sup>76</sup> See 57 FR 55622 ("Nitrogen Oxides Supplement to the General Preamble," published November 25, 1992).

<sup>77</sup> 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<sub>x</sub> requirements in those rules do not apply where EPA grants an areawide exemption under section 182(f).

<sup>78</sup> 68 FR 32840.

<sup>79</sup> September 1, 2004 at 69 FR 53378.

<sup>80</sup> 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.

final guidance regarding section 182(f) on January 14, 2005.<sup>81</sup>

#### 2. Summary of Final Rule

As proposed, the final rule allows a person to petition the Administrator for a NO<sub>x</sub> 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<sub>x</sub> 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<sup>82</sup> 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<sub>x</sub> 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<sub>x</sub> requirements.

#### 3. Comments and Responses

**Comments:** Several commenters supported EPA's proposal to make NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> waiver granted under section 182(f) of the CAA for the 1-hour ozone standard

<sup>81</sup> Memorandum dated January 14, 2005, "Guidance on Limiting Nitrogen Oxides (NO<sub>x</sub>) 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.

<sup>82</sup> Memorandum dated January 14, 2005, "Guidance on Limiting Nitrogen Oxides (NO<sub>x</sub>) 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<sub>x</sub> waiver should automatically apply for the 8-hour ozone standard in areas where EPA previously granted a NO<sub>x</sub> waiver under the 1-hour ozone standard. One commenter stated that the technical basis for granting waivers under the 1-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<sub>x</sub> 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<sub>x</sub> waiver provision.

However, for areas previously granted a NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> reductions will begin to provide a benefit. In several cases, the 1-hour NO<sub>x</sub> waiver has been removed in subsequent rulemaking actions.<sup>83</sup> Indeed, when EPA issued waivers under the 1-hour ozone standard, we stated that the NO<sub>x</sub> waivers would be removed where new information became available and the rationale for the initial NO<sub>x</sub> 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<sub>x</sub> emission controls.

Given that many NO<sub>x</sub> 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<sub>x</sub> waiver under the 8-hour ozone standard is warranted. Many NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> waiver requests based on previously issued 1-hour NO<sub>x</sub> waivers.

*Comment:* Some commenters urged EPA to expand the section 182(f) waiver to VOC RACT as well as NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> controls. With respect to VOC, the NAS report states that “control of VOCs never leads to a significant increase in ozone.”<sup>84</sup> Thus, the section 185B report does not support a waiver provision for VOC.

While dispersion modeling analyses show that NO<sub>x</sub> emissions reductions can be counterproductive under certain circumstances (the reason for the NO<sub>x</sub> 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<sub>x</sub> exemptions and certain other regional NO<sub>x</sub> reduction requirements such as the NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> requirements and, in a separate action, require NO<sub>x</sub> emission decreases under section 110(a)(2)(D). Thus, a NO<sub>x</sub> exemption doesn’t affect an obligation of a State to meet a NO<sub>x</sub> budget established under a NO<sub>x</sub> 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).

<sup>83</sup> E.g. Recision of NO<sub>x</sub> 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).

<sup>84</sup> 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<sub>2.5</sub>, 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<sub>2.5</sub> 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<sub>2.5</sub> control strategy or a regional haze plan. Similarly, controls for PM<sub>2.5</sub> may lead to reductions in ozone or regional haze. Because the precursors for ozone and PM<sub>2.5</sub> 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<sub>2.5</sub> NAAQS, we also believe integration of ozone, PM<sub>2.5</sub>, 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<sub>2.5</sub> 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<sub>2.5</sub>, and regional haze. These commenters agreed that the integration of ozone, PM<sub>2.5</sub> 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<sub>2.5</sub>, 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<sub>2.5</sub>, 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<sub>2.5</sub> 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.<sup>85</sup> 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.<sup>86</sup> 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<sub>2.5</sub>, 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

<sup>85</sup> (available at: <http://www.epa.gov/ttn/chief/eidocs/eiguid/index.html>)

<sup>86</sup> 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"<sup>87</sup> 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<sub>2.5</sub> 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<sub>2.5</sub> emissions inventories because PM<sub>2.5</sub> 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<sub>x</sub>, 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<sub>2.5</sub> 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<sub>2.5</sub>. 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<sub>x</sub> 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

<sup>87</sup> 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<sub>x</sub>, 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.<sup>88</sup>

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

<sup>88</sup> 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<sub>x</sub> 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<sub>x</sub>), RACT (for VOC and NO<sub>x</sub>), 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<sub>x</sub> 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<sub>x</sub> SIP Call, the CAIR and, if created, a statute codifying the Administration's Clear Skies Act, which addresses NO<sub>x</sub> 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<sub>10</sub>, SO<sub>2</sub>, CO and NO<sub>2</sub> monitoring.

*Comment:* Two commenters questioned the appropriateness of making high sensitivity NO<sub>x</sub> 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<sub>x</sub> 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<sub>2.5</sub> 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.<sup>89</sup> 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<sub>10</sub>, 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.<sup>90</sup>

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

<sup>89</sup> 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.

<sup>90</sup> 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.<sup>91</sup>

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.<sup>92</sup> 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<sub>10</sub> 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<sub>x</sub> 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.<sup>93</sup> 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<sub>x</sub> 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<sub>x</sub> 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,

<sup>91</sup> 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).

<sup>92</sup> 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.

<sup>93</sup> 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<sub>10</sub>, 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<sub>10</sub> or any specific PM<sub>10</sub> precursor in moderate PM<sub>10</sub> nonattainment areas,
- Major stationary source threshold of 70 tpy PM<sub>10</sub> or any specific PM<sub>10</sub> precursor in serious PM<sub>10</sub> nonattainment areas, and
- Significant emission rate of 15 tpy PM<sub>10</sub> and 40 tpy PM<sub>10</sub> 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.<sup>94</sup> 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.<sup>95</sup> 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<sub>2</sub> 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<sub>2</sub>, 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

<sup>94</sup> For a complete discussion of how the 1990 CAA Amendments attainment planning requirements relate to shutdown/curtailment credits (61 FR 38311; July 23, 1996).

<sup>95</sup> *Use of Shutdown 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<sub>x</sub> 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<sub>x</sub> in ozone formation and transport, we proposed to amend our PSD regulations to expressly include NO<sub>x</sub> as an ozone precursor in attainment and unclassifiable areas. Moreover, we proposed to require States to modify their existing programs to include NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> requirements for major stationary sources, including nonattainment major NSR requirements, would not apply or would be limited ("NO<sub>x</sub> waiver"). [See

§ 51.165(a)(8) and appendix S.] According to § 51.913(c), a section 182(f) NO<sub>x</sub> 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<sub>x</sub>. We discuss whether a NO<sub>x</sub> waiver under section 182(f) applies in a particular area and the effects of NO<sub>x</sub> 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<sub>10</sub> nonattainment areas. Specifically, we have promulgated as proposed in 1996 the major stationary source thresholds and significant emission rates for PM<sub>10</sub> in PM<sub>10</sub> 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<sub>10</sub> precursors. Instead, we plan to propose regulations concerning PM precursors as part of the PM<sub>2.5</sub> 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<sub>10</sub> 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<sub>10</sub> 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<sub>10</sub>, 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<sub>10</sub> 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.<sup>96</sup> 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.<sup>97</sup> 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.<sup>98</sup> 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.<sup>99</sup> 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.<sup>100</sup> 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.

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.

<sup>100</sup> 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/>.

<sup>96</sup> 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<sub>10</sub> 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).

<sup>97</sup> 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).

<sup>98</sup> 68 FR 32833. See also “2002 Base Year Emission Inventory SIP Planning: 8-hr Ozone, PM<sub>2.5</sub> and Regional Haze Programs,” U.S. EPA, pg. 1 (November 18, 2002).

<sup>99</sup> See 57 FR 13553. After the 1990 CAA Amendments were enacted, 1990 was the base year

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<sup>10</sup> 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.<sup>101</sup> We

<sup>101</sup> 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.

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

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.<sup>102</sup>

<sup>102</sup> 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

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.<sup>103</sup> 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

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.

<sup>103</sup> 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).

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<sub>x</sub> 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

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<sub>x</sub> as an Ozone Precursor in Attainment and Unclassifiable Areas**

**a. Final Changes to Identify NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> as an ozone precursor. Specifically, we have amended the definitions of major stationary source, major modification, significant, and regulated NSR pollutant to include NO<sub>x</sub> 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<sub>x</sub> to perform an ambient impact analysis.

**b. Legal Basis To Identify NO<sub>x</sub> as an Ozone Precursor in Attainment and Unclassifiable Areas**

The nonattainment provisions of the CAA, as amended in 1990, recognize NO<sub>x</sub> as an ozone precursor; section 182(f) of the CAA established nonattainment requirements for NO<sub>x</sub>. 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<sub>x</sub> 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<sub>x</sub> as an ozone precursor is supported by scientific studies, which have long recognized the role of NO<sub>x</sub> in ozone formation and transport.<sup>104</sup> Such formation and transport is not limited to nonattainment areas. Therefore, we believe NO<sub>x</sub> 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<sub>x</sub> 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

<sup>104</sup> See 68 FR 32805–06, 32840, footnote 58 (discussing national rules for controlling VOC and NO<sub>x</sub> 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.<sup>105</sup> 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<sub>x</sub> emissions, except where the Administrator determines pursuant to section 182(f) that NO<sub>x</sub> requirements for major stationary sources, including NSR requirements, would not apply or would be limited ("NO<sub>x</sub> waiver"). A few commenters opposed waivers under section 182(f) for exemptions from NO<sub>x</sub> requirements, due to their effect on NO<sub>x</sub> emissions in downwind States.

We agree with the commenters supporting NO<sub>x</sub> as an ozone precursor for nonattainment major NSR applicability, and have retained it in the final rule. We note that whether a NO<sub>x</sub> waiver applies in a particular area and the effects of NO<sub>x</sub> 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

<sup>105</sup> See *Emission Offset Exemptions for Resource Recovery Facilities* from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, December 28, 1988.

demonstrations.<sup>106</sup> 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."<sup>107</sup> 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

<sup>106</sup> Of the 135 areas designated as nonattainment for the 1-hour ozone NAAQS in 1991, 69 have been redesignated as attainment. See <http://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.

<sup>107</sup> 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.<sup>108</sup>

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<sub>x</sub> as an Ozone Precursor in Attainment and Unclassifiable Areas

Commenters supported our proposal to amend our PSD regulations to expressly include NO<sub>x</sub> 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.

<sup>108</sup> 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.<sup>109</sup> 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.

<sup>109</sup> 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.

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).<sup>110</sup> 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

<sup>110</sup> 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."<sup>111</sup> 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.<sup>112</sup>

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

<sup>111</sup> 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).

<sup>112</sup> 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.<sup>113</sup>

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.<sup>114</sup> 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,

<sup>113</sup> 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.

<sup>114</sup> 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<sub>x</sub> 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](http://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<sub>x</sub> emissions and not VOC emissions. House Hearing (July 22, 2003). Reformulated gasoline, however, is designed to reduce VOC emissions rather than NO<sub>x</sub> emissions. Therefore, EPD's fuel program that requires the distribution of fuel that is specifically designed to reduce NO<sub>x</sub> 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<sub>x</sub> 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<sub>10</sub> and PM<sub>2.5</sub> 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?<sup>115</sup>

*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

<sup>115</sup> 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,<sup>116</sup> 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?<sup>117</sup>

**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

<sup>116</sup> 40 CFR 70.3(b) and 71.3(b) provide for certain area source deferrals and exemptions, which are not detailed here.

<sup>117</sup> 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)(iii) 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<sub>x</sub> 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,<sup>118</sup> 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

<sup>118</sup> 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/tribaldisig.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.<sup>119</sup> 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<sub>x</sub> substitution allowed, following EPA's NO<sub>x</sub> Substitution Guidance:

(A) Estimate the actual anthropogenic base year inventory for both VOC and NO<sub>x</sub> 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<sub>x</sub> emissions factors calculated in Step B and multiply by 2002 VMT. This result is the NO<sub>x</sub> emissions reductions that will occur between 2002 and 2008 without the benefits of any post-1990 CAA measures. These are the non-creditable NO<sub>x</sub> 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<sub>x</sub> reductions calculated in Step C from the actual anthropogenic 2002 NO<sub>x</sub> inventory estimated in Step A. These adjusted VOC and NO<sub>x</sub> inventories are the basis for calculating the target level of emissions in 2008.

(E) The target level of VOC and NO<sub>x</sub> emissions in 2008 needed to meet the 2008 ROP requirement is any combination of VOC and NO<sub>x</sub> 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<sub>x</sub> inventory in Step D. The actual projected 2008 VOC and NO<sub>x</sub> 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<sub>x</sub> emissions.

(3) Method 3: For all areas that have used Method 1 above (and therefore do not have a NO<sub>x</sub> target level of emissions for 2008) and must meet an additional reduction VOC requirement of 9 percent every 3 years after 2008 with NO<sub>x</sub> substitution allowed, following EPA's NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> in 2002 and 2008 (previously done in Step B in Method 1 for VOC but not necessarily for NO<sub>x</sub>) 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<sub>x</sub> emission factors calculated in Step B and multiply by 2002 VMT. The result is the NO<sub>x</sub> emissions reductions that will occur between 2002 and 2011 without the benefits of any post-1990 CAA measures. These are the non-creditable NO<sub>x</sub> 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<sub>x</sub> reductions calculated in Step C from the actual 2002 NO<sub>x</sub> inventory of emissions calculated in Step A. These adjusted VOC and NO<sub>x</sub> inventories are the basis for calculating the target level of emissions in 2011.

<sup>119</sup> 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<sub>x</sub> emissions in 2011 needed to meet the 2011 ROP requirement is any combination of VOC and NO<sub>x</sub> 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<sub>x</sub> inventory in Step C. The actual projected 2011 VOC and NO<sub>x</sub> 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<sub>x</sub> emissions.

(F) For subsequent 3-year periods until the attainment date, repeat the process for VOC. For subsequent 3-year periods, the adjusted NO<sub>x</sub> inventory should be based on the difference in NO<sub>x</sub> emissions during that 3-year period when all post-1990 CAA measures are turned off, subtracted from the previous NO<sub>x</sub> target level of emissions. For example, for 2014, take the difference in NO<sub>x</sub> 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<sub>x</sub> emissions calculated in Step D to get the adjusted NO<sub>x</sub> inventory to be used as the basis for calculating the target level of NO<sub>x</sub> emissions in 2014.

(4) Method 4: For all areas that have used Method 2 above (and therefore do have a NO<sub>x</sub> target level of emissions for 2008) and must meet an additional reduction VOC requirement of 9 percent every 3 years after 2008 with NO<sub>x</sub> substitution allowed, following EPA's NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> emission factors calculated in Step A and multiply by 2002 VMT. The result is the NO<sub>x</sub> emissions reductions that will occur between 2008 and 2011 without the benefits of any post-1990 CAA measures. These are the non-creditable NO<sub>x</sub> 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<sub>x</sub> reductions calculated in Step B from the 2008 NO<sub>x</sub> target level of emissions calculated previously. These adjusted VOC and NO<sub>x</sub> inventories are the basis for calculating the target level of emissions in 2011.

(D) The target level of VOC and NO<sub>x</sub> emissions in 2011 needed to meet the 2011 ROP requirement is any combination of VOC and NO<sub>x</sub> 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<sub>x</sub> inventory in Step C. The actual projected 2011 VOC and NO<sub>x</sub> 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<sub>x</sub> 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  
 EGU—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<sub>x</sub>—Nitrogen Oxides  
 NO<sub>y</sub>—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<sub>2.5</sub>—Fine Particulate Matter  
 PM<sub>10</sub>—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<sub>2</sub>—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<sub>x</sub>

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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> shall be considered significant for ozone.

\* \* \* \* \*

(23)(i) \* \* \*

\* \* \* \* \*

Ozone: 40 tpy of volatile organic compounds or NO<sub>x</sub>

\* \* \* \* \*

(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<sub>x</sub> are precursors for ozone);

\* \* \* \* \*

(i) \* \* \*

(5) \* \* \*

(i) \* \* \*

(e) \* \* \*

<sup>1</sup> 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<sub>x</sub> 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<sub>x</sub> or VOC emissions reductions (or both) to achieve the 15 percent emission reduction requirement. Use of NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> exemption provisions apply for the 8-hour NAAQS?**

(a) A person may petition the Administrator for an exemption from NO<sub>x</sub> 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<sub>x</sub> exemption granted for the 1-hour ozone standard does not relieve the area from any NO<sub>x</sub>

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<sub>x</sub>

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<sub>x</sub> 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<sub>x</sub> shall be considered major for ozone.

\* \* \* \* \*

(2) \* \* \*

(ii) Any significant emissions increase (as defined in 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<sub>x</sub> shall be considered significant for ozone.

\* \* \* \* \*

(23)(i) \* \* \*

\* \* \* \* \*

Ozone: 40 tpy of volatile organic compounds or NO<sub>x</sub>

\* \* \* \* \*

(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<sub>x</sub> are precursors for ozone);

\* \* \* \* \*

(i) \* \* \*

(5) \* \* \*

(i) \* \* \*

<sup>1</sup> 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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