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Part III

## Environmental Protection Agency

40 CFR Parts 50, 51, and 93
Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements; Proposed Rule

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Parts 50, 51, and 93**

**[EPA–HQ–OAR–2013–0691; FRL–9916–08–OAR]**

**RIN 2060–AQ48**

## Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing requirements that state, local and tribal air agencies would have to meet as they implement the current and future national ambient air quality standards (NAAQS) for fine particulate matter ($PM_{2.5}$). Specifically, this notice provides details on how the EPA proposes that air agencies meet the statutory state implementation plan (SIP) requirements that apply to areas designated nonattainment for any $PM_{2.5}$ NAAQS, such as: general requirements for attainment plan due dates and attainment dates; emissions inventories; attainment demonstrations; provisions for demonstrating reasonable further progress; quantitative milestones; contingency measures; and nonattainment New Source Review (NNSR) permitting programs, among other things. This proposed rule clarifies the specific attainment planning requirements that would apply to $PM_{2.5}$ NAAQS nonattainment areas based on their classification (either Moderate or Serious), and the process for reclassifying Moderate areas to Serious. Additionally in this notice, the EPA is proposing to revoke the 1997 primary annual standard because the EPA revised the primary annual standard in 2012. The EPA first established the $PM_{2.5}$ NAAQS in 1997, completed a review of those standards in 2006, and most recently completed a review of the $PM_{2.5}$ NAAQS on December 14, 2012.

**DATES:** *Comments.* Comments must be received on or before May 22, 2015. *Public Hearing.* The EPA plans to hold one public hearing concerning the proposed rule in Washington, DC. The date, time and location will be announced separately. Please refer to **SUPPLEMENTARY INFORMATION** for additional information on the comment period and the public hearing. *Information Collection Request.* Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of having full effect if the Office of Management and Budget (OMB) receives a copy of your comments on or before April 22, 2015.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2013–0691, by one of the following methods:

- *http://www.regulations.gov*. Follow the on-line instructions for submitting comments.
- *Email: a-and-r-docket@epa.gov*.
- *Mail:* Air and Radiation Docket and Information Center, Attention Docket ID No. EPA–HQ–OAR–2013–0691, Environmental Protection Agency, Mailcode: 28221T, 1200 Pennsylvania Avenue NW., Washington, DC 20460. In addition, please mail a copy of your comments on the information collection (ICR) provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attn: Desk Officer for EPA, 725 17th Street NW., Washington, DC 20503.
- *Hand Delivery:* Air and Radiation Docket and Information Center, Attention Docket ID No. EPA–HQ–OAR–2013–0691, Environmental Protection Agency in the EPA Headquarters Library, Room No. 3334 in the EPA Docket Center, located at William Jefferson Clinton Building West, 1301 Constitution Avenue NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for delivery of boxed information.

*Instructions:* Direct your comments to Docket ID No. EPA–HQ–OAR–2013–0691. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or email. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *http://www.regulations.gov*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*. For additional instructions on submitting comments, go to the **SUPPLEMENTARY INFORMATION** section of this document.

*Docket:* All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center in the EPA Headquarters Library, Room No. 3334 in the William Jefferson Clinton Building West, located at 1301 Constitution Avenue NW., Washington, DC 20460. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The phone number for the Public Reading Room is (202) 566–1744.

**FOR FURTHER INFORMATION CONTACT:** For general information on this proposed rule, contact Mr. Rich Damberg, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, by phone at (919) 541–5592 or by email at *damberg.rich@epa.gov*; or Ms. Megan Brachtl, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, by phone at (919) 541–2648 or by email at *brachtl.megan@epa.gov*. For information on the public hearing, contact Ms. Pamela Long, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, by phone at (919) 541–0641 or by email at *long.pam@epa.gov*. For information on the ICR, contact Mr. Butch Stackhouse, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, by phone at (919) 541–5208 or by email at *stackhouse.butch@epa.gov*.

**SUPPLEMENTARY INFORMATION:**

## I. General Information

### *A. Preamble Glossary of Terms and Acronyms*

The following are abbreviations of terms used in the preamble.

AERR Air Emissions Reporting Rule
BACM Best Available Control Measures
BACT Best Available Control Technology
BART Best Available Retrofit Technology
BC Black Carbon
CAA Clean Air Act
CAIR Clean Air Interstate Rule
CAMx Comprehensive Air Quality Model with Extensions
CBI Confidential Business Information
CBSA Core-based Statistical Area
CDD Clean Data Determination
CFR Code of Federal Regulations
CMAQ Community Multi-Scale Air Quality Model
CSAPR Cross-State Air Pollution Rule
CSN Chemical Speciation Network
DOD Department of Defense
DOT Department of Transportation
EC Elemental Carbon
EGU Electric Generating Unit
EPA Environmental Protection Agency
Fe Iron
FEM Federal Equivalent Method
FIP Federal Implementation Plan
FRM Federal Reference Method
HCl Hydrogen Chloride
ICR Information Collection Request
LAER Lowest Achievable Emission Rate
MACT Maximum Achievable Control Technology
MATS Mercury and Air Toxics Standards
MSM Most Stringent Measures
MPO Metropolitan Planning Organization
NAAQS National Ambient Air Quality Standards
NAICS North American Industry Classification System
NAPAP National Acid Precipitation Assessment Program
NEI National Emissions Inventory
NESHAP National Emissions Standard for Hazardous Air Pollutants
$NH_3$ Ammonia
$NH_4$ Ammonium
$NH_4NO_3$ Ammonium Nitrate
$NH_4HSO_4$ Ammonium Bi-Sulfate
$(NH_4)_2SO_4$ Ammonium Sulfate
NNSR Nonattainment New Source Review
$NO_X$ Nitrogen Oxides
$NO_3$ Nitrate
NSPS New Source Performance Standards
$O_3$ Ozone
OM Organic Mass
OMB Office of Management and Budget
PM Particulate Matter
$PM_{2.5}$ Particulate Matter Equal to or Less than 2.5 Microns in Diameter (Fine Particulate Matter)
$PM_{10}$ Particulate Matter Equal to or Less than 10 Microns in Diameter
PRA Paperwork Reduction Act
PSD Prevention of Significant Deterioration
RACM Reasonably Available Control Measures
RACT Reasonably Available Control Technology
RFP Reasonable Further Progress
RICE Reciprocating Internal Combustion Engines
SIP State Implementation Plan
SOA Secondary Organic Aerosols
$SO_2$ Sulfur Dioxide
$SO_4$ Sulfate
TAR Tribal Authority Rule
TIP Tribal Implementation Plan
TIP Transportation Improvement Program
TSP Total Suspended Particles
μm Micrometer (Micron)
VMT Vehicle Miles Traveled
VOC Volatile Organic Compounds

### *B. Does this action apply to me?*

Entities potentially affected directly by this proposed rule include state, local and tribal governments and air pollution control agencies responsible for attainment and maintenance of the NAAQS. Entities potentially affected indirectly by this proposed rule as regulated sources include owners and operators of sources that emit $PM_{2.5}$, sulfur dioxide ($SO_2$), oxides of nitrogen ($NO_X$), volatile organic compounds (VOC) and/or ammonia ($NH_3$). Others potentially affected indirectly by this proposed rule include members of the general public who live, work, or recreate in areas affected by elevated ambient $PM_{2.5}$ levels in areas designated nonattainment for a $PM_{2.5}$ NAAQS.

### *C. What should I consider as I prepare my comments for the EPA?*

1. *Submitting CBI.* Do not submit this information to the EPA through *http://www.regulations.gov* or email. Clearly mark the specific information that you claim to be CBI. For CBI in a disk or CD–ROM that you mail to the EPA, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for preparing comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions. The proposed rule may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree, suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used to support your comment.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns wherever possible, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

### *D. What information should I know about possible public hearings?*

For information pertaining to the one public hearing on this document, contact Ms. Pamela Long, Air Quality Policy Division, Office of Air Quality Planning and Standards (C504–03), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number (919) 541–0641; fax number (919) 541–5509; email address: *long.pam@epa.gov*.

### *E. Where can I obtain a copy of this document and other related information?*

In addition to being available in the docket, an electronic copy of this **Federal Register** document will be posted at *http://www.epa.gov/airquality/particlepollution/actions.html*.

### *F. How is this Federal Register document organized?*

The information presented in this document is organized as follows:

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## II. Background for Proposal

### *A. Introduction*

Ambient, or outdoor, air can contain a variety of pollutants, including particulate matter (PM). Airborne PM can be comprised of either solid or liquid particles, and can be a complex mixture of particles in both solid and liquid form. The most common constituents of airborne PM include: sulfate ($SO_4$); nitrate ($NO_3$); ammonium ($NH_4$); elemental carbon (EC); organic mass (OM); and inorganic material, generally referred to as ''crustal'' material, which can include metals, dust, sea salt and other trace elements. Airborne PM can be of different sizes, commonly referred to as ''coarse'' and ''fine'' particles. Fine particles, in general terms, are particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (μm). For this reason, particles of this size are referred to as $PM_{2.5}$. $PM_{2.5}$ particles commonly include ''primary'' particles and ''secondary'' particles. Primary particles, or direct $PM_{2.5}$, are emitted by sources directly into the air as solid or liquid particles (*e.g.,* elemental carbon from diesel engines or wildfires, or condensable organic particles from gasoline engines). Secondary particles are formed in the atmosphere as a result of chemical reactions between specific pollutants known as $PM_{2.5}$ precursors (*e.g.,* reactions between $NO_X$ and $SO_2$ emissions from mobile and stationary sources combined with ammonia to form $NO_3$ and $SO_4$).

The human health effects associated with long- or short-term exposure to $PM_{2.5}$ are significant and include premature mortality, aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions and emergency room visits) and development of chronic respiratory disease. In addition, welfare effects associated with elevated $PM_{2.5}$ levels include visibility impairment as well as effects on sensitive ecosystems, materials damage and soiling and climatic and radiative processes.[1]

On December 14, 2012, the EPA made revisions to the suite of NAAQS for PM to provide requisite protection of public health and welfare with an adequate margin of safety. The EPA also made corresponding revisions to the data handling conventions for PM and the ambient air monitoring, reporting and network design requirements for PM. Specifically, the agency revised the primary annual $PM_{2.5}$ standard by lowering the level from 15.0 to 12.0 μg/m$^3$ to provide increased protection against health effects associated with long- and short-term $PM_{2.5}$ exposures. The EPA did not revise the secondary annual $PM_{2.5}$ standard which remains at 15.0 μg/m$^3$.[2] The EPA eliminated spatial averaging as part of the form of the $PM_{2.5}$ annual standards to avoid potential disproportionate impacts on at-risk populations. In addition, the EPA retained the level and form of the primary and secondary 24-hour $PM_{2.5}$ standards to continue to provide supplemental protection against health effects associated with short-term $PM_{2.5}$ exposures. Although not directly relevant to this rulemaking with respect to the $PM_{2.5}$ NAAQS, it should be noted that in December 2012, the EPA also did not revise the level or form of the

[1] For a complete discussion of the human health and welfare effects associated with exposure to elevated concentrations of particulate matter, *see generally* ''Integrated Science Assessment for Particulate Matter.'' U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment-RTP Division, February 10, 2010. EPA/600/R–08/139F. Available at: *http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_2007_isa.html. See* Chapter 2.

[2] 78 FR 3086 (January 15, 2013).

primary and secondary 24-hour $PM_{10}$ standards, which remain at 150 μg/m³.[3]

Estimates show that attainment of the primary $PM_{2.5}$ standards will result in hundreds fewer premature deaths each year, prevent tens of thousands of hospital admissions each year and prevent hundreds of thousands of doctor visits, absences from work and school and respiratory illnesses in children annually.[4] Attainment of the primary $PM_{2.5}$ standards will have welfare co-benefits in addition to direct human health benefits. The term welfare co-benefits covers both environmental and societal benefits of reducing pollution, such as reductions in visibility impairment, materials damage and ecosystem damage.[5]

*B. Atmospheric Chemistry of $PM_{2.5}$ and Its Precursors*

1. Overview

In order to determine how to regulate sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors to attain the $PM_{2.5}$ NAAQS in a given nonattainment area, it is necessary to understand the basic chemical processes that cause or contribute to the formation of ambient $PM_{2.5}$. Accordingly, an understanding of these processes is necessary to design appropriate regulations for implementation of the $PM_{2.5}$ NAAQS. Properly designed regulatory requirements will help to assure that the $PM_{2.5}$ NAAQS are attained effectively and expeditiously in all areas.

As noted earlier, the term $PM_{2.5}$ refers to particles of solid and liquid material less than 2.5 microns in aerodynamic diameter.[6] ''Primary'' $PM_{2.5}$ is emitted directly from emissions sources or activities, such as from diesel fuel combustion, wood burning, construction activities or unpaved roads, and it includes both filterable and condensable particles.[7] ''Secondary'' $PM_{2.5}$ is formed as a result of emissions of certain precursor gases that undergo chemical reactions in the atmosphere. The principal precursor gases that contribute to secondary $PM_{2.5}$ formation are $SO_2$, from the combustion of coal or other high sulfur fuels; $NO_X$, from many types of fossil fuel combustion; VOC, from certain fuels, solvents and industrial processes; and ammonia, from sources such as animal feeding operations, wastewater treatment and fertilizer. Table 1 provides National Emissions Inventory (NEI) data for 2011 that represent nationwide anthropogenic emissions estimates for direct $PM_{2.5}$ and the four main $PM_{2.5}$ precursor gases from major source sectors.

TABLE 1—TOTAL EMISSIONS OF $PM_{2.5}$ AND PRECURSORS FOR MAJOR SECTORS (IN TONS/YEAR)

[Source: 2011 National Emissions Inventory (Version 1) [a]]

| Category | Direct $PM_{2.5}$ | $SO_2$ | $NO_X$ | VOC | $NH_3$ |
|---|---|---|---|---|---|
| Chemical and allied products | 16,464 | 125,768 | 49,867 | 79,236 | 23,044 |
| Fuel combustion—electric generating utilities (EGUs) | 196,685 | 4,612,641 | 2,031,855 | 40,597 | 24,968 |
| Fuel combustion —other | 628,199 | 987,552 | 1,856,716 | 588,346 | 79,679 |
| Other industrial | 273,857 | 185,859 | 348,561 | 328,222 | 53,039 |
| Onroad mobile | 208,629 | 28,969 | 5,785,570 | 2,413,026 | 119,654 |
| Metals processing | 48,451 | 144,630 | 70,655 | 34,277 | 1,140 |
| Miscellaneous (mainly fire emissions, dust and some agricultural operations) | 4,489,694 | 219,318 | 434,547 | 5,810,566 | 3,934,405 |
| Offroad mobile | 207,543 | 92,036 | 3,133,798 | 2,159,368 | 3,270 |
| Petroleum & related industries | 31,738 | 116,317 | 684,808 | 2,488,123 | 1,643 |
| Solvent utilization | 3,810 | 107 | 893 | 2,814,551 | 577 |
| Storage and transport | 20,098 | 9,109 | 19,079 | 1,221,185 | 5,734 |
| Waste disposal and recycling | 172,144 | 16,842 | 83,469 | 131,777 | 68,281 |

[a] For more details on the definitions of the emission categories listed in Table 1, *see* Sector/Tier crosswalk table for the 2011 NEI, available at: *ftp://ftp.epa.gov/EmisInventory/2011/doc/scc_eis_crosswalk_2011neiv1.xlsx*.

2. Composition and Sources of $PM_{2.5}$ Constituents

$PM_{2.5}$ is a complex and highly variable mixture of particles, but the majority of $PM_{2.5}$ by mass is often comprised of five constituents: (i) OM; (ii) EC; (iii) crustal material; (iv) ammonium sulfate ($(NH_4)_2SO_4$); and (v) ammonium nitrate ($NH_4NO_3$).[8] The discussion that follows provides an overview of each of the five major components of $PM_{2.5}$, all of which are known to contribute to ambient $PM_{2.5}$ levels in areas throughout the U.S.[9] Section II.B.3 provides more details on

[3] This proposed rulemaking is to develop implementation regulations with respect to the $PM_{2.5}$ NAAQS. For the $PM_{10}$ NAAQS, states and the EPA will continue to implement those NAAQS in accordance with the applicable statutory requirements of the Clean Air Act (CAA) and the EPA's existing guidance in the ''The General Preamble for Implementation of Title I of the Clean Air Act (CAA) Amendments,'' 57 FR 13498 (April 16, 1992); and ''State Implementation Plans for Serious PM–10 Nonattainment Areas: Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act (CAA) Amendments,'' 59 FR 41998 (August 16, 1994). Throughout this preamble, these documents will be referred to as the ''General Preamble'' and the ''Addendum,'' respectively.

[4] ''Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.'' U.S. Environmental Protection Agency, Office of Air Quality and Planning Standards, Health and Environmental Impacts Division, February 28, 2013. EPA–452/R–12–005. *See: http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_2007_ria.html.*

[5] *Ibid.*

[6] The regulatory definition of $PM_{2.5}$ includes particles with an upper 50 percent cut-point of 2.5μm aerodynamic diameter (the 50 percent cut-point diameter is the diameter at which the sample collects 50 percent of the particles and rejects 50 percent of the particles). $PM_{2.5}$ particles have a penetration curve as measured by a reference method based on Appendix L of 40 CFR part 50 and designated in accordance with 40 CFR part 53, by an equivalent method designed in accordance with 40 CFR part 53, or by an approved regional method designated in accordance with Appendix C of 40 CFR part 58.

[7] Certain commercial or industrial activities involving high temperature processes (*e.g.,* fuel combustion, metal processing, cooking operations) emit gaseous pollutants into the ambient air which rapidly condense into particle form. These ''condensable'' PM emissions exist almost entirely in the 2.5 or less micron range and can consist of organic material, sulfuric acid and metals.

[8] Seinfeld J.H. and Pandis S.N., 2006. *Atmospheric Chemistry and Physics: From Air Pollution to Climate Change.* 2nd edition, J. Wiley, New York.

[9] U.S. Environmental Protection Agency, 2004. ''The Particle Pollution Report: Current Understanding of Air Quality and Emissions through 2003.'' Office of Air Quality Planning and Standards, Emissions, Monitoring, and Analysis Division, December 2004. Available at: *http://www.epa.gov/airtrends/reports.html.*

the atmospheric chemistry involved in the formation of sulfate, nitrate and OM, to illustrate the importance of controlling emissions of $PM_{2.5}$ precursors as part of any comprehensive strategy to reduce ambient $PM_{2.5}$ levels in excess of the NAAQS. Section II.B.4 presents a brief overview of $PM_{2.5}$ composition by region of the U.S.

OM is the fraction of ambient $PM_{2.5}$ with the most diverse chemical composition, containing potentially thousands of different organic compounds (*i.e.,* those compounds containing carbon) composed primarily of carbon, hydrogen, oxygen and nitrogen. Both primary particles and secondary particles contribute to ambient OM concentrations, with combustion sources being the dominant type of emissions sources. Another portion of primary OM particles results from direct emissions of organic compounds from sources of incomplete combustion, such as gas and diesel engines. Secondary OM particle formation involves oxidation of both anthropogenic and biogenic (plant-derived) VOC, and can involve other, more complex chemical reactions. Further details of the chemistry behind the formation of secondary OM, known more commonly as secondary organic aerosols (SOA), are described in Section II.B.3 of this preamble.

EC refers to particulate carbon that has a graphitic molecular structure, and is sometimes referred to as ''black carbon'' (BC). It is emitted directly from emission sources and does not undergo any significant reactions with other gases in the atmosphere. EC particles result from primary emissions involving combustion, especially from diesel-fueled vehicles, but also from other processes involving the burning of fossil fuels. The latter includes anthropogenic sources such as boilers and waste disposal. In addition, some EC particles originate from biomass combustion such as from prescribed fires, wildfires and residential wood combustion.

Crustal PM is comprised of particles of soil and oxides of metals from some industrial processes. Compounds comprised of elements such as silicon, aluminum, iron, calcium, titanium, magnesium and potassium, as well as oxygen, are major components.[10] Sources of crustal $PM_{2.5}$ include windblown dust, dust from mechanical resuspension (*e.g.* dust from construction activities or vehicles driving on unpaved roads) and some forms of combustion, especially of coal. Crustal $PM_{2.5}$ comprised of elements, like iron (Fe), and their oxides can also be emitted from industrial sources.

The remaining portion of ambient $PM_{2.5}$ is mostly composed of $SO_4$, $NO_3$ and $NH_4$, which react in the ambient air to form ammonium sulfate ($(NH_4)_2SO_4$) and ammonium nitrate ($NH_4NO_3$). Another common $PM_{2.5}$ particle is ammonium bi-sulfate ($NH_4HSO_4$). In some areas, less common ions such as chloride are also found in $PM_{2.5}$ samples in the form of particles that include sodium chloride and ammonium chloride. Particle-bound water is often also associated with this fraction of $PM_{2.5}$. Sulfate, nitrate and ammonium particles originate through both primary and secondary mechanisms, although the vast majority of these $PM_{2.5}$ particles are formed through secondary formation, as described in the following section.

3. Secondary Formation of $PM_{2.5}$ From Gaseous Precursors

a. *Overview.* The composition of $PM_{2.5}$ is complex and highly variable due in part to the large contribution of secondary $PM_{2.5}$ to total fine particle mass in most locations, and to the complexity of secondary particle formation processes. A large number of possible chemical reactions, often non-linear in nature, can convert the gases $SO_2$, $NO_X$, VOC and ammonia to $PM_{2.5}$. Thus, these gases are precursors to $PM_{2.5}$. A brief discussion of $SO_4$, $NO_3$ and SOA formation, as well as the role of ammonia in their formation, follows.

b. *$SO_4$ formation.* $SO_2$ is emitted mostly from the combustion of fossil fuels in boilers operated by electric utilities and other industries, with less than 10 percent of $SO_2$ emissions nationwide coming from other industrial sources, such as oil refining and pulp and paper production.[11] When $SO_2$ oxidizes it forms sulfuric acid, a highly corrosive compound toxic to humans and to ecosystems that contributes to acid deposition (acid rain). In the presence of ammonia, however, sulfuric acid will react to form $(NH_4)_2SO_4$, a less acidic compound and one of the five major components of $PM_{2.5}$. If there is not enough ammonia present to fully neutralize the sulfuric acid, part of it may convert to $NH_4HSO_4$, which is more acidic than $(NH_4)_2SO_4$, but less so than sulfuric acid. There is a large amount of emerging scientific evidence that $SO_2$ may also contribute to the formation of SOA from biogenic VOC emissions (*see* section later on SOA). Sulfate levels in the ambient air peak in summer months due to increased $SO_2$ emissions, generally from electricity generating units, and from meteorological conditions that are conducive to sulfate formation.

c. *$NO_3$ formation.* The main sources of $NO_X$ emissions are combustion of fossil fuel in boilers and mobile sources, accounting for more than 80 percent of national anthropogenic $NO_X$ emissions (based on the 2011 NEI), with boilers and electric generating units (EGUs) contributing about 27 percent and mobile sources contributing 56 percent. Oxides of nitrogen react in the atmosphere to form nitric acid, another prime contributor to acid deposition in the environment. Nitric acid converts to ammonium nitrate, one of the five main components of $PM_{2.5}$, in the presence of ammonia. Low temperatures and high relative humidity create ideal conditions for the formation of ammonium nitrate, typically leading to higher atmospheric levels in winter months and lower levels in summer months.[12]

d. *SOA formation.* As discussed earlier, the OM component of ambient $PM_{2.5}$ is a complex mixture of hundreds or even thousands of anthropogenic and biogenic organic compounds. These compounds are either emitted directly from sources (*i.e.,* as ''primary'' $PM_{2.5}$) or can be formed by reactions in the ambient air to make SOA (*i.e.,* as ''secondary'' $PM_{2.5}$).

VOC (both anthropogenic and biogenic) are key precursors to the SOA component of $PM_{2.5}$. The relative importance of these compounds in the formation of organic particles varies between geographic areas, depending upon local emission sources, atmospheric chemistry and season of the year. It should be further noted that not all inventoried VOC may be contributing to the formation of organic particles. For example, chemical reactions involving VOC are generally accelerated in warmer temperatures, and for this reason studies show that SOA typically comprises a higher

[10] Appel, K.W., Pouliot, G.A., Simon, H., Sarwar, G., Pye, H.O.T., Napelenok, S.L., Akhtar, F., and Roselle, S.J., 2013. Evaluation of dust and trace metal estimates from the Community Multiscale Air Quality (CMAQ) model version 5.0, Geoscientific Model Development Discussions 61859–1899; Sorooshian, A., Shingler, T., Harpold, A., Feagles, C.W., Meixner, T., and Brooks, P.D., 2013. Aerosol and precipitation chemistry in the southwestern United States: spatiotemporal trends and interrelationships, Atmospheric Chemistry and Physics 13, 7361–7379.

[11] U.S. Environmental Protection Agency, 2013. ''2008 National Emissions Inventory: Review Analysis and Highlights.'' Office of Air Quality Planning and Standards, Air Quality Assessment Division, May 2013. EPA–454/R–005. Available at: *http://www.epa.gov/ttn/chief/net/2008report.pdf.*

[12] Carlton, A.G., Pinder, R.W., Bhave, P.B., Pouliout, G.A., 2010. To What Extent Can Biogenic SOA Be Controlled, Environmental Science and Technology 44(9), 3376–80.

percentage of $PM_{2.5}$ in the summer than in the winter.[13]

Anthropogenic sources of VOC include mobile sources, petrochemical manufacturing, oil and gas emissions and solvents.[14] In addition, some biogenic VOC, emitted by vegetation such as trees, can also contribute significantly to SOA formation, especially in heavily forested areas, such as the southeastern U.S. It should be noted, however, that anthropogenic contributions to SOA are likely highest in the wintertime when biogenic SOA levels are lower; conversely, in the summertime, biogenic contributions to SOA are likely higher. Despite significant progress that has been made in understanding the origins and properties of SOA, it remains the least understood component of $PM_{2.5}$ and continues to be a significant topic of research and investigation.

e. *Role of ammonia in sulfate, nitrate and SOA formation.* Ammonia is a gaseous pollutant emitted by natural and anthropogenic sources. The EPA's 2011 NEI shows that the two main sources of ammonia emissions are fertilizer application (27 percent) and livestock raising (54 percent). It should be noted that the 2011 NEI indicates that mobile sources in the aggregate contribute about 3 percent of nationwide ammonia emissions. Much of those emissions comes from catalytic converters installed on light-duty gasoline vehicles, which are designed to convert $NO_X$ to nitrogen ($N_2$); however, some ammonia is formed as a secondary product during this process.

As indicated earlier, ammonia plays an important role in neutralizing acids, such as sulfuric acid and nitric acid, in clouds, precipitation and particles. On the other hand, deposited ammonia can contribute to problems of eutrophication in water bodies due to its nutritive properties.[15] Ammonia would not exist in particles if not for the presence of acidic species with which it can combine to form a particle. In the eastern U.S., sulfate, nitrate and the ammonium associated with them can together account for between roughly 30 percent and 75 percent of the total $PM_{2.5}$ mass in a given area. The ammonium portion by itself roughly accounts for between 5 percent and 20 percent of the total $PM_{2.5}$ mass in the East.[16]

f. *Role of $NO_X$ in sulfate, nitrate and SOA formation.* In addition to the contribution of $NO_X$ emissions to secondary particulate nitrate formation, $NO_X$ also reacts with anthropogenic and biogenic VOC that have an impact on secondary formation of organic compounds that make up SOA. $NO_X$ is thus involved in all secondary PM chemistry, not just in particulate nitrate formation.[17]

4. Fine Particulate Composition By Location

Table 2 shows regional 3-year mean concentrations (2009–2011) of $PM_{2.5}$ and its main components at sites in the Chemical Speciation Network (CSN).[18] In addition to the mean values for all sites in each region, the table includes the minimum and maximum observed $PM_{2.5}$ and species concentrations for sites within each region. These data illustrate broad observed spatial patterns across the U.S. in $PM_{2.5}$ concentrations and its composition. For example, $PM_{2.5}$ concentrations are highest on average in the Central and West regions. Sulfate mass comprises a larger fraction of $PM_{2.5}$ than nitrate mass in the northeastern U.S., whereas nitrate has a greater contribution than that of sulfate in the West. OM is the dominant component in all regions, with the highest concentrations of OM on average found in the West, Northwest and Southeast. On a percentage basis, the concentrations of EC and crustal material are relatively low throughout all regions of the U.S. compared to the other major $PM_{2.5}$ components.

The composition of $PM_{2.5}$ also varies between urban and rural areas. This is reflective of the distribution of urban and regional emission sources, atmospheric reactions and transport of fine particles. More details about the spatial distribution and origins of $PM_{2.5}$ components can be found in the docket for this proposal.[19]

TABLE 2—$PM_{2.5}$ CHEMICAL COMPOSITION DATA AT 2009–2011 NONATTAINMENT SITES

[Source: EPA Speciation Trends Network]

| Region | Statistic | Concentration (μg/m³) | | | | | |
|---|---|---|---|---|---|---|---|
| | | $SO_e$ | $NO_3$ | OM | EC | CrM | $PM_{2.5}$ |
| Central | Min (μg/m³) | 1.46 | 0.3 | 2.73 | 0.31 | 0.01 | 8.92 |
| | Mean (μg/m³) | 2.69 | 1.49 | 3.57 | 0.68 | 0.26 | 11.63 |
| | Max (μg/m³) | 4.19 | 3.34 | 4.81 | 1.1 | 1.0 | 13.51 |
| | N | 61 | 61 | 50 | 50 | 61 | 42 |
| East North Central | Min (μg/m³) | 0.83 | 0.38 | 1.97 | 0.19 | 0.01 | 6.03 |
| | Mean (μg/m³) | 1.68 | 1.8 | 2.84 | 0.48 | 0.19 | 9.86 |
| | Max (μg/m³) | 2.51 | 3.57 | 3.69 | 0.79 | 0.61 | 11.87 |
| | N | 29 | 28 | 20 | 20 | 28 | 23 |
| North East | Min (μg/m³) | 0.58 | 0.12 | 1.74 | 0.14 | 0 | 4.42 |
| | Mean (μg/m³) | 2.06 | 0.97 | 3.14 | 0.69 | 0.17 | 9.33 |
| | Max (μg/m³) | 5.12 | 2.26 | 5.05 | 1.69 | 0.52 | 15.05 |
| | N | 59 | 59 | 39 | 39 | 59 | 46 |
| North West | Min (μg/m³) | 0.24 | 0.05 | 2.91 | 0.42 | 0.01 | 6.06 |
| | Mean (μg/m³) | 0.54 | 0.4 | 5.02 | 0.81 | 0.15 | 8.33 |

[13] Pandis S.N., Harley R.A., Cass G.R., and Seinfeld J.H., 1992. Secondary Organic Aerosol Formation and Transport, Atmospheric Environment, 26, 2266–82.

[14] Carlton, A.G., Bhave, P.B., Napelenok, S.L., Edney, E.O., Sarwar, G., Pinder, R.W., Pouliout, G.A., and Houyoux, M. (2010), Model Representation of Secondary Organic Aerosol in CMAQ4.7, Environmental Science and Technology 44(22), 8553–60.

[15] Seinfeld, J.H. and Pandis, S.N. (1998), *Atmospheric Chemistry and Physics: From Air Pollution to Climate Change,* 1st edition, J. Wiley, New York.

[16] NARSTO, 2003. Particulate Matter Science for Policy Makers. A NARSTO Assessment. Parts 1 and 2. NARSTO. Management Office (Envair), Pasco, Washington. Available at: *http://narsto.org/pm_science_assessment.*

[17] Carlton, A.G., Pinder, R.W., Bhave, P.B., and Pouliout, G.A., 2010. To what extent can Biogenic SOA be Controlled, Environmental Science and Technology 44(9), 3376–3380.

[18] The organic matter (OM) values in Table 2 were calculated by multiplying the measured organic carbon (OC) concentrations by 1.6 (Turpin and Lim (2001), Aerosol Science and Technology, 35, 602–610). $PM_{2.5}$ concentrations come from measurements of the Federal Reference/Equivalance Methods (FRM/FEM) rather than from the CSN $PM_{2.5}$ measurement.

[19] Reff and Rao, Memo to the docket, 2013.

TABLE 2—$PM_{2.5}$ CHEMICAL COMPOSITION DATA AT 2009–2011 NONATTAINMENT SITES—Continued

[Source: EPA Speciation Trends Network]

| Region | Statistic | Concentration (μg/m³) | | | | | |
|---|---|---|---|---|---|---|---|
| | | $SO_e$ | $NO_3$ | OM | EC | CrM | $PM_{2.5}$ |
| | Max (μg/m³) | 1.09 | 1.79 | 8.44 | 1.25 | 0.53 | 10.96 |
| | N | 33 | 33 | 13 | 13 | 33 | 14 |
| South | Min (μg/m³) | 0.88 | 0.18 | 1.36 | 0.12 | 0.02 | 5.22 |
| | Mean (μg/m³) | 2.06 | 0.8 | 3.32 | 0.57 | 0.5 | 10.05 |
| | Max (μg/m³) | 3.08 | 1.67 | 5.1 | 1.48 | 2.38 | 14.27 |
| | N | 36 | 27 | 23 | 23 | 36 | 23 |
| South East | Min (μg/m³) | 1.6 | 0.2 | 1.75 | 0.37 | 0.01 | 6.76 |
| | Mean (μg/m³) | 2.39 | 0.53 | 4.12 | 0.63 | 0.26 | 10.77 |
| | Max (μg/m³) | 4.33 | 1.51 | 5.71 | 1.2 | 0.85 | 13.38 |
| | N | 44 | 43 | 30 | 30 | 43 | 29 |
| South West | Min (μg/m³) | 0.34 | 0.07 | 2.34 | 0.46 | 0.02 | 5.3 |
| | Mean (μg/m³) | 0.63 | 0.49 | 3.01 | 0.7 | 0.5 | 7.93 |
| | Max (μg/m³) | 1.13 | 2.65 | 4.39 | 1.04 | 1.96 | 9.73 |
| | N | 46 | 46 | 11 | 11 | 46 | 12 |
| West | Min (μg/m³) | 0.33 | 0.08 | 1.79 | 0.52 | 0.01 | 6.84 |
| | Mean (μg/m³) | 0.9 | 1.4 | 5.22 | 0.85 | 0.32 | 11.49 |
| | Max (μg/m³) | 2.08 | 5.14 | 10.27 | 1.56 | 1.05 | 16.57 |
| | N | 44 | 44 | 20 | 20 | 44 | 21 |
| West North Central | Min (μg/m³) | 0.29 | 0.06 | 1.22 | 0.09 | 0 | 3.23 |
| | Mean (μg/m³) | 0.67 | 0.48 | 3.16 | 0.44 | 0.22 | 7.25 |
| | Max (μg/m³) | 1.79 | 2.02 | 8.28 | 1.21 | 0.53 | 13.72 |
| | N | 30 | 30 | 7 | 7 | 30 | 10 |

*C. Historical Overview of $PM_{2.5}$ NAAQS Setting and Implementation*

Sections 108 and 109 of the CAA govern the establishment, review and revision, as appropriate, of NAAQS for widespread pollutants emitted from numerous and diverse sources considered harmful to public health and the environment. The CAA requires two types of NAAQS: (i) *Primary* standards, which set limits to protect public health, including the health of at-risk populations; and (ii) *secondary* standards, which set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation and buildings.

The EPA first promulgated annual and 24-hour NAAQS for $PM_{2.5}$ in July 1997.[20] Prior to that time, the EPA had addressed ambient particulate matter through other means, first by regulating ''total suspended particles'' (TSP) and then later by regulating $PM_{10}$. After protracted litigation, the 1997 NAAQS for $PM_{2.5}$ were upheld by the U.S. Court of Appeals for the District of Columbia Circuit in March 2002.[21] The EPA subsequently promulgated designations for the 1997 $PM_{2.5}$ NAAQS nationwide, and designated a number of areas as nonattainment for the 1997 $PM_{2.5}$ NAAQS, effective April 2005.[22] In April 2007, the EPA issued a detailed implementation rule to assist states with the development of SIP submissions to meet attainment plan requirements for the 1997 NAAQS (the ''2007 $PM_{2.5}$ Implementation Rule'').[23] In May 2008, the EPA issued another rule to assist states with SIP submissions to meet the specific requirements for permitting programs for NNSR purposes in designated nonattainment areas (the ''2008 $PM_{2.5}$ NSR Rule'').[24] The EPA premised both the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule on the EPA's interpretation of the statute that nonattainment areas for the $PM_{2.5}$ NAAQS were subject solely to the general nonattainment plan requirements of subpart 1, part D of title I of the CAA (''subpart 1'').

Section 109(d)(1) of the CAA requires the EPA periodically to review the science upon which the standards are based and the standards themselves, and to revise the standards as may be appropriate. In October 2006, the EPA promulgated revisions to the suite of NAAQS for PM, and in particular the EPA revised the 24-hour $PM_{2.5}$ standards.[25] In accordance with section 107(d), the EPA subsequently designated a number of areas as nonattainment for the revised 2006 24-hour $PM_{2.5}$ standards, effective December 2009.[26] In March 2012, the EPA issued a guidance document specifically to aid states in preparing their SIP submissions to meet attainment plan requirements for the 2006 24-hour $PM_{2.5}$ NAAQS in designated nonattainment areas.[27] The EPA's guidance for the 2006 $PM_{2.5}$ NAAQS was based, in large part, on the requirements finalized in the 2007 $PM_{2.5}$ Implementation Rule, which the EPA based solely upon the statutory requirements of subpart 1.

The EPA initiated a review of the $PM_{2.5}$ NAAQS in June 2007, proposing revisions to the primary and secondary $PM_{2.5}$ NAAQS on June 29, 2012.[28] The EPA issued its final rule on December 14, 2012, in which it lowered the primary annual $PM_{2.5}$ standard from 15.0 μg/m³ to 12.0 μg/m³ to provide increased protection against health effects associated with long- and short-term fine particle exposures.[29] The EPA also eliminated spatial averaging as part of the form of the annual standard to avoid potential disproportionate impacts on at-risk populations.[30] The

[20] 62 FR 38652 (July 18, 1997).

[21] For a complete summary of legal challenges and related court decisions on the PM NAAQS, *see generally* 78 FR 3086 (January 15, 2013).

[22] 70 FR 944 (January 5, 2005).

[23] 72 FR 20583 (April 25, 2007).

[24] 73 FR 28231 (May 16, 2008).

[25] 71 FR 61144 (October 17, 2006).

[26] 74 FR 58688 (November 13, 2009).

[27] Memorandum of March 2, 2012 (withdrawn June 6, 2013), from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to EPA Regional Air Directors, Regions I–X, ''Implementation Guidance for the 2006 24-Hour Fine Particle ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS).'' Available at: *http://epa.gov/ttn/naaqs/pm/pm25_guide.html*.

[28] 77 FR 38890 (June 29, 2012).

[29] 78 FR 3086 (January 15, 2013).

[30] Spatial averaging of monitored ambient air quality data was a feature of the prior $PM_{2.5}$ NAAQS

EPA retained the level (35 μg/m³) and form (98th percentile, averaged over 3 years) of the primary 24-hour $PM_{2.5}$ standard, as revised in 2006, to provide supplemental protection against health effects associated with short-term $PM_{2.5}$ exposures, especially in areas with high peak $PM_{2.5}$ concentrations.[31] This suite of primary $PM_{2.5}$ standards provides increased public health protection, including the health of at-risk populations which include children, older adults, persons with pre-existing health and lung disease and persons of lower socioeconomic status, against a broad range of $PM_{2.5}$-related effects that include premature mortality, increased hospital admissions and emergency department visits and development of chronic respiratory disease.[32] With regard to the secondary (welfare-based) standards, the EPA retained the existing annual $PM_{2.5}$ standard of 15.0 μg/m³ and the existing 24-hour $PM_{2.5}$ standard of 35 μg/m³ to protect against PM-related non-visibility welfare effects including ecological effects, effects on materials and climate impacts. In addition, the secondary 24-hour $PM_{2.5}$ standard provides protection for PM-related visibility impairment.

On January 4, 2013, shortly after the EPA promulgated the 2012 revisions to the suite of PM NAAQS, the DC Circuit issued its decision in a challenge to the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule. In *NRDC* v. *EPA,* the court held that the EPA erred in implementing the 1997 $PM_{2.5}$ NAAQS pursuant only to the general implementation requirements of subpart 1, rather than also to the implementation requirements specific to particulate matter ($PM_{10}$) in subpart 4, part D of title I of the CAA (''subpart 4'').[33] The court reasoned that the plain meaning of the CAA requires implementation of the 1997 $PM_{2.5}$ NAAQS under subpart 4 because $PM_{2.5}$ particles fall within the statutory definition of $PM_{10}$ and are thus subject to the same statutory requirements. In addition, although the court stated that its decision that the EPA must implement the $PM_{2.5}$ NAAQS pursuant to subpart 4 requirements meant that it did not have to reach decisions on other issues concerning the regulation of precursors to $PM_{2.5}$, the court nonetheless noted that subpart 4 has specific requirements with respect to regulation of such precursors. As a result, the court remanded to the EPA both the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule, both of which were premised on the EPA's interpretation of the statute that subpart 1 was the only applicable subpart for the implementation of the 1997 $PM_{2.5}$ NAAQS. The court instructed the EPA ''to repromulgate these rules pursuant to Subpart 4 consistent with this opinion.'' Given the D.C. Circuit's opinion in *NRDC* v. *EPA,* the EPA withdrew its 2012 guidance document for the 2006 24-hour $PM_{2.5}$ NAAQS in June 2013. Because the court had concluded that the EPA and states must implement the $PM_{2.5}$ NAAQS consistent with the statutory requirements of subpart 4, the EPA 2012 guidance for attainment plans for the 2006 $PM_{2.5}$ NAAQS premised solely upon subpart 1 requirements was no longer appropriate.

The EPA intends to use this current rulemaking to accomplish multiple objectives. First, the EPA is taking this action to clarify how air agencies should meet the statutory SIP requirements that apply to areas designated nonattainment for any $PM_{2.5}$ NAAQS under subparts 1 and 4. To this end, the EPA is proposing regulatory requirements that will be applicable to attainment plans for the 2012 $PM_{2.5}$ NAAQS and any future revisions of the $PM_{2.5}$ NAAQS, subject to revisions that may be necessary for implementation purposes in the future. Second, the EPA is taking this action to provide guidance, in addition to regulatory requirements, to assist air agencies in developing attainment plans for the 2012 $PM_{2.5}$ NAAQS and any future revisions of the $PM_{2.5}$ NAAQS. Finally, the EPA is taking this action in response to the DC Circuit's remand of the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule. Through this rulemaking, the EPA intends to address requirements associated with states' ongoing implementation efforts for the 1997 and 2006 $PM_{2.5}$ NAAQS. In the interim, the EPA will rely on the statutory attainment planning requirements[34] contained in subparts 1 and 4 and on the EPA's General Preamble and Addendum for guidance on how to apply those requirements to current $PM_{2.5}$ NAAQS nonattainment areas.

### *D. State Implementation Planning Process for $PM_{2.5}$ NAAQS*

#### 1. Overview

The CAA establishes important roles both for state and tribal governments and for the EPA in implementing the NAAQS. In accordance with the principle of cooperative federalism, both state and tribal governments and the EPA have respective authorities and responsibilities under the CAA. At the outset, the EPA has the authority and responsibility to promulgate the NAAQS. In turn, state, local and tribal air agencies have the authority and primary responsibility for developing and implementing attainment plans that contain emission control measures needed to achieve the air quality standards in each nonattainment area, consistent with the requirements of the CAA. The EPA often assists air agencies by promulgating regulations or providing guidance for meeting implementation requirements and technical tools, including information on control measures.[35] For example, the EPA intends this rulemaking to clarify the specific statutory requirements, and schedule for meeting those requirements, that state and tribal air pollution control agencies (''air agencies'') must address as they prepare SIP submissions for the $PM_{2.5}$ standards in future.[36]

The EPA also promulgates nationally applicable control requirements and emission limits for many sources such as new motor vehicles, certain categories of new and modified major stationary sources and existing stationary sources of toxic air pollutants. These federal actions assist state and tribal air agencies by achieving emission reductions from certain categories of sources nationwide, which can help with local attainment needs in a given nonattainment area. In addition, the EPA has authority to address

monitoring regulations which had the potential for masking particularly high $PM_{2.5}$ concentrations at certain monitored locations within nonattainment areas.

[31] 71 FR 61144 (October 17, 2006).

[32] General information regarding the health effects associated with $PM_{2.5}$ exposures is available at: *http://www.epa.gov/airquality/particlepollution/health.html.* Additional information, such as the EPA's technical documents supporting the latest review of the standards, is available at: *http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_index.html.*

[33] *NRDC* v. *EPA,* 706 F.3d 428 (D.C. Cir. 2013).

[34] General Preamble, 57 FR 13498 (April 16, 1992).

[35] It is important to note that the EPA does not have a mandatory duty to promulgate an implementation rule for the $PM_{2.5}$ NAAQS, and the obligations of state and tribal air agencies to develop and submit an attainment plan are independent obligations and not conditioned upon the EPA promulgating an implementation rule for the $PM_{2.5}$ NAAQS.

[36] When the term ''state'' is used hereafter, it will refer generically to states, local air agencies, and tribal governments electing to be treated as states for the purposes of implementing the CAA. Of additional note is that the 1998 Tribal Authority Rule (TAR), which is found in 40 CFR part 49, which implements section 301(d) of the CAA, provides that tribes be treated in the same manner as a state when implementing certain sections of the CAA. It gives tribes the option of developing tribal implementation plans (TIPs), but unlike states, tribes are not required to develop implementation plans. Section IX.I of this preamble provides further discussion of tribal issues.

interstate transport of pollutants, in the event that states fail to do so. Through this authority, the EPA has addressed regional transport of pollutants from upwind states to downwind states, and has previously done so for purposes of the $PM_{2.5}$ NAAQS.[37] In addition, the EPA has the authority and responsibility to review and take action to approve or disapprove submitted attainment plans based upon whether they meet applicable statutory and regulatory requirements, to provide funding and technical assistance to states and to initiate the process for imposition of sanctions and/or issue federal implementation plans (FIPs) when states fail to fulfill their CAA obligations. More information on area designations, the role of ambient air monitoring, the SIP development process and the role of federal measures in bringing an area into attainment is presented below.

2. Initial Area Designations and Classifications

The NAAQS implementation planning process begins with initial area designations, through which states and the EPA identify areas of the country that either meet or do not meet the new or revised NAAQS, along with identifying the nearby areas contributing to violations of the NAAQS. Section 107(d)(1) of the CAA requires that: ''By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under section 109, the Governor of each state shall . . . submit to the Administrator a list of all areas (or portions thereof) in the State'' that designates those areas as nonattainment, attainment, or unclassifiable.[38] Thus, states are required to make their initial designation recommendations to the EPA by no later than 1 year after the promulgation of new or revised NAAQS. Section 107(d)(1)(B)(i) further provides: ''Upon promulgation or revision of a NAAQS, the Administrator shall promulgate the designations of all areas (or portions thereof) . . . as expeditiously as practicable, but in no case later than 2 years from the date of promulgation. Such period may be extended for up to 1 year in the event the Administrator has insufficient information to promulgate the designations.'' Thus, the EPA is required to promulgate the actual designations for all areas across the U.S. by no later than 2 years after the promulgation of any new or revised NAAQS, unless the EPA elects to take up to one additional year in situations where there is insufficient information. Under section 107(d)(1)(B)(ii), the EPA is authorized to modify the designations recommendations from the states, with respect to the designation of an area and the boundaries of an area, if the EPA deems that necessary. By no later than 120 days prior to promulgating final designations, the EPA is required to notify states of any intended modifications to their recommendations. States then have an opportunity to demonstrate to the EPA why the EPA's intended modification is inappropriate. Regardless of whether a state provides an initial designation recommendation for any area, the EPA must timely promulgate the designations it deems appropriate.[39]

Under subpart 4, the CAA provides for classification of $PM_{2.5}$ nonattainment areas as either ''Moderate'' or ''Serious.'' As provided in section 188(a) and reiterated in the General Preamble, all $PM_{10}$ nonattainment areas and by extension all $PM_{2.5}$ nonattainment areas are initially classified as Moderate by operation of law at the time of designation. Initial classifications are not subject to public notice-and-comment pursuant to section 107(d)(2)(B), although the EPA may elect to take comment on designations and classifications and its recent practice has been to do so.

All areas designated as nonattainment for the 2012 $PM_{2.5}$ NAAQS and any future revised $PM_{2.5}$ NAAQS will be initially classified as Moderate nonattainment areas upon designation, regardless of the severity of the $PM_{2.5}$ problem in the area. This statutory approach to classifications for nonattainment areas under subpart 4 for the $PM_{2.5}$ NAAQS is notably different from the approach for ozone NAAQS nonattainment areas under subpart 2 (of part D, title I of the CAA), wherein the statute includes several area classifications, and initial classifications are based on monitored ozone levels. Thus, unlike for ozone nonattainment areas, all $PM_{2.5}$ nonattainment areas initially receive the same classification—Moderate—and the EPA only reclassifies such areas to Serious upon a showing by the state or a determination by the agency that the area cannot practicably attain by the statutory attainment date, or upon a finding that the area in fact failed to attain the NAAQS by the applicable Moderate area attainment date. The statute requires that Moderate nonattainment areas attain the NAAQS as expeditiously as practicable, but not later than the end of the sixth calendar year following designation. States have an incentive to avoid having a Moderate area reclassified to Serious because, as discussed later in this preamble, the specific subpart 4 requirements for areas classified as Serious include, among other things, a more stringent level of control for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors than for Moderate areas.

As of the date of this proposal, the first round of initial designations for most areas for the 2012 primary annual $PM_{2.5}$ NAAQS has been completed, and those designations will become effective on April 15, 2015. All areas designated as nonattainment for the 2012 $PM_{2.5}$ NAAQS were classified as Moderate nonattainment areas.[40]

3. Ambient Air Monitoring for $PM_{2.5}$

Ambient air quality monitoring for $PM_{2.5}$ plays an integral role in implementation of a NAAQS, including identifying areas violating the NAAQS, control strategy development and tracking progress toward attainment. States are required to monitor $PM_{2.5}$ mass concentrations using approved methods to determine compliance with the NAAQS.[41] The locations of monitors are identified in states' Annual Monitoring Network Plans, which are required to be submitted to the EPA by July 1 of each year.[42] The EPA in turn reviews these annual plans for compliance with applicable regulations and consistency with relevant guidance. Currently there are more than 900

[37] *See* 70 FR 25162 (May 12, 2005) and 76 FR 48208 (August 8, 2011).

[38] While the CAA provides for ''designating'' with respect to the Governor's list, in the full context of the CAA section 107 it is clear that the Governor actually makes a recommendation, to which the EPA must respond using a specified process if the EPA does not accept the recommendation.

[39] While section 107 of the CAA specifically addresses states, the EPA is following the same process for tribes that choose to make a recommendation to the extent practicable, pursuant to section 301(d) of the CAA regarding tribal authority, and the TAR. 63 FR 7254 (February 12, 1998). To provide for clarity and consistency, the EPA issued a 2011 guidance memorandum for working with tribes during the designations process. Memorandum of December 20, 2011 from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to EPA Regional Administrators, Regions I–X re: ''Guidance to Regions for Working with Tribes during the National Ambient Air Quality Standards (NAAQS) Designations Process.'' Available at: *http://www.epa.gov/ttn/oarpg/t1/memoranda/20120117naaqsguidance.pdf.*

[40] *See* the **Federal Register** notice for the first round of designations for the 2012 $PM_{2.5}$ NAAQS at 80 FR 2206 (January 15, 2015).

[41] The ambient air monitoring requirements that apply to the $PM_{2.5}$ NAAQS are detailed in 40 CFR part 58. These monitoring requirements are applicable to state and local air agencies.

[42] *See* 40 CFR 58.10.

monitoring locations across the country eligible for comparison to the $PM_{2.5}$ NAAQS. States are required to maintain monitors in designated nonattainment areas in order to track progress toward attainment and ultimately determine whether the area has attained the $PM_{2.5}$ standards. In addition to the approved monitors for comparison to the NAAQS, the EPA and states also maintain a chemical speciation network (CSN) of about 200 stations around the country to support analyses of chemical composition of $PM_{2.5}$ (*e.g.* sulfate, nitrate and organic carbon). The data provided by the CSN help states identify contributing source categories and develop control strategies to reach attainment.

In conjunction with the promulgation of the 2012 $PM_{2.5}$ NAAQS, the EPA finalized a schedule for deployment of $PM_{2.5}$ monitors at near-road monitoring locations. Under revised monitoring requirements, states are required to locate a minimum of one $PM_{2.5}$ monitor in each core-based statistical area (CBSA) with a population of 1 million or more, to be phased-in between January 2015 and January 2017.[43]

For initial area designations for any $PM_{2.5}$ NAAQS, the EPA relies on monitoring data to identify areas to be designated nonattainment due to violations of the standard(s). The EPA uses other information to identify areas contributing to the monitored violations in those areas.[44] The agency's protocol for designating areas and determining whether an area has attained the $PM_{2.5}$ NAAQS is based on monitored air quality data collected over a period of 3 calendar years. Data from the new $PM_{2.5}$ near-road monitors were not available for the EPA to consider within the timeframe for initial area designations provided by the CAA for the 2012 $PM_{2.5}$ NAAQS; the agency will not be able to consider data from a near-road monitor in the implementation process until 3 years of data are available. The initial set of near-roadway $PM_{2.5}$ monitors are to be fully deployed by January 2015, with the first 3 years of air quality data (2015–2017) available beginning in 2018; the second set of near-roadway monitors are to have the first 3 years of data available beginning in 2020.

4. SIP Development Process

In general terms, a SIP is the compilation of EPA-approved state statutes, regulations and programs that a state develops and relies upon to carry out its NAAQS implementation responsibilities under the CAA, including the attainment, maintenance and enforcement of NAAQS. States use the SIP development process to identify the emissions sources that contribute to the nonattainment problem in a particular area, and to select the required emissions reduction measures most appropriate for that area, considering factors such as technological and economic feasibility. As part of developing an attainment plan, the states must meet specific requirements of the CAA to attain the NAAQS, *e.g.,* a state with a Moderate $PM_{2.5}$ nonattainment area must impose RACM (including RACT) and additional reasonable measures on sources located in the nonattainment area. Under the CAA, states must develop attainment plans that ensure that areas reach attainment as expeditiously as practicable, but no later than the applicable statutory attainment date. In these attainment plans, states may take into consideration emission reductions resulting from federally applicable national programs (such as mobile source regulations, the national acid rain program, or maximum achievable control technology (MACT) standards for air toxics), as well as from state or local programs not directly mandated, but authorized, under the CAA, if such measures are incorporated into the SIP and thus are made federally enforceable.

5. Geographic Extent of $PM_{2.5}$ Problem

The EPA recognizes the significant variability in the nature and sources of $PM_{2.5}$ in different nonattainment areas and believes it is important to keep this variability in mind when providing guidance to states as they develop control strategies to bring their $PM_{2.5}$ nonattainment areas into attainment with the relevant NAAQS. The variability of $PM_{2.5}$ concentrations across the country has a substantial regional component because the formation and transport of secondarily formed particles, such as sulfates and nitrates, can extend over hundreds of miles. As a result, monitored violations of the $PM_{2.5}$ NAAQS can often reflect the impact of the combination of ''local'' sources of emissions located within the designated nonattainment area and ''regional'' sources of emissions that may be located much farther away.

In addition, data suggest that ambient $PM_{2.5}$ concentrations tend to rise and fall in a consistent manner across very large geographic areas. The transport phenomenon associated with $PM_{2.5}$ and its precursors has been well documented for many years. For example, one significant source of information on long-range transport is the National Acid Precipitation Assessment Program (NAPAP) research from the 1980s and its associated reports published in 1991.[45] Additional studies and air quality modeling analyses since that time have added to the body of information documenting the regional nature of $PM_{2.5}$.[46]

6. Strategies for Reducing Ambient $PM_{2.5}$

The control measures identified and adopted by a state through the SIP development process for bringing nonattainment areas into attainment constitute an important component of the CAA's overall strategy for meeting the $PM_{2.5}$ standards, but they are not the only component. The CAA also includes requirements for national rules or programs that will reduce emissions and help achieve cleaner air. Specifically, the EPA has adopted a number of national rules over the past few years that require or will require emission reductions from sources of both direct $PM_{2.5}$ and $PM_{2.5}$ precursors, especially of $SO_2$ and $NO_X$. The national rules that will help states meet their attainment dates include, but are not limited to: The Tier 2 Light-Duty Vehicle Rule; the Tier 3 Tailpipe and Evaporative Emission and Vehicle Fuel Standards; the Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements; the Clean Air Nonroad Diesel Rule; the Regional Haze Regulations and Guidelines for Best Available Retrofit Technology Determinations; the $NO_X$ Emission Standard for New Commercial Aircraft Engines; the CSAPR; the Emissions Standards for Locomotives and Marine

[43] Near-road monitors for CBSAs larger than 2.5 million in population are to be operational by 1/1/2015; and monitors for CBSAs with population larger than 1 million but less than 2.5 million are to be operational by 1/1/2017. CBSA is defined by OMB as a statistical geographic entity consisting of the county or counties associated with at least one urbanized area/urban cluster of at least 10,000 population, plus adjacent counties having a high degree of social and economic integration.

[44] *See Catawba County* v. *EPA,* 571 F.3d 20 (D.C. Cir. 2009).

[45] National Acid Precipitation Assessment Program. Acid Deposition: State of the Science and Technology. Washington, DC 1991. *See also* Environmental Protection Agency. (2004) Air Quality Criteria for Particulate Matter. Research Triangle Park, NC: Office of Research and Development; report no. EPA/600/P–99/002a,bF. Available at: *http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_cr_cd.html.*

[46] For example, *see* technical information for the Cross-State Air Pollution Rule (CSAPR) at: *http://www.epa.gov/airmarkt/programs/cair/index.html*; and the Clean Air Interstate Rule (CAIR) at: *http://www.epa.gov/airmarkt/programs/cair/index.html. See* also: NARSTO (2004) *Particulate Matter Assessment for Policy Makers: A NARSTO Assessment.* P. McMurry, M. Shepherd, and J. Vickery, eds. Cambridge University Press, Cambridge, England. ISBN 0 52 184287 5.

Compression-Ignition Engines; the Control of Emissions for Nonroad Spark Ignition Engines and Equipment; the C3 Oceangoing Vessels rule; area and major source Boilers NESHAPs, New Source Performance Standards and Emission Guidelines for Hospital/Medical/Infectious Waste Incinerators; the Reciprocating Internal Combustion Engines (RICE) NESHAPs; and the Mercury and Air Toxics Standards (MATS).[47]

Additionally, there are $PM_{2.5}$ reductions that will be achieved as a result of previously adopted state and local agency regulations and voluntary programs to the extent they can be relied on under the EPA's voluntary measures policies, such as the use of low sulfur fuel for home heating and industrial purposes, curtailment of residential wood burning and burn bans. Furthermore, under the voluntary PM Advance program, the EPA works with states, tribes and local governments to ensure they are aware of the advantages of early action and to provide assistance in taking steps to achieve emission reductions in areas currently attaining the $PM_{2.5}$ NAAQS but approaching levels that could lead to nonattainment in the future. Early reductions may help these areas maintain the annual and 24-hour $PM_{2.5}$ NAAQS over the long-term. Furthermore, there may be emissions controls that can be implemented to meet NAAQS for ozone ($O_3$) or $SO_2$ that may have co-benefits for meeting and continuing to meet the current $PM_{2.5}$ NAAQS and any future revised $PM_{2.5}$ NAAQS.

The EPA will continue to work closely with air agencies as they develop and use an appropriate combination of national, regional and local pollution reduction measures to meet the standards as expeditiously as practicable, as required by the CAA.

[47] Compliance with the MATS emission standard for acid gas hazardous air pollutants (HAP) is demonstrated by direct measurement of either hydrogen chloride (HCl) or $SO_2$ as surrogates for all acid gas HAP. Thus, compliance with MATS is expected to result in a substantial amount of new pollution controls (scrubbers and dry sorbent injection) and upgrading of existing acid gas controls that will significantly reduce acid gas emissions, including $SO_2$ emissions, from power plants. MATS implementation is projected to reduce nationwide $SO_2$ emissions from power plants to a level more than 40 percent lower than the $SO_2$ emissions projected under CSAPR without MATS in place. For more information, *see: http://www.epa.gov/mats.*

## III. What is the EPA proposing with respect to the treatment of $PM_{2.5}$ precursors in nonattainment area planning and permitting?

### *A. Background*

The EPA recognizes that a threshold question in developing $PM_{2.5}$ attainment plans and implementing NNSR programs is the question of which precursors must be regulated in a given nonattainment area in order to attain the relevant NAAQS and to meet the statutory requirements of part D, including subpart 4, of the CAA. Before discussing the specific CAA attainment plan and NNSR requirements in detail in Sections IV through IX of this preamble, the EPA discusses in this section how a state should evaluate $PM_{2.5}$ precursors in order to identify the specific precursors to which the $PM_{2.5}$ attainment plan and NNSR requirements will apply in a given nonattainment area. This section first provides a brief overview of the precursor policies that the agency included in the 2007 $PM_{2.5}$ Implementation Rule and in the 2008 $PM_{2.5}$ NSR Rule for the 1997 $PM_{2.5}$ NAAQS that were remanded by the court. It then describes the EPA's three proposed options for addressing $PM_{2.5}$ precursors under the attainment planning and NNSR programs to meet the statutory requirements of subpart 4. Lastly, this section discusses possible approaches for states to develop an adequate technical demonstration showing whether emissions of a given $PM_{2.5}$ precursor significantly contribute to ambient concentrations that exceed the standard. The EPA requests public comment on the options and information presented below.

The EPA's 2007 $PM_{2.5}$ Implementation Rule included regulatory presumptions concerning the need to address certain $PM_{2.5}$ precursors in attainment plans and through control measures related to those plans.[48] The EPA has long recognized the scientific basis for concluding that there are multiple scientific precursors to $PM_{10}$, and in particular to $PM_{2.5}$.[49] As described in Section II of this preamble (on technical background issues associated with $PM_{2.5}$ and $PM_{2.5}$ precursors), appropriate control of precursors is especially important because secondarily formed particles comprise a large fraction of ambient $PM_{2.5}$ concentrations in many nonattainment areas.

Section 302(g) of the CAA indicates that the term ''air pollutant'' includes ''any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used.'' In the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule, the EPA recognized that the main scientific precursors of fine particle formation are $SO_2$, $NO_X$, VOC, and ammonia. Pursuant to the discretionary authority provided under section 302(g) to identify $PM_{2.5}$ precursors for a particular program, the EPA also included requirements describing which precursor gases states were to evaluate for potential emission reductions as part of the state's analysis of control measures to bring the area into attainment as expeditiously as practicable.

To facilitate the evaluation and identification of reasonable control measures, the 2007 $PM_{2.5}$ Implementation Rule included nationally applicable presumptions regarding the need to evaluate and potentially control emissions of certain precursors. Specifically, in 40 CFR 51.1002, the EPA provided that a state must evaluate sources of direct $PM_{2.5}$ and $SO_2$ for potential control measures; a state presumptively was required to evaluate sources of $NO_X$ for potential control measures; and, a state was presumptively *not* required to evaluate sources of VOC and ammonia emissions for potential control measures. The EPA established these presumptions concerning VOC and ammonia in the 2007 $PM_{2.5}$ Implementation Rule because of factors such as uncertainties regarding the emissions inventories for ammonia, uncertainties concerning the role of some VOC in the formation of particles, and uncertainties regarding the effectiveness of specific precursor control measures in various regions of the country in reducing $PM_{2.5}$ concentrations. For example, in some areas of the U.S., emission reductions of a particular precursor may lead to large changes in $PM_{2.5}$ concentrations because there are relatively few tons of such precursor emissions in the area in the first place. In other areas, the opposite may be true, where emission reductions of a particular precursor may lead to small changes in $PM_{2.5}$ concentrations because the area has an abundance of emissions of that particular precursor.

The rule also included provisions for potentially reversing the EPA's initial presumptions for certain precursors in a nonattainment area where the state or

[48] *See* 2007 $PM_{2.5}$ Implementation Rule, 72 FR 20586, 20589, 20590, 20591, 20592, 20593, 20594, 20595, 20596 and 20597 (April 25, 2007).

[49] *Ibid.* For example, the EPA's 2007 $PM_{2.5}$ Implementation Rule discussed the fact that emissions of $SO_2$, $NO_X$, VOC and ammonia are factual and scientific precursors to $PM_{2.5}$.

the EPA had information demonstrating that the presumption was not valid for that area. The EPA left open the possibility in the 2007 $PM_{2.5}$ Implementation Rule for regulation of VOC and ammonia emissions as $PM_{2.5}$ precursors in any nonattainment area where regulation was necessary for purposes of attaining the 1997 $PM_{2.5}$ NAAQS. Similarly, the EPA left open the possibility for not regulating $NO_X$ where $NO_X$ sources from within the state did not have a significant contribution to $PM_{2.5}$ concentrations in the nonattainment area. The preamble to the 2007 $PM_{2.5}$ Implementation Rule discussed that to ''reverse'' the presumptions in the rule for $NO_X$, VOC or ammonia, the state would need to provide an appropriate technical demonstration, and it provided examples of the types of analyses that could be included in such a demonstration. The EPA intended these to be rebuttable presumptions that either the state or the EPA might reverse through notice-and-comment rulemaking. These presumptions were not limited to precursor emissions only from major stationary sources, but rather were presumptions applicable to precursor emissions from all sources of such emissions within the area.[50]

The 2008 $PM_{2.5}$ NSR Rule included similar policies for precursor presumptions in connection with the NSR requirements for nonattainment areas (the NNSR program).[51] That rule provided a discussion of the possibility for the state or the EPA to provide a technical demonstration to reverse the presumptions for $NO_X$, VOC or ammonia.[52] The one significant difference between the two rules was the geographic scope of the requirements. The 2008 $PM_{2.5}$ NSR Rule indicated that a precursor presumption could be rebutted if the emissions of that precursor *from sources within the nonattainment area* (emphasis added) did not significantly contribute to $PM_{2.5}$ concentrations in the nonattainment area. This distinction is logical because the requirements of the NNSR program apply only to sources located within a designated nonattainment area. Conversely, the 2007 $PM_{2.5}$ Implementation Rule indicated that the evaluation of whether a given precursor should be regulated should be based on emissions *from sources throughout the entire state* (emphasis added), because the state air agency has jurisdiction over sources throughout the entire state in developing strategies to improve air quality specifically in nonattainment areas. A more complete discussion of the 2008 NNSR program requirements for the $PM_{2.5}$ NAAQS and the proposed changes concerning the regulation of $PM_{2.5}$ precursors from new or modified major stationary sources of $PM_{2.5}$ precursors in $PM_{2.5}$ nonattainment areas is provided in Section VIII of this preamble.

The EPA's approach to the evaluation and regulation of $PM_{2.5}$ precursors in both the 2007 and 2008 rules for implementing the 1997 $PM_{2.5}$ NAAQS was called into question in the court's 2013 decision in *NRDC* v. *EPA.* As an example of the distinction between the divergent substantive requirements of subpart 1 and subpart 4, the court noted that subpart 4 has specific provisions related to regulation of precursors not present in subpart 1. Although the court stated that it was not reaching a decision on the issue of regulation of precursors, the court's decision specifically discussed both the approach to precursors in the 2007 $PM_{2.5}$ Implementation Rule and the 2008 $PM_{2.5}$ NSR Rule and compared those to section 189(e) of the CAA, which contains the sole explicit reference to the regulation of precursors in subpart 4. The court decision included the following statements with regard to precursors:

> Ammonia is a precursor to fine particulate matter, making it a precursor to both $PM_{2.5}$ and $PM_{10}$. For a $PM_{10}$ nonattainment area governed by subpart 4, a precursor is presumptively regulated. *See* 42 U.S.C. 7513a(e) [section 189(e)]. But under the PM rules challenged here, the EPA established a rebuttable presumption against regulating ammonia unless a state or the EPA ''provides an appropriate technical demonstration'' that shows emissions from ammonia ''significantly contribute to PM concentration in the nonattainment area.'' 40 CFR 51.1002(c)(4)(i). When Congress enacted subpart 4, it sought to end this administrative gamesmanship.[53]
>
> * * * * *
>
> In light of our disposition, we need not address the petitioners' challenge to the presumptions in [40 CFR 51.1002] that volatile organic compounds and ammonia are not $PM_{2.5}$ precursors, as subpart 4 expressly governs precursor presumptions.[54]

Section 189(e) for $PM_{10}$ precursors (which the court concluded expressly includes $PM_{2.5}$) provides that: ''The control requirements applicable under plans in effect under this part for major stationary sources of $PM_{10}$ shall also apply to major stationary sources of $PM_{10}$ precursors, except where the Administrator determines that such sources do not contribute significantly to $PM_{10}$ levels which exceed the standard in the area.'' The court reasoned that the EPA's approach to precursors in the 2007 $PM_{2.5}$ Implementation Rule and 2008 $PM_{2.5}$ NSR Rule had the effect of reversing the presumption embodied within subpart 4 that a state should address all $PM_{10}$ precursors unless the state has made a specific showing why regulation of a particular precursor is not necessary.[55]

The provisions of subpart 4 do not define the term ''precursor'' for purposes of $PM_{10}$, nor do they explicitly require the control of any specifically identified particulate matter precursor. However, as stated above, the statutory definition of ''air pollutant'' provides that the term ''includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used.'' CAA section 302(g). The EPA has determined that $SO_2$, $NO_X$, VOC and ammonia are factual and scientific precursors to PM, and thus the attainment plan requirements of subpart 4 initially apply equally to emissions of direct $PM_{2.5}$ and all of its identified precursors, except as otherwise provided in the statute (*e.g.* CAA section 189(e)). Section 189(e) explicitly requires the control of precursors from all major stationary sources, unless there is a demonstration to the satisfaction of the Administrator that such major stationary sources do not contribute significantly to PM levels that exceed the standards in the area.[56] Section 189(e) contains the only express exception to control requirements under subpart 4. The control requirements for major sources referred to in this exception include requirements for RACM and RACT, additional reasonable measures, BACM and BACT, most stringent measures (as applicable) and NNSR on all major sources of precursors in the nonattainment areas. The General Preamble indicates that consideration of precursors is necessary for attainment plans, and it recognizes the specific applicability of section 189(e) to both existing and new major stationary sources, including new and modified sources subject to NNSR permitting requirements. Even though section

[50] *Ibid.*

[51] *See* the **Federal Register** published on May 16, 2008 (73 FR 28321, 28326 and 28327).

[52] *Ibid.*

[53] *NRDC* v. *EPA,* 706 F.3d 428, 437, n.7 (D.C. Cir. 2013).

[54] *NRDC* v. *EPA,* 706 F.3d 428, 437, n.10 (D.C. Cir. 2013).

[55] *Ibid.*

[56] The EPA notes that it has already addressed the requirements of subpart 4 for precursors, specifically within the context of the requirements of section 189(e), in the General Preamble. *See* the **Federal Register** published on April 16, 1992 (57 FR 13498, 13539, 13541 and 13542).

189(e) only explicitly contemplates exceptions to control requirements for $PM_{2.5}$ precursors from major stationary sources, the EPA believes that by analogy it has authority to promulgate regulations that allow states to determine that it is not necessary to regulate $PM_{2.5}$ precursors from other source categories as well, under appropriate circumstances.

When Congress adopted the 1990 CAA Amendments, a NAAQS for $PM_{10}$ was in effect, but no standard for $PM_{2.5}$ had yet been established. At that time, it was understood that the interaction of PM precursors in the atmosphere led to the formation of particulate matter in many areas. However, in some of the $PM_{10}$ nonattainment areas, air quality problems were caused primarily by area sources emitting direct PM emissions (*e.g.,* a nonattainment area with numerous wood burning devices or with substantial sources of windblown coarse particles from construction sites), and precursor emissions from major stationary sources were not considered to make a significant contribution to the local nonattainment problem. For cases such as these, section 189(e) provided a possible exception to the requirement to control all $PM_{2.5}$ precursors from major sources in all nonattainment areas.

While section 189(e) expressly requires control of precursors from major stationary sources where direct PM from major sources is to be controlled unless certain conditions are met, as stated above, it is clear that subpart 4 and other CAA provisions collectively require the control of direct PM and all $PM_{2.5}$ precursors from all types of sources (*i.e.,* stationary sources, area sources, and mobile sources) as may be needed for the purposes of demonstrating attainment as expeditiously as practicable in a given area.[57] Long-standing EPA guidance for RACM has stated that the state should inventory all emissions of the relevant pollutants and precursors in the nonattainment area and evaluate all economically and technologically feasible control measures for the relevant pollutant and precursors, and that the state should adopt those measures that are deemed reasonably available and necessary in order to attain the NAAQS as expeditiously as practicable.[58] The state also must ensure that there is no other collection of available control measures that if adopted would advance the attainment date by at least one year.[59] Section IV.D of this preamble provides additional discussion on the development of emissions inventories and the identification, adoption and implementation of reasonable control measures for Moderate $PM_{2.5}$ nonattainment areas. [60]

*B. Proposed Precursor Policy Options*

The EPA is proposing this rule to address the attainment plan and certain NNSR requirements for $PM_{2.5}$ under subpart 4. In light of the court's decision in *NRDC* v. *EPA,* the EPA considers it necessary to address in this implementation rule how states must address regulation of $PM_{2.5}$ precursor gases in attainment plans and NNSR programs for the $PM_{2.5}$ NAAQS. As noted earlier, the court's decision made clear that appropriate regulation of all precursors is initially presumptively required under the CAA, and the regulation of precursors is a critical issue for attainment of the $PM_{2.5}$ NAAQS because secondarily formed particles are a substantial component of the $PM_{2.5}$ nonattainment problem in most areas of the U.S.

For the purposes of this implementation rule, the EPA considers that for all nonattainment areas, the $PM_{2.5}$ precursors for regulatory purposes are $SO_2$, $NO_X$, VOC and ammonia. This rule does not propose any national presumption that would simply allow a state to exclude sources of emissions of a particular precursor from further analysis for control requirements. However, the EPA's existing interpretation of subpart 4 requirements—with respect to precursors in attainment plans for $PM_{10}$, as set out in the General Preamble—contemplates that the state may develop an attainment plan that regulates only those precursors that are necessary to control for purposes of timely attainment in the area, *i.e.,* states may determine that only certain precursors need to be regulated for attainment purposes.[61] Courts have upheld this approach to the requirements of subpart 4 for $PM_{10}$.[62]

The EPA believes that application of a similar approach to $PM_{2.5}$ precursors under subpart 4 is appropriate and reasonable. Thus, this proposal describes three proposed precursor options that provide for the possibility that, with appropriate justification provided by the state, further evaluation and implementation of control strategies for one or more $PM_{2.5}$ precursors in a given nonattainment area may not be needed or required. Under each option, a state may provide a technical demonstration and reasoned justification for the exclusion of a $PM_{2.5}$ precursor or precursors from control requirements for a particular nonattainment area.

As explained above, the EPA interprets the CAA to require states to inventory and regulate all sources of $PM_{2.5}$ precursors from all sources in the area, including area sources, mobile sources and stationary sources. This interpretation is based on CAA provisions requiring adoption of all RACM needed to attain the standard as expeditiously as practicable; section 302(g), which defines an air pollutant as including all precursors contributing to the formation of that pollutant; and, the EPA's identification of the four main $PM_{2.5}$ precursors. For major stationary sources, section 189(e) requires that the control requirements applicable for major stationary sources of $PM_{2.5}$ must also apply to major stationary sources of $PM_{2.5}$ precursors, unless the state provides a showing that emissions of a particular precursor from major stationary sources do not contribute significantly to levels which exceed the standard in the area. Thus, the statute generally requires control of all $PM_{2.5}$ precursors, but it provides an express exception applicable to major stationary sources. Because the statutory provisions of subparts 1 and 4 are not explicit with respect to how states should address $PM_{2.5}$ precursors from non-major sources, the EPA is proposing regulations to assure proper evaluation and regulation of $PM_{2.5}$ precursor emissions in $PM_{2.5}$ nonattainment areas. Moreover, even with respect to regulation of precursor emissions from major stationary sources, section 189(e) contains ambiguities that require interpretation. For example, section

[57] *See* CAA requirements for states to demonstrate attainment ''as expeditiously as practicable'' (section 188(c)(1); section 172(a)(2)).

[58] 57 FR 13498 (April 16, 1992).

[59] In the context of the $PM_{10}$ NAAQS, the EPA has concluded that ''advancement of the attainment date'' should mean an advancement of at least 1 calendar year. *See* State Implementation Plans; General Preamble for the Implementation of Title I of the CAA Amendments of 1990, 57 FR 13498 (April 16, 1992). *See also Sierra Club* v. *EPA,* 294 F.3d 155 (D.C. Cir. 2002).

[60] *See* Section IV of this preamble for a thorough discussion of past reasonably available control measures (RACM) and reasonably available control technology (RACT) policy and guidance. Section IV discusses the EPA's proposed policy that under subpart 4, for Moderate areas that demonstrate that attainment by the statutory attainment date is impracticable, RACM and RACT would constitute all those technologically and economically feasible measures available for sources in the area that can be implemented within 4 years of designation, but they would not constitute the complete set of measures required to demonstrate attainment as expeditiously as practicable.

[61] *See* the **Federal Register** published on April 16, 1992 (57 FR 13498, 13540 and 13541).

[62] *See, e.g., Assoc. of Irritated Residents* v. *EPA, et al.,* 423 F.3d 989 (9th Cir. 2005).

189(e) does not specify the method by which the EPA should determine whether precursor emissions from major stationary sources contribute significantly to levels which exceed the standard in a given nonattainment area. Given that the provisions of subpart 4 are ambiguous with respect to these issues, the EPA believes that it is necessary to interpret those requirements in this rulemaking.

The EPA is thus seeking comment on three potential approaches to address $PM_{2.5}$ precursors pursuant to the specific statutory requirements of subpart 4 and the overarching requirements of the CAA. In these proposed options, particular emphasis is given to the situations and circumstances under which the state would or would not be required to evaluate emission controls for a particular precursor and to adopt those controls that are necessary to demonstrate attainment of the NAAQS as expeditiously as practicable. Note that these options describe analyses that the state may choose to pursue to demonstrate that control requirements should not apply to a particular precursor. However, the state also may choose to require controls for all $PM_{2.5}$ precursors in attainment plans and in its NNSR permitting program, and choose not to conduct any analyses to eliminate one or more precursors from consideration for controls.

The descriptions of the three precursor policy options being proposed in this section discuss how $PM_{2.5}$ precursors would need to be addressed by the state with regard to three specific implementation situations: (1) A Moderate area for which attainment of the relevant NAAQS by the end of the sixth calendar year after designation can be demonstrated; (2) a Moderate area for which it can be demonstrated that the relevant NAAQS cannot practicably be attained by the end of the sixth calendar year after designation; and (3) an area that is reclassified to Serious and is obligated to develop a Serious area attainment plan to attain the relevant NAAQS. Additionally, the EPA describes how each of the proposed precursor policy options would apply to the implementation of NNSR in a Moderate or Serious $PM_{2.5}$ nonattainment area. Later in this section, the EPA discusses specific issues related to the technical ''precursor demonstrations'' that states could choose to develop. The technical demonstration section includes a discussion of several types of analyses that a state could provide to the EPA to show that control measures for a specific $PM_{2.5}$ precursor would not be needed for attainment or to expedite attainment, or to show that major stationary sources of a given precursor collectively do not significantly contribute to $PM_{2.5}$ levels that exceed the relevant NAAQS in a given area.

Before discussing the three precursor options, it is important to introduce a new term that is used throughout this section and other sections of the notice. Under subpart 4, RACM (including RACT) are those measures that can and must be implemented within 4 years of the area's designation as nonattainment (pursuant to section 189(a)(1)(C)). The EPA recognizes, however, that other, similarly reasonable emissions reduction measures could be implemented after this 4 year period, and as late as the end of the sixth calendar year following designation, to help an area attain as expeditiously as practicable. Therefore, in this proposal the EPA is proposing to define the term ''additional reasonable measures'' to describe those technologically and economically feasible control measures that could not be implemented within the 4 year period after designation, but could be implemented starting any time after that 4 year period through the end of the sixth calendar year after designation (note that this period could extend almost 3 additional years, depending on when during the year area designations are finalized). *See* proposed 40 CFR 51.1000. The EPA proposes to require implementation of these ''other'' control measures to the extent necessary to demonstrate attainment by the applicable attainment date pursuant to section 172(c)(6) of the CAA. That provision provides that nonattainment ''plan provisions shall include enforceable emissions limitations, and such other control measures . . . as may be necessary or appropriate to provide for attainment of such standard in such area by the applicable attainment date . . .'' Together, RACM and RACT and ''additional reasonable measures'' make up the set of control strategies referred to in this proposed rule as ''reasonable control measures.'' [63] (Section IV.D of this preamble provides a detailed discussion of how a state must determine reasonable control measures for a Moderate $PM_{2.5}$ nonattainment area.) The EPA requests comment on each of the three proposed options discussed below which describe how a state may demonstrate that additional emissions reductions of a particular precursor would not be needed or appropriate for an area's attainment plan, and how it could demonstrate that emissions control requirements for a particular precursor would not be needed in NNSR permits for new or modified sources in the area. In particular, the EPA requests comment on whether only one of these approaches should be included in the final rule, or whether it would be appropriate to include multiple approaches (*e.g.,* both Options 1 and 2), or only specific elements from the different options. The three proposed options are summarized as follows:

- Option 1: Two independent analyses: (a) An attainment planning analysis demonstrating that control measures for a particular precursor are not needed for expeditious attainment, meaning that the precursor can be excluded from measures needed to attain as expeditiously as practicable for all types of sources; and (b) a section 189(e) technical demonstration showing that major stationary sources of a particular precursor do not contribute significantly to levels that exceed the $PM_{2.5}$ standard, meaning that the precursor can be excluded from control requirements for major sources including NNSR permitting;
- Option 2: Single analysis demonstrating that all emissions of a particular precursor from within the area do not significantly contribute to $PM_{2.5}$ levels that exceed the standard, meaning that control requirements for emissions of the precursor from major stationary and area sources, as well as mobile sources, would not be required for expeditious attainment, control requirements for major sources, or for NNSR permitting;
- Option 3: An attainment planning analysis demonstrating that control measures for all types of sources of a particular precursor are not needed for expeditious attainment also would be deemed to meet the section 189(e) technical demonstration requirement, meaning that the state would not need to regulate emissions of the particular precursor from major stationary sources under the NNSR permitting program or other control requirements for major stationary sources.

Each of these proposed options is presented in greater detail below.

1. *Option 1:* Two independent analyses: (a) An attainment planning analysis demonstrating that control measures for a particular precursor are not needed for expeditious attainment, meaning that the precursor can be excluded from measures needed to attain as expeditiously as practicable for

[63] In Section VI.D, the EPA describes a parallel approach for distinguishing control measures required under sections 172(c)(6) and 189(b)(1)(B) for Serious nonattainment areas.

all types of sources; and (b) a section 189(e) technical demonstration showing that major stationary sources of a particular precursor do not contribute significantly to levels that exceed the $PM_{2.5}$ standard, meaning that the precursor can be excluded from control requirements for major sources and from NNSR permitting.

As with the other options discussed below, the critical first step in any precursor analysis is the development of a comprehensive inventory of all precursor emissions in the nonattainment area. A state will be unable to reasonably determine whether emissions of a given $PM_{2.5}$ precursor contribute significantly to the nonattainment problem in an area if the state has failed to account adequately for all such emissions in the area in its emissions inventory.

In general terms, Option 1 would require separate analyses for purposes of attainment planning and for NNSR. Section 189(a) of the CAA describes the requirements for Moderate nonattainment areas. Within 18 months of designation as nonattainment, the state is required to submit a Moderate area plan that either demonstrates attainment as expeditiously as practicable but by no later than the end of the sixth year following designation, or demonstrates that attainment by such date would be impracticable.

Under Option 1, the state would determine the precursors for which new control measures need to be adopted for a given nonattainment area through its determination of reasonable control measures needed for attainment. The state's analysis of reasonable measures for a given $PM_{2.5}$ NAAQS nonattainment area should begin by identifying potential control measures (and factors related to technological feasibility, economic feasibility, and time needed for implementation) for all precursors from all types of sources in the area (*i.e.,* stationary, area, mobile) included in the emissions inventory. The analysis of reasonable measures and selection by the state of those emissions reduction measures that would provide for attainment as expeditiously as practicable (but no later than the end of the sixth calendar year after designation) would determine which precursors must be regulated in the nonattainment area for purposes of attainment. Except for the requirement to determine whether implementation of all remaining reasonable measures could collectively advance attainment by a year, there would be no additional demonstration needed by the state to justify that attainment planning control requirements should not apply to a particular precursor. Therefore, the analysis of reasonable measures may result in the state controlling only a subset of the four main $PM_{2.5}$ precursors as part of the attainment demonstration.

a. *Moderate area for which the state can demonstrate attainment by the statutory attainment date.* For certain nonattainment areas, the state may be able to demonstrate that attainment of the standard ''as expeditiously as practicable'' is possible by the end of the sixth year after designation (the statutory Moderate area attainment date) or sooner, and could be achieved by adopting regulations to reduce emissions of only a subset of the four $PM_{2.5}$ precursors. Under this scenario, the state would be expected to provide analytical information showing that, even though new economically and technically feasible control measures may be available for one or more precursors, the reductions in emissions of the precursor(s) that could be achieved are not necessary for expeditious attainment and would not advance the attainment date by at least a year. Under Option 1, if the state determined that new emissions reductions of a particular precursor are not necessary for attainment and would not accelerate the attainment date by at least 1 year, then for the purposes of this particular $PM_{2.5}$ Moderate area attainment plan, the state would not need to adopt additional control measures for that $PM_{2.5}$ precursor. Given that additional regulation of that $PM_{2.5}$ precursor would not be necessary for attaining the standard as expeditiously as practicable, the EPA would be able to approve the attainment plan for the area as meeting the requirements of subpart 4.

b. *Moderate area for which the state can demonstrate that attainment by the statutory attainment date is impracticable.* Section 189(a)(1)(B) provides that for certain nonattainment areas, the state may demonstrate that, even with implementation of all reasonable control measures available for reducing emissions of all direct PM and $PM_{2.5}$ precursors, it would be impracticable to attain the standard by the end of the sixth calendar year after designation. In other words, the analysis would need to demonstrate that implementing all economically and technically feasible control measures that are available in the area, and the expected air quality change from such measures, would not be able to provide for attainment by the end of the sixth year after designation.

For states that can make the showing that they cannot attain the NAAQS by the end of the sixth calendar year after designation, the question arises as to whether the state should be required to adopt all reasonable measures (*i.e.* measures that represent RACM and RACT because they are technologically and economically feasible and can be implemented in 4 years and all additional reasonable measures that can be implemented within 6 years) through regulation as part of the Moderate area plan, even if a subset of these measures collectively would have a minimal effect on reducing ambient $PM_{2.5}$ concentrations. The EPA proposes two sub-options for areas that cannot demonstrate attainment during the Moderate area timeframe even with the implementation of all reasonable measures in the area. Under the first sub-option, the state would be required to adopt all available control measures for precursors through regulation as part of the Moderate area plan. The rationale supporting this approach would be that adopting all technologically and economically feasible measures would bring the area as close to attainment as possible during the timeframe prescribed for Moderate areas. Under this approach, if a measure can be implemented by the end of the sixth calendar year after the nonattainment designation and it meets the criteria for being considered ''reasonable,'' then the state must adopt and implement the measure.

Under the second sub-option, the state would be able to elect not to impose those technologically and economically feasible measures that collectively have minimal effect on ambient $PM_{2.5}$ levels in the area, based on the premise that such measures would be unreasonable to implement. To support this conclusion, the state would need to submit a technical demonstration showing that implementing available emissions controls for a particular precursor and/or a specific set of sources would provide only minimal changes in $PM_{2.5}$ concentrations in the area, and therefore such control measures should not be required during the timeframe prescribed for Moderate areas. The EPA requests comment on these two sub-options, including any technical information that would help support the commenter's position. Regarding the second sub-option, the EPA requests comment on what degree of air quality change should be considered minimal for purposes of this analysis.[64]

[64] Note that under either sub-option, the state would be able to show that control of precursor emissions from major stationary sources would not be required if it could be demonstrated that such emissions do not contribute significantly to $PM_{2.5}$

c. *Area reclassified to Serious.* A Moderate area can be reclassified to a Serious area under two scenarios. Under the first scenario, if a Moderate area fails to attain the standard by the applicable attainment date, it would then be reclassified by the EPA as a Serious area and the state would be required to develop and submit a Serious area attainment plan within 18 months of reclassification. Under the second scenario, the EPA could reclassify an area to Serious prior to the Moderate area attainment date if the EPA determines that it would be impracticable for the area to attain by the Moderate area attainment date. (Section V of this preamble provides additional detail on reclassifying a Moderate area to Serious under subpart 4.)

After an area has been reclassified to Serious, subpart 4 requires a state's Serious area attainment plan to include the imposition of more stringent control measures (best available control measures (BACM) and best available control technology (BACT)) intended to bring the area into attainment as expeditiously as practicable but no later than the end of the tenth calendar year after designation. Given that the CAA requires a more stringent new attainment plan for Serious areas, under Option 1 the state would be required to identify the best available measures for all sources of direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors and adopt those measures to attain the standard as expeditiously as practicable.[65]

The BACM and BACT determination requires a more rigorous analysis than the RACM and RACT analysis, and such measures collectively should lead to a greater degree of emission reduction in the area than the analysis of reasonable control measures for the Moderate area plan. For this reason, under Option 1, if the state's previous Moderate area attainment plan had indicated that new emissions reduction measures from sources of one or more precursors were not needed to attain by the end of the sixth calendar year after designation, then for the Serious area plan the state would need to reevaluate the best control measures addressing all $PM_{2.5}$ precursors (*i.e.* $SO_2$, $NO_X$, VOC, and ammonia) and require implementation of those ''best'' available control measures for all precursors in order to bring the area into attainment as expeditiously as practicable, but no later than the end of the tenth year after designation. Under Option 1, any precursor demonstration that excluded one or more precursors from regulation in the Moderate area plan would not by itself also be sufficient to exclude the precursors from regulation in the Serious area plan. Further analysis would be needed to determine if control measures for those precursors qualify as ''best'' control measures. The EPA has interpreted the starting point for considering ''best'' control measures as including those control measures to reduce emissions of direct $PM_{2.5}$ or $PM_{2.5}$ precursors that have been adopted by any state, particularly those states with the most severe $PM_{2.5}$ air quality problems. (Note that in Section VI.D of this preamble, more details are provided on BACM and BACT determination criteria. The EPA is taking comment on two options for BACM and BACT determinations—one that expresses it as a requirement independent of the attainment demonstration, and one that expresses it as only those ''best'' measures that are needed for expeditious attainment no later than the end of the tenth calendar year after designation. The BACM and BACT determination approach adopted in the final rule accordingly will determine whether all best available emission controls for a particular precursor must be adopted or not in a Serious area).

d. *NNSR.* Under Option 1, the initial expectation is that the state will need to address all four $PM_{2.5}$ precursors under the NNSR program pursuant to the CAA and as reinforced by the January 2013 *NRDC* v. *EPA* court decision. Pursuant to section 189(e), however, the state may provide a demonstration showing that emissions of a particular precursor from existing major stationary sources located in the nonattainment area do not contribute significantly to $PM_{2.5}$ levels that exceed the standard in the area. Under Option 1, this analysis under section 189(e) for major sources would be completed independently from the analysis of reasonable control measures conducted for attainment planning purposes. Such an analysis would involve assessing the potential addition of precursor emissions in the area due to potential new major stationary sources, and would likely involve air quality modeling and other technical analyses by the state, developed in consultation with the EPA (*see* Section III.C. of this preamble for further discussion on such technical demonstrations). Note that under this provision of the CAA, it might be possible that a precursor would be considered important for attainment planning purposes, but would not be regulated as a $PM_{2.5}$ precursor in NNSR permitting actions which, by definition, only apply to major sources of the nonattainment pollutant. For example, it might be possible that in a particular area the principal source of emissions of a certain precursor could be from mobile and area sources but not from major stationary sources of that precursor. The EPA requests comment on all aspects of proposed Option 1 as discussed above.

2. *Option 2:* Single analysis demonstrating that all emissions of a particular precursor from within the area do not significantly contribute to $PM_{2.5}$ levels that exceed the standard, meaning that control requirements for emissions of the precursor from stationary major and area sources, as well as mobile sources, would not be required for expeditious attainment, control requirements for major sources, or for NNSR permitting.

Option 2 would provide the state the opportunity to provide the EPA with a scientifically credible technical analysis that would demonstrate that one or more precursors do not contribute significantly to the $PM_{2.5}$ levels that exceed the standard, therefore controls on those emissions would not be effective in reducing $PM_{2.5}$ levels in the area. As noted earlier in this section of the preamble, section 302(g) of the CAA includes ''precursors'' in the definition of ''air pollutant,'' but provides the EPA with some discretion in defining how these terms should be interpreted. In subpart 4, the CAA does not explicitly address control of precursors, except with regard to major stationary sources in section 189(e). The EPA interprets subpart 4 to require states to address $PM_{2.5}$ precursors from all source categories in the evaluation of controls needed for attainment in a given area, *e.g.,* in the evaluation of RACM and RACT level controls. By analogy to section 189(e), the EPA also believes that there may be circumstances in which states may validly demonstrate that control of one or more $PM_{2.5}$ precursors is not needed to attain the relevant NAAQS expeditiously.

Section 189(e) provides that precursor control requirements apply to major stationary sources of precursors of $PM_{2.5}$ if major sources of PM are regulated under the attainment plan, unless it can be shown that such precursor emissions do not contribute significantly to exceedances of the relevant NAAQS in the area. Under Option 2, the EPA relies on the discretion provided in section 302(g) and the section 189(e) concept of precursor emissions in an area having a significant or insignificant effect on

levels that exceed the standard, consistent with section 189(e).

[65] The EPA's two proposed options for determining BACM and BACT are discussed in detail in Section VI.D of this preamble.

$PM_{2.5}$ concentrations that exceed the standard to propose two precursor technical demonstration suboptions. Option 2A would allow the state to provide a technical demonstration showing that all emissions (*i.e.,* from area, mobile and stationary sources in the area) of a particular precursor collectively do not provide a significant contribution to $PM_{2.5}$ levels that exceed the standard in the area. The kinds of analytical approaches that could be appropriate for this type of ''contribution demonstration'' are described later in this section.

For Option 2B, the EPA proposes to allow states to provide a technical demonstration showing that $PM_{2.5}$ concentrations in the area are not sensitive to potential reductions or increases in emissions of a particular precursor in the nonattainment area (*e.g.* because the particular precursor is not the limiting factor in secondary $PM_{2.5}$ formation). More information is provided later in this section about possible analytical approaches to assess precursor ''sensitivities'' in an area (the optional technical demonstration described for Options 2A and 2B hereafter will be referred to as a ''precursor demonstration''). The EPA requests comment on which of the two options (Option 2A or Option 2B) would be more preferable, and why. The EPA encourages commenters to provide examples of specific situations and areas in support of their recommendations.

These proposed options are consistent with the EPA's past practice for determining which technologically and economically feasible controls are necessary for expeditious attainment of the NAAQS. Specifically, the EPA has interpreted the RACM requirement in the CAA as requiring imposition of all reasonable controls as needed for expeditious attainment or to advance the attainment date by at least 1 year. The statute does not require imposition of additional controls if collectively such measures would not advance the attainment date. The EPA maintains it is reasonable to treat regulation of $PM_{2.5}$ precursors in a manner similar to the agency's treatment of direct pollutants and therefore concludes that states should not be required to implement control measures for a particular precursor or precursors if such measures will have little or no impact on $PM_{2.5}$ concentrations in the area or if the state demonstrates that all emissions of a given precursor or precursors do not contribute significantly to the $PM_{2.5}$ NAAQS exceedances in the area.

a. *Moderate area for which the state can demonstrate attainment by the statutory attainment date or for which the state can demonstrate that attainment by the statutory attainment date is impracticable.* An approved precursor demonstration under Option 2A would show that emissions of the particular precursor from all types of sources do not contribute significantly to $PM_{2.5}$ levels that exceed the standard. As proposed, this type of demonstration therefore by definition would also satisfy the section 189(e) provision (which allows the state to demonstrate that emissions from just major stationary sources are not significant and therefore should not be subject to control requirements, such as NNSR, that apply to major stationary sources of direct $PM_{2.5}$). Thus, the state could possibly develop one precursor demonstration analysis that would serve the purposes of both attainment planning and the section 189(e) insignificant major source contribution demonstration.

The sensitivity analyses required under Option 2B would need to assess a series of precursor emissions reductions and increases to determine the sensitivity to air quality in the area. For example, the analysis should evaluate the effect on $PM_{2.5}$ concentrations of various precursor emissions reduction scenarios appropriate to determine the sensitivity of precursors for the area (as would be relevant for an attainment plan); the analysis should also evaluate the effect on $PM_{2.5}$ concentrations of various precursor emissions increase scenarios appropriate to determine the sensitivity of precursors for the area, simulating the potential effect of the addition of potential new major stationary sources (or major modifications) to the nonattainment area under the NNSR program.

The EPA would evaluate the relevant analyses and other supporting information provided by the state. By submitting a ''precursor demonstration'' of this type, the state would not need to compile additional information on precursor control measures, or to proceed with actions to adopt and implement local or state regulations for the precursor. Precursor demonstrations as described in Options 2A or 2B could be conducted for Moderate areas for which the state can show that it can attain the standard by the end of the sixth calendar year after designation and for Moderate areas where the state's plan demonstrates that attainment by such date would be impracticable.

The EPA believes that general legal authorities under the CAA support the proposal of the overall precursor demonstration concept described above, and that requesting comment on these proposed options is appropriate from both a technical and a legal standpoint. This case specific approach is technically appropriate because the mix of $PM_{2.5}$ precursor emissions and other relevant technical factors varies from area to area. For example, in some areas, one precursor may be abundant while the main precursor with which it reacts may be less abundant. In such cases, reducing emissions of the less abundant precursor (the ''limiting'' precursor) is generally more effective for reducing $PM_{2.5}$ concentrations. In another type of area, the $PM_{2.5}$ concentrations that exceed the standard may be commonly dominated by primary $PM_{2.5}$ emissions rather than by secondarily formed $PM_{2.5}$. The emissions of the particular precursor from sources in the nonattainment area could be found to have an insignificant contribution to $PM_{2.5}$ levels that exceed the standard, and the potential air quality improvement from reducing emissions of the precursor in the area may be limited.

The EPA believes that proposing Options 2A and 2B is appropriate from a legal standpoint based on authority provided the Administrator in sections 302(g) and 301(a)(1) of the CAA. Section 302(g) includes in the definition of ''air pollutant'' all the precursors to that pollutant, and it allows the EPA Administrator to regulate precursors for ''the particular purpose for which the term 'air pollutant' is used.'' Under section 301(a)(1), ''[t]he Administrator is authorized to prescribe such regulations as are necessary to carry out his functions under this Act.'' Thus, with Option 2, the EPA proposes a framework by which the regulation of $PM_{2.5}$ precursors for a specific nonattainment area can be modified if the state provides the EPA with a credible technical demonstration for exempting a particular precursor which meets certain criteria and can be approved by the EPA. In addition, as noted earlier the set of analyses described under Option 2A could also satisfy the section 189(e) provision allowing the state to demonstrate that major stationary source emissions of a particular precursor do not significantly contribute to levels that exceed the standard. While this approach is not explicitly described in the statute, the EPA believes that the proposed Option 2 approach to precursor regulation is reasonable and allowed under the statutory authority provided in sections 302(g) and 301(a)(1) noted above.

The EPA anticipates that development of an approvable $PM_{2.5}$ precursor demonstration by the state at the

beginning of the attainment plan development process will require a substantial level of effort and consultation with the EPA. Such a demonstration by the state would likely involve a combination of technically rigorous and complex analyses, such as air quality modeling and ambient data analyses. The extensive nature of this type of a technical demonstration early in the attainment plan development process is necessary because the demonstration serves as the basis for limiting the applicability and associated control strategy decisions only to specific precursors for both the attainment plan and for the NNSR permitting program.

b. *Area reclassified to serious.* As noted earlier in this section, a Moderate area can be reclassified to Serious under two scenarios. Under the first scenario, if a Moderate area fails to attain the standard by the end of the sixth calendar year after designation, it would then be reclassified by the EPA as a Serious area, and the state would be required to develop and submit a Serious area attainment plan within 18 months of reclassification. Under the second scenario, EPA could reclassify an area to Serious prior to the Moderate area attainment date if it can be shown that it would be impracticable for the area to attain by the Moderate area attainment date.

Proposed Option 2 would allow a ''precursor demonstration'' approach for Serious area plans in the same manner as for Moderate area plans. However, if the state had previously submitted a precursor demonstration that the EPA approved for the Moderate area attainment plan, under either proposed Option 2A or 2B the state would be required to review and update the precursor demonstration, taking into account any changes in the emissions inventory and any other relevant information or advances in technical tools developed since the initial demonstration was approved. Examples of such information would be improved emission estimation methods or emission factors for key source categories; changes in precursor emissions inventories due to emissions control programs or new source growth; the development of more advanced technical tools to assess the effectiveness of precursor reductions; and, updated information about new or more effective control technologies or emission reduction techniques. Any precursor demonstration that is approved as part of the Serious area attainment plan would need to be revised and updated if the area cannot attain the standard by the end of the tenth calendar year after designation and seeks an extension under section 188(e) or does not attain the standard by the applicable Serious area attainment date and is subsequently subject to 5 percent annual emission reductions under section 189(d).

One other important factor to consider is the substantial amount of time that can elapse between the submission of a Moderate area attainment plan for a particular nonattainment area, and submission of a Serious area attainment plan. The plan for a Moderate area is due within 18 months of designation. Under the EPA's overall proposed approach to attainment plan development, the state would be required to evaluate control measures for all types of sources and for all $PM_{2.5}$ precursors in order to ensure attainment of the standard as expeditiously as practicable. The full assessment to identify reasonable control measures would involve a thorough compilation and analysis of information on control technologies and the technological feasibility of implementation of such measures for sources in the area; the assessment of associated control costs and economic feasibility of implementation; information on the time needed for deployment and implementation of such control measures; and, the resulting timeline for achieving emissions reductions.

If the Moderate area does not attain the standard by the end of the sixth calendar year after designation, then as required by to the CAA, the EPA would have 6 months to make a determination to that effect, and the area would be reclassified to Serious. The state would then have 18 months to submit, at a minimum, a new attainment demonstration and control strategy comprising BACM and BACT. Thus, under these circumstances, these key Serious area plan elements would be due at least 8 years after the EPA designated the area nonattainment, and more than 6 years after the state submitted the original Moderate area plan. Because of the potentially protracted timeline for developing, implementing and revising as necessary the SIP for a given $PM_{2.5}$ nonattainment area under subpart 4, the EPA believes it is reasonable for the state to be required to update any precursor demonstration it had previously developed for the area if the area is reclassified as Serious.

The EPA requests comment on the requirement for the state to review and update any previously approved ''precursor demonstration'' if the area fails to attain the standard by the applicable Moderate area attainment date. The EPA also requests comment on the requirement for the state to review and update any previously approved ''precursor demonstration'' if the area fails to attain the standard by the applicable Serious area attainment date.

c. *NNSR.* An approvable precursor demonstration under either Option 2A or Option 2B would evaluate emissions of a particular precursor from all types of sources. Accordingly, if the state provides an approvable precursor demonstration for all types of sources of a particular precursor as described above, then under Option 2A, the state would also be able to rely on the same technical demonstration to conclude that emissions of that precursor just from major stationary sources in the area do not provide a ''significant contribution'' to $PM_{2.5}$ concentrations in the area pursuant to section 189(e). Thus, under Option 2A, the state would not need to apply the NNSR control requirements for $PM_{2.5}$ to that precursor in the particular $PM_{2.5}$ nonattainment area(s) for which the EPA approves the demonstration.

Under Option 2B, the state would conduct analyses to determine the sensitivity of $PM_{2.5}$ levels in the area (that exceed the standard) to potential increases in emissions (relevant for NNSR) and decreases (relevant for attainment demonstrations). If the state provided an approvable precursor demonstration showing that $PM_{2.5}$ concentrations are insensitive to potential increases in emissions of a particular precursor in the area, then under Option 2B the state would be able to rely on this technical demonstration as the basis for not regulating that precursor for major stationary sources under NNSR.

Additionally, there could be a situation where the state finds that emissions of another precursor (*i.e.,* a precursor that was not the subject of the initial precursor demonstration) from only major stationary sources located in the nonattainment area could be considered to have an insignificant contribution to $PM_{2.5}$ levels that exceed the standard in the area (under Option 2A). For example, mobile and area source emissions of a $PM_{2.5}$ precursor could be determined to provide a larger contribution to $PM_{2.5}$ levels than major stationary sources in a given nonattainment area and would be the focus of the attainment strategy, and the major stationary source emissions of that same precursor might have only a minimal contribution to $PM_{2.5}$ levels. In this situation, the state could develop a separate demonstration under section 189(e) to support the exclusion of the

additional precursor from implementation requirements applicable to all major stationary sources, including NNSR program requirements (assuming the state analysis includes appropriate consideration of potential new sources of the relevant precursor). With an approved demonstration under section 189(e), major stationary sources of that precursor could also be excluded from the NNSR control requirements for $PM_{2.5}$. The EPA seeks comment on all aspects of proposed Option 2.

3. *Option 3:* An attainment planning analysis demonstrating that control measures for all types of sources of a particular precursor are not needed for expeditious attainment also would be deemed to meet the section 189(e) technical demonstration requirement, meaning that the state would not need to regulate emissions of the particular precursor from major stationary sources under the NNSR permitting program or other control requirements for major stationary sources.

Under proposed Option 3, the consideration of precursors in the attainment planning process for Moderate and Serious areas would closely follow the approach described for Option 1 (*see* Sections III.B.1.a–c of this preamble). As described for Option 1, after developing a comprehensive emissions inventory, the state would conduct an analysis to identify the new reasonable control measures that need to be adopted and implemented in order for the Moderate area to attain the standard as expeditiously as practicable, but no later than by the end of the sixth calendar year after designation (this analysis is described in greater detail in Section III.B.1.a in this preamble). If the state determines that adoption of additional economically and technically feasible emission reduction measures for a particular precursor are not necessary for expeditious attainment by the end of the sixth calendar year after designation, and that such measures collectively would not accelerate the attainment date by at least a year, then for the purposes of this Moderate area attainment plan, the state would not need to adopt such additional measures because they would not be considered reasonable. (Note that the need for additional emissions reductions of the particular precursor would have to be re-evaluated if the area is reclassified to Serious, or if the area submitted a SIP revision requesting an extension of the Serious area attainment date under section 188(e)).

To clarify the intent of Option 3, unlike under Option 1, a separate analysis to show that major stationary sources of a particular precursor do not contribute significantly to $PM_{2.5}$ levels in a given $PM_{2.5}$ nonattainment area for purposes of section 189(e) would not be needed. If the state's single analysis shows that emission reduction measures are not needed from sources of a particular precursor in order to demonstrate expeditious attainment, then under proposed Option 3 the same analysis would also be considered adequate to meet the requirements of section 189(e). In effect, the attainment planning analysis would define the set of precursors that would be subject to control under both the attainment plan and the NNSR permitting program for the area.[66]

The rationale supporting the Option 3 approach focuses on the section 189(e) emphasis on precursor control requirements. If control measures are not needed in a Moderate nonattainment area to reduce emissions of a particular precursor from all types of sources in order to demonstrate attainment or to advance the attainment date, then under the rationale of proposed Option 3, it would follow that the state would not need to include any other control requirements that apply to major stationary sources of that precursor, including control requirements for $PM_{2.5}$ under the NNSR program. The theory for this option would be that if the state determines that new control requirements for emissions of the particular precursor are not needed for purposes of attainment planning because they would not contribute to reducing $PM_{2.5}$ levels that exceed the standard, then other control requirements to address emissions of that precursor also would not be needed. Note that under this option, the state also would not be required to analyze the potential effect of increases in emissions of the particular precursor (*e.g.,* from the possible permitting of new sources) on $PM_{2.5}$ concentrations in the area. The EPA requests comment on the rationale supporting Option 3.

Additionally, under Option 3, as was the case with Option 2, there could be a situation where the state determines that control measures for a particular precursor are generally needed in order to demonstrate attainment as expeditiously as practicable, but that the major stationary sources of that precursor that are located in the nonattainment area have an insignificant contribution to $PM_{2.5}$ levels that exceed the standard in the area. Under this Option 3, the EPA believes that section 189(e) provides the state with the authority to develop a separate demonstration to show that, even though control measures for a specific precursor emitted by sources other than major stationary sources are necessary to demonstrate expeditious attainment in an area, major stationary sources of that precursor have an insignificant contribution to $PM_{2.5}$ concentrations that exceed the standard in the area. Thus, controls from major stationary sources of that precursor would not be required for either the attainment plan or the NNSR program. More discussion on the potential options for precursor technical demonstrations is included in Section III.C of this preamble. The EPA seeks comment on all aspects of proposed Option 3.

The EPA also seeks comment on whether only one of these approaches should be included in the final rule, or whether it would be appropriate to include multiple approaches (*e.g.,* both Options 1 and 2) or a hybrid of two approaches by which a state could demonstrate that a particular precursor would not need to be addressed in the attainment plan or NNSR permitting program for a specific area.

### *C. Technical Approaches for Demonstrating That a Precursor Does Not Need To Be Subject to Control Requirements*

As noted earlier, in the preamble to the 2007 $PM_{2.5}$ Implementation Rule, the EPA included a discussion allowing for the state to submit a technical demonstration to show to the satisfaction of the EPA that emissions of a particular precursor do not significantly contribute to $PM_{2.5}$ concentrations in the area. In that preamble discussion, the EPA indicated that such a demonstration should be based on the weight of evidence of available information, and that any such demonstration by the state must be approved by the EPA. The 2007 $PM_{2.5}$ Implementation Rule also discussed a number of types of analyses that could inform this precursor demonstration, such as speciation data analyses, air quality modeling studies, chemical tracer studies, emissions inventories, or special intensive measurement studies to evaluate specific atmospheric chemistry in an area. In the 2007 $PM_{2.5}$ Implementation Rule, the EPA intended to provide states with the flexibility to provide a range of different supporting analyses that would be appropriate for

[66] Note that while the NNSR program needs to be implemented from the effective date of an area's nonattainment designation, in some situations the state would implement either its existing NNSR program for $PM_{2.5}$ or, in the absence of such program, 40 CFR part 51 Appendix S, the default NNSR program, until the EPA approves the state's $PM_{2.5}$ attainment plan and revised NNSR regulations for $PM_{2.5}$.

the area, recognizing that nonattainment areas differed in terms of such factors as: (i) The mix of emissions sources located in the nonattainment area and outside the area that are contributing to $PM_{2.5}$ concentrations in the area; (ii) the levels of $PM_{2.5}$ species measured in the area; (iii) the times of year when highest $PM_{2.5}$ concentrations are observed; (iv) the topography of the area; (v) the severity of the nonattainment problem; and, (vi) the patterns of emissions and population growth in and around the nonattainment area. Under the 2007 $PM_{2.5}$ Implementation Rule, an important criterion for any technical precursor demonstration provided by a state, however, was that it had to fairly represent the information available to the state and the information made available to it by the public.

For this proposed implementation rule, the EPA similarly proposes that the state should have the flexibility to present multiple types of analyses to support any demonstration for exempting a precursor from control requirements as long as they fairly represent the available information, and accordingly proposes that the EPA should review any such demonstration based on the weight of evidence. Unlike in the prior implementation rule, however, later in this section the EPA raises the question of whether certain specific types of analyses should be included as minimum required components of any precursor demonstration that a state chooses to submit to the EPA for approval.

The preamble to the 2007 $PM_{2.5}$ Implementation Rule indicated that if a state developed a precursor demonstration as part of its draft SIP, then in accordance with the state rulemaking process, the demonstration would be subject to public review at the state level. It also stated that, as required under any rulemaking process, the state had to consider and provide a response in the rulemaking record to any information or evidence brought forward by commenters during the state's SIP planning, development and review process. By insuring that this important issue was explicitly addressed and supported in the attainment plan submitted to the EPA, the EPA could better evaluate the precursor demonstration in accordance with its obligations under the CAA. The EPA believes these are sound procedural steps for a state rulemaking process, and the regulations being proposed as part of this rule include similar language providing for public review of any proposed precursor demonstration.

The 2007 $PM_{2.5}$ Implementation Rule did not provide a specific due date for submittal of any precursor demonstration, although it was assumed that if a state were to pursue such a demonstration, it would need to be done early in the attainment plan development process and submitted to the EPA no later than the date of the attainment plan submission itself. It was recommended that the state develop any such demonstration in consultation with the appropriate EPA Regional Office. In this proposal, the EPA is proposing that if a state is interested in developing a $PM_{2.5}$ precursor demonstration to support not regulating one or more $PM_{2.5}$ precursors in the attainment plan for an area, it should consult with the EPA Regional Office as early as possible to discuss appropriate analyses to be included. In its review of any precursor demonstration provided by a state, the EPA will consider all currently available information.

Under all three proposed precursor policy options described above, the state would have the opportunity to provide a precursor demonstration to meet the requirements of section 189(e) of the CAA. Precursor demonstrations pursuant to section 189(e) should evaluate the significance of the contribution of emissions of a particular precursor from existing major stationary sources to fine particle concentrations that exceed the standard. However, Options 2A and 2B differ from the others in that they would provide the state with the ability to conduct a precursor demonstration that comprehensively assesses the contribution of a particular precursor from all types of sources in the nonattainment area (not just from major stationary sources as specifically addressed by section 189(e)) for the purposes of informing which precursors must be addressed in both the attainment plan and in the NNSR program for a particular $PM_{2.5}$ nonattainment area. (Note that Option 2 would not prevent the state from also conducting an additional analysis under section 189(e), if warranted, to further demonstrate that while all emissions of a particular precursor make a significant contribution to $PM_{2.5}$ levels that exceed the standard, the emissions from just the major stationary sources of that precursor collectively do not contribute significantly to $PM_{2.5}$ levels that exceed the NAAQS in the area.) The EPA has considered three important questions regarding the scope and the potential requirements associated with precursor demonstrations, and requests comment on the questions and technical analysis options presented below.

1. What is the geographic area from which precursor emissions should be assessed?

In the 2007 $PM_{2.5}$ Implementation Rule, the preamble indicated that a precursor demonstration analysis addressing all source types covered by the attainment plan should evaluate the impact of emissions from sources located throughout the entire state. In contrast, the 2008 $PM_{2.5}$ NSR Rule suggested that a precursor demonstration for NNSR purposes should evaluate emissions from major stationary sources of a particular precursor located within the nonattainment area only.

In determining which approach to include in the present proposal, the EPA believes that it continues to be reasonable that any precursor demonstration conducted to assess precursor significance for NNSR purposes should evaluate emissions from major stationary sources of the precursor from within the nonattainment area only. Section 189(e) is included in a part of the CAA that specifically sets forth nonattainment area requirements. For attainment planning purposes it is less clear that the evaluation of emissions should be limited only to sources from within the nonattainment area, because the state has jurisdiction over emissions sources located throughout the state, and can impose emission reduction requirements on contributing sources outside of nonattainment areas if necessary to help bring areas with violating monitors into attainment. At the same time, that argument would suggest that section 189(e) should be interpreted as requiring two different analyses of the impacts of precursors emitted from two different geographic scales (from within the nonattainment area, as well as from a broader area that influences air quality within the nonattainment area, which could include the entire state). The EPA does not believe such an interpretation is required, nor does it believe that such multiple analyses are warranted. The statute simply refers in general terms to precursor emissions from major stationary sources and does not differentiate between control requirements for attainment planning and control requirements for other purposes, such as NNSR permitting. The statute also does not indicate that multiple analyses must be done to assess major stationary source impacts from multiple geographic scales. For these reasons, the EPA is proposing that

any precursor demonstration must include an evaluation of emissions from sources located in the nonattainment area only. The EPA requests comment on this proposed approach.

2. Should the EPA's guidance provide a specific list of analyses as ''minimum requirements'' that must be included in any proposed precursor demonstration?

As noted above, the EPA encourages states to provide a range of analyses to thoroughly understand the effect of precursor emissions on $PM_{2.5}$ concentrations in an area. In past discussions with state representatives regarding potential approaches to regulating $PM_{2.5}$ precursors, some representatives have suggested that this $PM_{2.5}$ implementation rulemaking should include more specificity about the minimum requirements for technical demonstrations to support exclusion of $PM_{2.5}$ precursors from regulatory requirements in attainment plans, while others have recommended a less prescriptive approach. One overarching issue is how detailed the EPA's guidance should be with regard to the analytical requirements for any proposed precursor demonstration. As noted earlier, technical demonstrations can include data such as ambient speciation data analyses, air quality modeling studies, chemical tracer studies, emissions inventories, and/or special intensive measurement studies. Air quality modeling analyses are discussed in more detail below.

a. *Contribution analysis.* Based on the statutory language of section 189(e), it appears that, at a minimum, any precursor demonstration conducted specifically pursuant to section 189(e) must evaluate the contribution of current emissions of the relevant precursor from existing major stationary sources to current (or most recent) $PM_{2.5}$ concentrations observed in the nonattainment area (note that this type of analysis is possible under Option 1 and Option 3). In addition, as described above, any precursor demonstration under Option 2A must evaluate the contribution of emissions of the relevant precursor from all sources (not just major stationary sources) to current (or recent) $PM_{2.5}$ concentrations observed in the nonattainment area.

In light of the statutory language and the capabilities of existing technical tools, the EPA proposes to require that the state conduct such a contribution analysis at a minimum as part of any proposed precursor demonstration, and that the state conduct an analysis using an air quality modeling system that adequately accounts for the $PM_{2.5}$ pollution problem within the nonattainment area. Several photochemical air quality models (*e.g.,* Community Multi-Scale Air Quality Model (CMAQ) and the Comprehensive Air Quality Model with Extensions (CAMx)) can be used to quantify the contributions of precursor emissions to $PM_{2.5}$ concentrations in the area.[67] For example, states could compare base case conditions (at current precursor emissions levels) with a separate model simulation in which the relevant precursor emissions are reduced by a large percentage. The difference in the estimated $PM_{2.5}$ concentrations provides one indication of the relative significance of the precursor emissions to $PM_{2.5}$ concentrations in the area. This type of contribution analysis can also be accomplished by using existing advanced tools within photochemical air quality models, such as ''source apportionment'' capabilities which allow one to track precursor emissions as they ''form'' $PM_{2.5}$ (in the model) and then report their contributions separately. The EPA requests comment on including a contribution analysis as a minimum requirement in any proposed precursor demonstration under Option 2A.

b. *Sensitivity analysis.* The EPA notes that changes in $PM_{2.5}$ concentrations from current conditions in any area will not necessarily be linear with respect to changes in $PM_{2.5}$ precursor emissions. Therefore, another important question is whether any precursor demonstration should be required to include an assessment of how ''sensitive'' the area will be to potential reductions or increases in emissions of the relevant precursor. Sensitivity analyses of potential reductions in emissions would be most appropriate for attainment planning (and relevant to Option 2B), whereas sensitivity analyses of potential increases in emissions (*e.g.,* relevant to NNSR permitting) would be appropriate for all section 189(e) technical evaluations (possible under Options 1, 2B and 3). Sensitivity analyses are important because of the complexity and variability of the atmospheric chemistry affecting $PM_{2.5}$ concentrations in different areas across the country.

The principal $PM_{2.5}$ components that are secondarily formed in the atmosphere are the result of chemical reactions between various $PM_{2.5}$ precursors (*see* Section II of this preamble for more information on specific precursor reactions). Thus, the most effective precursor strategies for reducing $PM_{2.5}$ concentrations as part of attainment planning will vary from area to area, depending upon which specific precursors play a role in forming or limiting $PM_{2.5}$ formation in the particular area. Likewise, in evaluating which precursors would be appropriate to exclude from regulation for NNSR in an area, it is important to understand the current sensitivity of the atmosphere to potential increases in precursor emissions that could result from the addition of new sources to the nonattainment area.

One approach to assessing precursor sensitivities would be to conduct a model simulation that evaluates the effect on $PM_{2.5}$ concentrations in the area resulting from a given set of precursor emission reductions and emission increases. Simulations could be conducted to assess a set of emission reduction and emission increase scenarios deemed appropriate to determine the sensitivity of a particular precursor in a specific area. Another approach that could be used is a scientific technique called the ''decoupled direct method'' (DDM), which efficiently estimates the impacts on $PM_{2.5}$ concentrations as a result of reducing or increasing precursor emissions in the model.[68]

For the reasons discussed above, the EPA also proposes that any precursor demonstration conducted under proposed Option 2B must provide a set of sensitivity analyses that evaluate the effect of a range of emissions changes associated with measures considered economically and technically feasible in a particular nonattainment area. Analyses that reduce emissions of a particular precursor will help the state and the EPA to understand how ''responsive'' the atmosphere would be to control measures and how effective such reductions would be relative to other precursor reductions. Although not specifically required for other options under this proposed rule, precursor sensitivity analyses evaluating the effect of varying degrees of potential precursor reductions would provide meaningful information for any precursor demonstration intended to show that a particular precursor does not need to be addressed for attainment planning. Conversely, sensitivity analyses that consider the effect of a range of potential emissions increases in the nonattainment area will help the state and the EPA to understand the potential response of $PM_{2.5}$

[67] For more information on CMAQ, *see http://www.epa.gov/AMD/Research/RIA/cmaq.html.* For more information on CAMx, *seehttp://www.camx.com/.*

[68] *See* Simon et al., Memorandum to ozone NAAQS docket EPA–HQ–OAR–2008–0699, ''Model-based Rollback Using the Higher Order Direct Decoupled Method (HDDM),'' August 14, 2012.

concentrations to projected growth in the area, including potential increases in emissions associated with potential newly permitted sources that emit the precursor in question. Any precursor demonstration intended to show that a particular precursor does not need to be addressed for NNSR should include sensitivity analyses evaluating the effect of varying degrees of precursor emission increases in the area. The EPA recommends that the state conduct these analyses using air quality modeling tools, but the state could provide additional relevant analyses as well. The EPA requests comment on the proposed requirement for inclusion of sensitivity analyses in any precursor demonstration.

3. Should there be a ''bright line'' value to indicate that any estimated contribution to annual average or 98th percentile $PM_{2.5}$ concentrations in the nonattainment area that exceeds this value would be considered ''significant''?

In considering this question, it is helpful to first look to how the concept of a significant, or insignificant, contribution has been interpreted with regard to particulate matter in past $PM_{10}$ guidance (Addendum to the General Preamble) and in other $PM_{2.5}$-related regulations, such as the CAIR. In the Addendum, the EPA introduced the concept of a ''*de minimis*'' impact from a source category for the purposes of the identification and evaluation of BACM.[69] While a later discussion in this proposal addresses whether or not to maintain a similar *de minimis* source category-based policy approach for future BACM and BACT source category analyses, what is relevant for this precursor discussion is the EPA's guidance in the Addendum on what could be considered a ''*de minimis,*'' or ''insignificant,'' ambient impact for purposes of $PM_{10}$. In the Addendum, the EPA indicated that a 1 μg/m³ contribution to the annual $PM_{10}$ standard of 50 μg/m³ (equal to 2 percent of the applicable NAAQS at the time), or a 5 μg/m³ contribution to the 24-hour $PM_{10}$ standard of 150 μg/m³ (equal to 3.3 percent of the applicable NAAQS at the time) presumptively would be considered ''*de minimis.*'' The EPA set forth these levels in a **Federal Register** document, citing the discretionary authority of an administrative agency to exempt from regulation emissions (from source categories) ''which contribute only negligibly to ambient concentrations which exceed the NAAQS.''

Developed pursuant to subpart 4, this past guidance on what could be considered to be a *de minimis* or insignificant level of $PM_{10}$ contribution from a source category can potentially inform this proposed rule for implementing the $PM_{2.5}$ NAAQS. Accordingly, this proposal includes two options: (i) A ''no-threshold'' option, and (ii) a proposed threshold option derived from the ambient levels relied on for the $PM_{10}$ source category *de minimis* thresholds, but adjusted to account for the 2012 $PM_{2.5}$ NAAQS.

The concept of ''significant contribution'' also has been a central one with regard to interstate transport and the interpretation of section 110(a)(2)(D) of the CAA. In past programs to address interstate transport, such as the CAIR, an ''upwind'' state was identified as potentially subject to additional emission control requirements if the impact of $SO_2$ and $NO_X$ emissions from the upwind state to any nonattainment area in a downwind state exceeded 1 percent of the relevant $PM_{2.5}$ standard at a violating monitor in another state. This was merely the first step of the analysis, but it provided an initial threshold for determining whether further analysis was warranted. In this proposal, the concept of a significant contribution refers to the effect of emissions of a particular precursor from sources within the state or nonattainment area to local $PM_{2.5}$ concentrations in the nonattainment area. The specific purpose and context for which the phrase ''contribute significantly'' is used in section 189(e) is very different from the purpose and context for which it is used in section 110(a)(2)(D). Thus, while a previous interstate transport rule under section 110(a)(2)(D) considered the combined impact of $SO_2$ and $NO_X$ emissions from an upwind state on ambient $PM_{2.5}$ at a violating monitor to be insignificant if it was less than 1 percent (*i.e.,* 0.15 μg/m³ on an annual average basis), it would not necessarily be appropriate to also consider the contribution from emissions of a specific precursor within a nonattainment area to be ''insignificant'' if it does not exceed a similar 1 percent ambient concentration level.[70]

There are a number of important distinctions between the section 110(a)(2)(D) interstate transport provision and the section 189(e) provision addressing contributions of major stationary sources in a nonattainment area which would indicate that the 1 percent of the NAAQS significant contribution thresholds that have been included in section 110(a)(2)(D) rulemakings may not be relevant for purposes of section 189(e) precursor demonstrations. Section 110(a)(2)(D) was designed to address the collective contribution of interstate transport of pollution from multiple upwind states, while section 189(e) addresses contributions from major stationary sources in a single nonattainment area. In addition, section 110(a)(2)(D) requires that SIPs contain provisions to eliminate the contributions that are deemed significant, whereas section 189(e) merely requires that the emissions be controlled. Given the differences in purpose, scale, and scope, the EPA does not believe it is necessary for a threshold for ''significant contribution'' to be the same for the two programs.

Based on the considerations discussed above regarding inclusion of a potential significance ''threshold'' for purposes of this $PM_{2.5}$ implementation rulemaking, the EPA proposes and seeks comment on two options. The first option would not specify a threshold for what is a significant contribution to levels that exceed the relevant NAAQS in a given area. Rather, the state would be required to conduct a contribution analysis and sensitivity analyses as described above to determine the estimated level of ambient impact from the relevant precursor, and to provide the analyses to the EPA as part of its precursor demonstration. The EPA would then consider these analyses in addition to the other analyses provided by the state in determining whether to approve the precursor demonstration. This option would provide greatest flexibility for the state and the EPA to consider the contribution analysis in combination with other information relevant to the unique $PM_{2.5}$ composition, source mix, and attainment needs of each individual nonattainment area. *See* proposed 40 CFR 51.1006.

The second option would specify a ''significance'' threshold of 3 percent, such that if contribution modeling indicated that base year emissions of the precursor from the relevant sources in the nonattainment area (*i.e.* from major stationary sources for all analyses pursuant to section 189(e); from all types of sources for the upfront analysis in Option 2) leads to an ambient impact that exceeds 3 percent of the $PM_{2.5}$ NAAQS (*e.g.,,* 0.36 μg/m³ on an annual average basis for the 2012 primary annual $PM_{2.5}$ NAAQS) at monitors in

[69] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42011.

[70] *See* Rule To Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the $NO_X$ SIP Call, 70 FR 25162 (May 12, 2005).

the nonattainment area, then the precursor demonstration would not be approvable. The threshold equivalent to 3 percent of the relevant $PM_{2.5}$ NAAQS is proposed as reasonable because it is between the two *de minimis* ambient contribution levels included in previous $PM_{10}$ guidance issued under subpart 4 to identify a *de minimis* level of ambient contribution from a group of emissions sources. The EPA acknowledges that the context in which the proposed threshold is used here is different from the context in which it was used in previous guidance. Absent any explicit language provided in the statute to define significant contribution in the context of section 189(e), however, the only other existing guidance that in some way addresses the concept of significant contribution for $PM_{10}$ is the *de minimis* source category threshold values from the Addendum. One benefit of having a specific threshold in the rule is that states will have more concrete guidance on what could potentially be approvable in a precursor demonstration.

The EPA therefore seeks comment on: (1) Whether a specific significant contribution threshold should be included in the final rule or not; (2) if the commenter considers inclusion of a specific threshold to be appropriate, whether the proposed 3 percent of the relevant NAAQS threshold and its basis would be appropriate, and why; and (3) whether a threshold with an alternative level and supporting rationale would be more appropriate.

## IV. What are the EPA's proposed requirements for Moderate area attainment plans?

Sections 189(a), (c), and (e) of the CAA require that Moderate area attainment plans contain the following: (i) An approved permit program for construction of new and modified major stationary sources (section 189(a)(1)(A)); (ii) a demonstration that the plan provides for attainment by no later than the applicable Moderate area deadline or a demonstration that attainment by that deadline is impracticable (section 189(a)(1)(B)); (iii) provisions for the implementation of RACM and RACT no later than 4 years after designation (section 189(a)(1)(C)); (iv) quantitative milestones that will be used to evaluate compliance with the requirement to demonstrate reasonable further progress (RFP) (section 189(c)); and, (v) evaluation and regulation of $PM_{2.5}$ precursors (in general to meet RACM and RACT and other attainment planning requirements, and as specifically required for major stationary sources by section 189(e)). Other subpart 1 requirements for attainment plans continue to apply to $PM_{2.5}$ nonattainment areas subject to subpart 4 and include the following: (i) a description of the expected annual incremental reductions in emissions that will demonstrate RFP (section 172(c)(2)); (ii) emissions inventories (section 172(c)(3)); (iii) other control measures (besides RACM and RACT) needed for attainment (section 172(c)(6); and, (iv) contingency measures (section 172(c)(9)).

Each of these statutory requirements is described more fully below. In certain cases, the EPA is proposing options for implementing a statutory requirement for purposes of the $PM_{2.5}$ NAAQS. Based on comments the agency receives, the EPA will then promulgate regulations to implement the statutory requirements in the final action on this proposal, as appropriate. The EPA notes that its longstanding guidance on these statutory requirements is embodied in the General Preamble and the Addendum.[71] Where appropriate, this proposal notes options that may vary from past EPA guidance and explains the EPA's reasons for considering an amended approach.

### *A. Plan Due Dates*

Section 189 of the CAA specifies the schedule by which states must submit attainment plans for the $PM_{2.5}$ NAAQS. Specifically, CAA section 189(a)(2)(B) requires states to submit an attainment plan that meets Moderate area attainment plan requirements no later than 18 months from the date of a nonattainment designation.[72] To be consistent with this subpart 4 deadline for the attainment plan submission, the EPA is proposing that states must also submit those elements of the attainment plan required under subpart 1 (*i.e.,* emissions inventories and contingency measures) no later than 18 months from the date of designation of the area. The provisions of subpart 4 do not explicitly specify when states must submit these attainment plan elements that carry over from subpart 1, so the EPA needs to interpret the requirements of the CAA to meet the objectives of the attainment plan requirements. The EPA believes that requiring states to submit the necessary emissions inventory (or inventories) either before or at the same time as the other attainment plan elements due under subpart 4 is necessary, given that a state will need information contained in the emissions inventory for other elements of its Moderate area attainment plan, such as its precursor analysis, analysis of RACM and RACT and additional reasonable measures, and attainment demonstration modeling. The EPA also believes it is reasonable to require the state to submit contingency measures, which need to be adopted and ready for immediate implementation in the event a nonattainment area fails to meet RFP requirements or fails to attain the $PM_{2.5}$ NAAQS by the applicable attainment date, simultaneous with the other elements of the attainment plan. The state's evaluation of what emissions controls are appropriate to meet the contingency measure requirement is closely related to other aspects of the attainment plan, such as addressing the proper pollutants for control in a given area, the appropriate sources for controls beyond those already required for RACM and RACT for the area, and the amount of emission reductions that the contingency measures should achieve, based upon the facts and circumstances of the attainment plan for the area.

The EPA believes that the statutory deadline for submission of a Moderate area attainment plan for the $PM_{2.5}$ NAAQS is straightforward and, absent unusual circumstances, the statute requires states to make such attainment plan submissions within 18 months after the effective date of a nonattainment designation for an area. *See* proposed 40 CFR 51.1003(a). Although nothing in the CAA prohibits states from making separate attainment plan submissions to meet the individual statutory requirements for attainment plans in advance of the required date, the EPA presumes that development and submission of all of the attainment plan elements simultaneously will be most effective, both for the state in the first instance and for the EPA in reviewing the state's submission. For example, the EPA designated areas as nonattainment for the 2012 $PM_{2.5}$

[71] *See* the **Federal Register** published on April 16, 1992 (57 FR 13498, 13536, 13537, 13538, 13539, 13540, 13541, 13542, 13543, 13544 and 13545); and *see* the **Federal Register** published on August 16, 1994 (59 FR 41988).

[72] The EPA notes that Congress provided different statutory deadlines for submission of attainment plans under subpart 1 and subpart 4. Under section 172(b), the EPA is directed to establish the date for the attainment plan submission, but it can extend no later than 3 years from the date of a nonattainment designation. By contrast, under section 189(a)(2)(B), the statute provides that states must make the attainment plan submissions within 18 months after designation. Due to the December 2013 court decision in *NRDC* v. *EPA,* however, the EPA promulgated an alternative submission date of December 31, 2014 for attainment plans for the 1997 $PM_{2.5}$ and 2006 $PM_{2.5}$ NAAQS in order to provide a reasonable, prospective due date for attainment plans that must comply with subpart 4 requirements and to clarify the requirements that a state must meet prior to redesignation of a $PM_{2.5}$ nonattainment area. *See* 79 FR 31566 (June 2, 2014).

NAAQS with an effective date of April 15, 2015; states will thus be required by statute to submit Moderate area attainment plans for any nonattainment areas to the EPA no later than October 15, 2016.

*B. Emissions Inventory Requirements*

Pursuant to its authority under section 110 of title I of the CAA, the EPA has long required states to submit inventories of the emissions of criteria pollutants and their precursors. The EPA codified these requirements in 40 CFR part 51, subpart Q in 1979 and amended them in 1987. Additionally, the 1990 CAA Amendments revised many of the provisions of the CAA related to attainment of the NAAQS and the protection of visibility in mandatory Class I federal areas (certain national parks and wilderness areas). These revisions established new emissions inventory requirements applicable to areas that were designated nonattainment for certain pollutants. In the case of particulate matter, Congress did not create a specific emissions inventory requirement in subpart 4 that would supersede the emissions inventory requirement under subpart 1. Thus, the section 172(c)(3) emissions inventory requirements continue to apply, and that provision explicitly requires ''a comprehensive, accurate, and current inventory of actual emissions of the relevant pollutants'' in the nonattainment area. In addition, the specific attainment plan requirements for the $PM_{2.5}$ NAAQS set forth in section 189(a) and associated modeling requirements make an accurate and up-to-date emissions inventory a critical element of any viable attainment plan. Because of the nature of $PM_{2.5}$, the EPA concludes that the statutory requirements for emissions inventories need further elaboration through additional regulatory requirements as described below.

Emissions inventory data serve as the foundation for various types of analyses that enable states to evaluate the degree to which different emissions sources contribute to the nonattainment problem in a given nonattainment area and enable states to estimate the air quality improvement that can be achieved through different control measures. States should use the best available, current emissions inventory information for attainment plan development, because high quality emissions inventory data are essential for the development of an effective control strategy. To assist states in preparing complete, high quality inventories, the EPA provides guidance for developing emissions inventories called ''Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze,'' which is available from *http://www.epa.gov/ttn/chief/eidocs/eiguid/index.html*. This guidance is commonly called the ''SIP Emissions Inventory Guidance.'' The EPA recommends that states consult this guidance while developing the emissions inventories to meet statutory and regulatory requirements.

1. How do states meet the inventory requirements for the $PM_{2.5}$ NAAQS?

Neither section 172(c)(3), nor the provisions specifically applicable to attainment plans for the $PM_{2.5}$ NAAQS in subpart 4, specify how states should meet statutory emissions inventory requirements. Although section 172(c)(3) explicitly requires that states submit only ''an'' emissions inventory in conjunction with other elements of an attainment plan, that term is ambiguous in the context of the $PM_{2.5}$ NAAQS, and the EPA is authorized to interpret that term and to impose additional requirements as necessary and appropriate. In addition, pursuant to section 301, the EPA has additional authority to promulgate regulations as necessary for the implementation of the $PM_{2.5}$ NAAQS, including requirements pertaining to emissions inventories. Accordingly, the EPA is proposing specific emissions inventory requirements it considers necessary to effectuate the attainment plan requirements of the CAA for the $PM_{2.5}$ NAAQS.

There are three key facets of the EPA's proposed emissions inventory requirements, as laid out below: (i) The type of inventories required; (ii) the timing of submittal of these inventories; and, (iii) the content of these inventories. These inventory requirements are being proposed to provide all of the requirements in a concise and direct way. In some cases, the EPA's rationale for the content requirements needs additional supporting description, which is provided in the subsequent text related to the use of seasonal inventories, required pollutants, etc.

First, the EPA believes that in order to implement the $PM_{2.5}$ NAAQS effectively, states will be required to submit at least two separate and distinct nonattainment area emissions inventories as elements of an attainment plan. The first emissions inventory is relevant for assessing the current or base year emissions in the nonattainment area; the second emissions inventory is a projected inventory relevant for assessing emissions in the target attainment year in the nonattainment area. The first type of inventory is expressly required by section 172(c)(3), and is called the ''base year inventory for the nonattainment area.'' The second type of inventory the EPA is proposing to require under section 301(a)(1) as necessary to implement the attainment demonstration requirement of section 189(a)(1)(B), and is called the ''attainment projected inventory for the nonattainment area.'' *See* proposed 40 CFR 51.1000. The need for this latter inventory stems from the need for both the EPA and the public to be able to compare, during their reviews of the plan, the base year inventory against the attainment projected inventory for the nonattainment area. For these reasons, the EPA is proposing to establish the regulatory requirement that attainment plans must include a base year inventory for the nonattainment area and an attainment projected inventory for the nonattainment area.

Second, as noted above, to meet the statutory requirements for submission of attainment plans under subpart 4, the EPA believes that states must meet the same submission schedule for these emissions inventories as for the other elements of an attainment plan, *i.e.,* within 18 months after the effective dates of the designation of the nonattainment area. This schedule must apply to both of these emissions inventories because they are necessary for effective evaluation of the attainment plan as a whole. Consequently, under the authority of section 172(b), the EPA is proposing to establish the regulatory requirement that emissions inventories be submitted by 18 months after designation.

Third, the EPA proposes to establish specific requirements for both the base year inventory for the nonattainment area and for the attainment projected inventory for the nonattainment area in order to implement the $PM_{2.5}$ NAAQS most effectively. Accordingly, the EPA proposes that the base year inventory for the nonattainment area must meet the following minimum criteria (a) through (g):

(a) The inventory year must be one of the 3 years used for designations or another technically appropriate inventory year. Another inventory year may be chosen under specific circumstances (*e.g.,* to account for a change in sources in the nonattainment area, changes in nonattainment area boundaries, or significant time lag between designations and preparation of the inventory) with consultation from the appropriate EPA Regional Office. This requirement is intended to ensure

that the inventory will represent the emissions sources whose contributions resulted in a nonattainment designation for the area.

(b) The inventory must include actual emissions of all sources within the nonattainment area. This requirement stems directly from the wording of section 172(c)(3). Sources outside of the nonattainment area are explicitly not included in the section 172(c)(3) requirement with the words ''in such area.'' Furthermore, the EPA interprets the Act requirement for ''actual emissions from all sources'' in section 172(c)(3) as intending to include all emissions that may contribute to the formation of $PM_{2.5}$ within the nonattainment area.

(c) The emissions values must either be annual total emissions or average-season-day emissions, as appropriate for the nonattainment problem. The rationale for providing annual or seasonal emissions must be included as part of the plan. A discussion of the EPA's rationale for proposing the option of seasonal or annual inventories is provided in Section IV.B.4 of this preamble.

(d) As discussed above and consistent with past implementation rule requirements, the inventory must include emissions of direct $PM_{2.5}$ (both filterable $PM_{2.5}$ and condensable $PM_{2.5}$), as well as all scientific $PM_{2.5}$ precursors ($SO_2$, $NO_X$, VOC and ammonia). A discussion of the EPA's rationale for proposing this requirement is provided in Section IV.B.5 of this preamble.

(e) The emissions thresholds for which emissions sources must be reported as point sources must be followed from the Air Emissions Reporting Rule (AERR), 40 CFR part 51, subpart A. This requirement is consistent with past implementation rules and is needed to define the data structure (as opposed to the emissions values themselves) of the emissions submitted to the EPA. A discussion of the use of 40 CFR part 51, subpart A, for the emissions thresholds and data reporting elements is provided in Section IV.B.6 of this preamble.

(f) The detail of the emissions included in the inventory must be consistent with the detail required by 40 CFR part 51, subpart A. For example, all emissions must be subdivided to individual emissions processes within a facility or county. While these details should underlie the inventory, the emissions included in the attainment plan can be summarized. This requirement is consistent with the 2007 $PM_{2.5}$ Implementation Rule and is needed to define the data structure (as opposed to the emissions values themselves) of the emissions submitted to the EPA.

(g) If the base year inventory for the nonattainment area is submitted to the EPA as a separate plan submission (*i.e.,* severed from the overall attainment plan and provided separately), the inventory must still meet all public review requirements associated with that plan. *See* proposed 40 CFR 51.1008(a)(1).

For the attainment projected inventory for the nonattainment area, the EPA also proposes to promulgate more specific requirements in order to implement the $PM_{2.5}$ NAAQS most effectively. Accordingly, the EPA proposes that the attainment projected inventory must meet the following minimum criteria (a) through (g):

(a) The year of the projected inventory must be the first year for which attainment is demonstrated by the modeled attainment plan.

(b) The emissions values must be projected emissions of the same sources included in the base year inventory for the nonattainment area (*i.e.,* only those located within the nonattainment area) and any new sources. The projected emissions values should be the best available representation of expected emissions, and thus should take into account emissions growth and contraction, facility closures, new facilities, new controls and other factors forecast to occur between the base year and the attainment year. In deciding what factors are relevant, states should consider factors affecting projected emissions that could significantly alter the conclusions of the attainment demonstration.

(c) The temporal period of emissions must be the same temporal period (annual or average-season-day) as the base year inventory for the nonattainment area.

(d) Consistent with the base year inventory for the nonattainment area, the inventory must include all emissions of direct $PM_{2.5}$ (both filterable and condensable $PM_{2.5}$), as well as all emissions of all scientific precursors ($SO_2$, $NO_X$, VOC and ammonia).

(e) The same sources reported as point sources in the base year inventory for the nonattainment area must also be provided as point sources in the attainment projected inventory for the nonattainment area. Likewise, nonpoint and mobile source projected emissions must also be provided using the same detail (*e.g.,* state, county and process codes) as the base year inventory.

(f) The detail of the emissions included must be consistent with the level of detail in the base year inventory (*i.e.,* as required by 40 CFR part 41, subpart A).

(g) If the attainment projected inventory for the nonattainment area is submitted to the EPA as a separate plan submission (*e.g.,* severed from the overall attainment plan and provided separately), the inventory must still meet all public review requirements associated with that SIP submission. *See* proposed 40 CFR 51.1008(a)(2).

2. Are there new inventory requirements in this proposed rule that have not been included in previous rules?

This proposed rule includes more specific requirements for emissions inventories than past implementation rules. First, the EPA proposes to require the attainment projected inventory for the nonattainment area. In practice, some states were providing this information at the request of their respective EPA Regional Offices, but it was not a specific requirement. The EPA believes that a specific requirement is necessary to ensure that the EPA and the public can reasonably assess the changes in emissions in the nonattainment area that the state maintains demonstrate that the area will attain the standard or that it is impracticable to attain the standard by the attainment date. Without such information, there is no way for the EPA to assess the projected emissions changes in the nonattainment area that the state asserts contribute to attainment. In addition, this proposed requirement would support the EPA's first proposed approach for conducting an RFP analysis as described in Section IV.F of this preamble.

This proposed rule also is more specific about the requirements for the emissions inventories submitted. While the various criteria (a) through (g) listed above have been implicit in prior rules and associated guidance, the EPA believes that not having these specific requirements has caused confusion and inconsistencies across attainment plan inventories in the past. Thus, the EPA is proposing to require these minimum criteria in this proposed rule. Furthermore, the option for using only seasonal inventories in some attainment plans is a new facet of this rule, further described in Section IV.B.5 of this preamble.

3. Are there other inventory requirements from earlier $PM_{2.5}$ implementation rules that the EPA is proposing to retain or change?

The 2007 $PM_{2.5}$ Implementation Rule required states to submit specific emissions inventories in connection with the RFP requirements of section 172(c)(2) under subpart 1. The EPA believes that a separate emissions

inventory will be important to illustrate how a nonattainment area may achieve incremental emissions reductions toward attainment, and would be appropriate in light of the agency's proposed approaches for states to meet the statutory RFP requirements. Past EPA guidance with respect to RFP requirements under subpart 4 has not required any explicit, separate emissions inventory for this purpose for $PM_{10}$ NAAQS. For this reason, the EPA describes this issue and proposed approaches more fully in Section IV.F of this preamble.

The 2007 $PM_{2.5}$ Implementation Rule also required states to submit a statewide base year emissions inventory as part of the attainment plan. The EPA proposes not to include this statewide emissions inventory requirement in this rule. Subpart 4 does not expressly require such an inventory, and the EPA does not believe that it is needed for successful attainment of the $PM_{2.5}$ NAAQS. Furthermore, statewide inventories are already required as part of the AERR (40 CFR part 51, subpart A) on a triennial basis. While these inventories do not receive the same level of scrutiny as inventories associated with attainment plans, the EPA believes that this existing statewide requirement is sufficient for understanding the $PM_{2.5}$ nonattainment problems nationally and assessing the quality of inventories proposed to be required by this rule.

4. Why is the EPA proposing to permit seasonal inventories to meet the inventory reporting requirements?

The statute does not explicitly address whether the emissions inventory required under section 172(c)(3) should include emissions throughout an entire calendar year or emissions during some shorter portion of the year that may be appropriate for implementation of a particular NAAQS. In the case of the $PM_{2.5}$ NAAQS, the standards currently include both annual NAAQS and 24-hour NAAQS. With respect to the annual NAAQS, the form of the NAAQS includes monitored ambient $PM_{2.5}$ values at all times throughout the course of the year and thus an annual emissions inventory is necessarily required for development of an appropriate attainment plan for a given area. In the case of the 24-hour NAAQS, however, the form of the NAAQS is based upon monitored ambient $PM_{2.5}$ values on particular days with high levels of $PM_{2.5}$, and in some nonattainment areas those days may occur only during a distinct and definable season of the year. The EPA considers it appropriate to interpret the emissions inventory requirements of the CAA in light of the specific inventory needs that are relevant for the NAAQS in question, and in the case of the $PM_{2.5}$ NAAQS, the inventory requirement may thus include both an annual emissions inventory for the attainment area, and a seasonal emissions inventory for the area as appropriate for the attainment plan at issue.

In contrast with the annual $PM_{2.5}$ NAAQS, the 24-hour $PM_{2.5}$ NAAQS are designed to protect against peak exposures. Thus, for the 24-hour $PM_{2.5}$ NAAQS, there are circumstances in which the EPA believes that only seasonal emissions inventories may be required for attainment planning purposes. The EPA proposes to allow states to use only seasonal inventories for attainment plan development for attaining the 24-hour $PM_{2.5}$ standard in areas that are nonattainment for only the 24-hour standard. In the event that it is appropriate to rely on a seasonal emissions inventory, the state should confer with the EPA concerning the exact length of the season and the start and stop dates of the season. The duration and start and stop dates of the season will be an important component of the attainment plan and must be approved by the EPA along with other elements of the attainment plan for a given nonattainment area. The EPA further proposes to require that seasonal inventories must use average-season-day emissions values for this purpose. The average-season-day is defined as the sum of all emissions during the applicable season divided by the number of days in that season. The nature of some seasonal $PM_{2.5}$ emissions sources (*e.g.,* residential wood combustion) does not allow for only weekday emissions to be included in the inventory, therefore all days must be included. The state would need to explain the rationale for the duration of the season used for the inventory as part of the attainment plan submission. To justify the use of a seasonal inventory, the state must demonstrate why a seasonal attainment plan is appropriate for the particular $PM_{2.5}$ nonattainment area in question.

5. Why is the EPA requiring certain pollutants be included in the inventories?

The EPA is proposing that states must submit emissions inventories that include all emissions of direct $PM_{2.5}$ and all emissions of all $PM_{2.5}$ precursors: $SO_2$, $NO_X$, VOC and ammonia. Furthermore, the inventory must differentiate between the condensable and filterable portions of direct $PM_{2.5}$ emissions. Section II.B of this preamble describes the background needed to understand the importance of including these precursors in emissions inventories for attainment plan purposes for the $PM_{2.5}$ NAAQS. Emissions information about $PM_{2.5}$ and its precursors is a necessary precondition to meeting other core attainment plan requirements, such as effective evaluation of control measures and adequate demonstration of projected future attainment of the NAAQS through modeling. The EPA notes that with respect to requiring states to include emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors in emissions inventories, the agency is following the requirements it established for the $PM_{2.5}$ NAAQS in the past. Section 172(c)(3) explicitly requires states to submit a ''comprehensive, accurate, and current inventory of actual emissions of the relevant pollutants'' and the EPA concludes that in order to meet these basic statutory requirements for the $PM_{2.5}$ NAAQS, states must address $PM_{2.5}$ and all $PM_{2.5}$ precursors in their emissions inventories.

The EPA requires air agencies to use the best available methodologies for estimating emissions of $PM_{2.5}$ and its precursors. It should be noted that for ammonia, in particular, updated emissions estimating methodologies for animal feeding operations are under development using data collected during the period 2007–2009 from representative operations pursuant to the National Air Emissions Monitoring Study.[73] The EPA is hopeful that such updated methodologies will help to reduce uncertainties in current ammonia inventories and will improve the quality of future emissions inventories needed for implementing the $PM_{2.5}$ NAAQS.

6. Why is the AERR used to define data elements and data methods that are required for the emissions inventories required by this rule?

Because the provisions of the CAA do not specifically state the form of the emissions information to be reported to the EPA for meeting their attainment plan inventory requirement, it is necessary for the EPA to prescribe specifically the data elements of those emissions inventories. Distinct from the emissions *values* (*i.e.,* how much emissions derive from each source or source category), the emissions *elements* (*i.e.,* how they are reported) refer to the reporting definitions, data codes and required data fields. The EPA proposes

[73] For more information on the NAEMS study, *see: http://www.epa.gov/agriculture/airmonitoringstudy.html.*

that states must use the emissions elements from 40 CFR part 51, subpart A, in preparing their inventories submitted to the EPA for implementing the $PM_{2.5}$ NAAQS. This is consistent with past requirements for the form of emissions inventories.

In addition to defining the data elements, 40 CFR part 51, subpart A also requires states to submit emissions information to the EPA. The EPA is not referring to those emissions submission requirements here, but rather the emissions elements—the definitions, data codes and required data fields. Below, the EPA addresses the issue of whether the emissions values submitted through the AERR are relevant to the inventory requirements of this proposed rule (*see* Section IV.B.8 of this preamble).

As noted earlier, the EPA recommends that states consult the SIP Emissions Inventory Guidance in preparing the inventories needed for this rule. In addition to the AERR, this guidance includes definitions for data fields that are not required by the AERR, such as seasonal emissions values and other fields that are optional in the data system that collects data submitted for the AERR. The EPA is updating the SIP Emissions Inventory Guidance in coordination with this proposal. It provides specific guidance to air agencies on how to develop base year inventories for the nonattainment area and attainment projected inventories for 8-hour ozone, $PM_{2.5}$, and regional haze SIPs. While the AERR sets forth requirements for data elements and definitions, the guidance complements these requirements, defines all data elements (even those that are voluntary AERR elements), and indicates how the data should be prepared, documented and publicly reviewed for attainment plan submissions.

7. How do emissions inventories support modeling for attainment demonstrations?

This section attempts to clarify the difference between the inventories required to be a part of a state's Moderate area attainment plan submission (as described earlier) and other modeling inventories that are also relevant for attainment planning. While the EPA is not proposing additional modeling inventory requirements in this rule (*i.e.,* for which a state must submit an emissions inventory to the EPA), to meet the attainment demonstration requirements of CAA sections 189(a)(1) and 189(b)(1), states will need to submit an attainment demonstration (which includes air quality modeling) to show how the area will either attain the NAAQS by the applicable attainment date or that the area cannot attain by the attainment date. The modeled attainment demonstration requirements for Moderate areas are described fully in Section IV.E of this preamble.

As part of this demonstration, the EPA presumes that states will need to prepare attainment demonstration modeling inventories for both a modeled base year and projected attainment year. Respectively, these are called the ''base year (baseline) inventory for modeling'' and the ''attainment projected inventory for modeling.'' These inventories contain emissions for all regions (*i.e.,* not just the nonattainment area) within the modeling domain being used for the attainment plan modeling demonstration, which typically includes counties and even states outside of the nonattainment area. They include detailed spatial and temporal elements needed to support air quality modeling. States should follow the requirements laid out in Section IV.E of this preamble and the procedures described in the SIP Emissions Inventory Guidance and the Air Quality Modeling Guidance to meet the minimum requirements for documentation and emissions summaries supporting modeling demonstrations.[74]

The base year inventory and projected attainment year inventory include emissions from only within the nonattainment area. The EPA expects that modeling inventories will be consistent with those nonattainment area inventories; however, some exceptions may exist. Where possible, the nonattainment area base year and projected attainment year inventories can be a sum (for annual data) or average (for $PM_{2.5}$ season-day data) of day-specific or hour-specific data used for modeling. In some cases, however, this approach may not be sufficient for modeling purposes. For example, greater spatial and temporal detail are needed for on-road mobile modeling inventories as compared to the base year inventory for the nonattainment area. For the nonattainment area base year inventory, one goal is to allow for the repeatability of the approach in order to create average, seasonal or annual inventories for use in rule requirements, such as reasonable further progress or conformity demonstrations. That goal is not necessarily compatible with the modeling need for greater spatial and temporal detail. In cases where some differences are unavoidable, air agencies should attempt to promote consistency where feasible.

The AERR includes both triennial and annual statewide reporting requirements, with more extensive reporting requirements for triennial inventory years. For the interim annual inventories, reporting is limited to emissions data from only the larger point sources (Type ''A'' sources), as defined by Appendix A of 40 CFR part 51, subpart A. For the triennial inventories, lower point source thresholds are given in Appendix A, consistent with the definition of major sources in 40 CFR part 70, and all other sources of emissions must be reported as nonpoint or mobile sources on a county basis.

In the past, some states have incorrectly asserted that their AERR submission meets the requirements for base year inventories required by past implementation rules. To avoid confusion, the EPA provides here the limited circumstances in which the AERR emissions inventories can meet the base year inventory for the nonattainment area requirement for Moderate areas. The following conditions must be met to use AERR inventories for attainment planning:

(a) The AERR emissions inventory must have gone through the public review process required for attainment plans.

(b) The AERR emissions inventory needs to include all sources of emissions and all pollutants required for the base year inventory for the nonattainment area. This is only possible if the inventory year for the base year inventory for the nonattainment area aligns with a triennial AERR year, because the data system implementing the AERR only accepts emissions from point sources and not other source categories in non-triennial years.

(c) The EPA must be accepting data for the inventory year. Inventories are allowed to be submitted to the AERR for a given year for only a limited time during the development cycle of the National Emissions Inventory.

(d) The AERR submission must include emissions from all relevant sources as described for the base year inventory for the nonattainment area requirements. In some cases, the AERR requirement can be met without electronically ''submitting'' emissions, which would not meet the requirements for the base year inventory for the nonattainment area. For example, states may elect to accept the EPA estimates for some nonpoint emissions sectors,

[74] The EPA encourages states to consider in any baseline, modeling, and SIP attainment inventory used and/or submitted to include emissions expected from projects subject to general conformity and emissions from wildland fire that reasonably may be expected in the area.

but this would not meet the requirements of section 172(c)(3). In addition, the AERR revision finalized in February 2015 replaces the prior requirement of reporting onroad mobile and nonroad mobile source emissions with a requirement for reporting the input parameters that can be used to run the EPA models to generate the emissions. If choosing to use an AERR submission to meet the base year inventory for the nonattainment area requirement, the state should submit the nonattainment area emissions, irrespective of the options provided to meet the AERR requirements. Since the ''statewide'' emissions are actually provided for individual point sources and counties, the EPA believes that these resolutions can be sufficient for most $PM_{2.5}$ nonattainment areas.

8. What models should be used for mobile source emissions?

A key part of emissions inventory development includes estimating mobile source emissions. For all of the mobile source inventories used for $PM_{2.5}$ NAAQS implementation, states should use the latest emissions models available at the time the attainment plan inventory is developed.[75] In general, the latest approved version of the MOVES model should be used by states other than California to estimate emissions from onroad transportation sources. States should use the latest available planning emission inputs including, but not limited to, vehicle miles traveled (VMT), speeds, fleet mix, SIP control measures and fuels. The current version of MOVES is available at *http://www.epa.gov/otaq/models/moves/index.htm*. The appropriate EPA-approved model(s) should similarly be used for California onroad source emissions.[76] When using MOVES, states should follow the most current version of the MOVES Technical Guidance, available at *http://www.epa.gov/otaq/models/moves/index.htm#sip*. MOVES includes multiple options for estimating and processing emissions that could result in different emissions inventories. The EPA recommends that states use the same approach in any analysis that compares two or more emissions cases (*e.g.,* different control scenarios, different years). If different approaches are taken for inventories that serve different purposes (for example between inventories developed for air quality modeling, which may require greater temporal and spatial detail, and inventories used as the motor vehicle emissions budget), states should seek to understand and minimize any differences in results. For example, an approach may be used for the modeled attainment demonstration that uses gridded temperatures and other meteorological data, but this approach could be too burdensome for use in the base year inventory for the nonattainment area. This is because emissions inventories created for purposes of RFP and transportation conformity analysis must use the same MOVES approach used in the base year inventory for the nonattainment area, and using a straightforward MOVES approach without gridded meteorology is more reasonable for that purpose.

The most current version of the NONROAD model should be used for estimates of nonroad mobile source emissions, preferably with state-supplied model input data. States can alternatively develop technologically equivalent or superior state-specific nonroad emissions estimates, but should explain why their approach gives a better estimate than the EPA model. For nonroad sources not estimated by the NONROAD model, the best available methods should be used, and the EPA recommends that states refer to the SIP Emissions Inventory Guidance for more information on emissions from these sources. Links to **Federal Register** documents and policy guidance memos on the latest approved versions of MOVES and NONROAD can be found at *http://www.epa.gov/otaq/models.htm*.

9. What special considerations exist for tribal areas?

In the past, there have been instances where portions of tribal areas have been included in designated nonattainment areas, but when the base year inventory for the nonattainment area was prepared, emissions from the tribal lands were not included. This has had the effect of preventing tribes from generating emissions reductions from existing sources to develop emissions offsets, as well as impairing the ability of the state to prepare as accurate a modeling demonstration as possible. It could also cause sources in tribal areas to remain uncontrolled even though they are contributing to violations in a given nonattainment area. The EPA encourages states and tribes to work together to ensure that the information used in developing the baseline emissions inventory is inclusive of all emissions from a designated nonattainment area, including emissions from sources in tribal areas located therein.

*C. Pollutants To Be Addressed in the Plan*

Under subpart 4 of the CAA, air agencies are initially required to analyze and evaluate emissions reduction measures for all sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors (*i.e.,* $SO_2$, $NO_X$, VOC and ammonia) in developing $PM_{2.5}$ attainment plans. As described in Section II of this preamble, and reiterated in the proposed emissions inventory requirements for Moderate area attainment plans under Section IV.B of this preamble, direct $PM_{2.5}$ includes both filterable and condensable $PM_{2.5}$ emissions. Thus, a state must evaluate control measures for sources of filterable and condensable $PM_{2.5}$ emissions as part of an approvable control strategy for a Moderate $PM_{2.5}$ nonattainment area.

In addition, while evaluating sources of direct $PM_{2.5}$ for reasonably available controls is an implicit requirement in the context of implementing the $PM_{2.5}$ NAAQS under any scenario, the EPA is proposing and seeking comment on several options for evaluating $PM_{2.5}$ precursors under the $PM_{2.5}$ NAAQS implementation program. The EPA interprets the requirements of the CAA to allow the air agency to provide a ''precursor demonstration'' to the EPA that supports a state's finding that one or more $PM_{2.5}$ precursors need not be subject to control requirements in a given nonattainment area. Section III of this preamble presents a complete discussion of the EPA's proposed options for states to address $PM_{2.5}$ precursors in attainment plans and in the NNSR permitting program. Specifically, the EPA is proposing and seeking comment on three options describing different approaches to such precursor demonstrations, and requests comment on each. In general terms, the three options can be summarized as follows:

- Option 1: Two independent analyses: (a) an attainment planning analysis demonstrating that control measures for a particular precursor are not needed for expeditious attainment, meaning that the precursor can be excluded from measures needed to attain as expeditiously as practicable for all types of sources; and, (b) a section 189(e) technical demonstration showing that major stationary sources of a particular precursor do not contribute significantly to levels that exceed the $PM_{2.5}$ standard, meaning that the precursor can be excluded from control requirements for major sources and from NNSR permitting;

[75] Section 172(c)(3) 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.

[76] At this time, the California onroad mobile model is called EMFAC.

• Option 2: Single analysis demonstrating that all emissions of a particular precursor from within the area do not significantly contribute to $PM_{2.5}$ levels that exceed the standard, meaning that control requirements for emissions of the precursor from major stationary and area sources, as well as mobile sources, would not be required for expeditious attainment, control requirements for major sources, or for NNSR permitting;

• Option 3: An attainment planning analysis demonstrating that control measures for all types of sources of a particular precursor are not needed for expeditious attainment also would be deemed to meet the section 189(e) technical demonstration requirement, meaning that the state would not need to regulate emissions of the particular precursor from major stationary sources under the NNSR permitting program or other control requirements for major stationary sources.

The EPA will finalize its approach to $PM_{2.5}$ precursors and clarify the implications for states conducting analyses to identify required control measures after considering public comment received on this proposal.

*D. Attainment Plan Control Strategy*

1. General Approach to Designing a Control Strategy for a Moderate Nonattainment Area

The statutory attainment planning requirements of subparts 1 and 4 were established to ensure that the following goals of the CAA are met: (i) That states implement measures that provide for attainment of the $PM_{2.5}$ NAAQS as expeditiously as practicable; and, (ii) that states adopt emissions reduction strategies that will be the most effective, and the most cost effective, at reducing $PM_{2.5}$ levels in nonattainment areas. In addition to having an obligation to meet the statutory requirements for specific control measures on sources located within a nonattainment area (*e.g.,* RACM and RACT), a state has discretion to require reductions from any source inside or outside of a $PM_{2.5}$ nonattainment area (but within the state's boundaries) in order to fulfill its obligation to demonstrate attainment in a $PM_{2.5}$ nonattainment area as expeditiously as practicable. A state may need to require emissions reductions on sources located outside of a $PM_{2.5}$ nonattainment area if such reductions are needed in order to provide for expeditious attainment of the $PM_{2.5}$ NAAQS.

With this in mind, the following sections describe the EPA's proposed approach for a state to follow in order to identify and select the complete suite of measures needed for an attainment plan submission for a Moderate $PM_{2.5}$ nonattainment area. The proposed process consists of identifying all technologically and economically feasible control measures, including control technologies, for all sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors in the emissions inventory for the nonattainment area which are not otherwise exempted from consideration for controls.[77] From that list of measures, the state must identify those that it can implement within 4 years of designation of the area (and which would thus meet the statutory requirements for RACM and RACT) and any ''additional reasonable measures,'' which the EPA proposes to define as those technologically and economically feasible measures that the state can only implement on sources in the nonattainment area after the 4 year deadline for RACM and RACT has passed. *See* proposed 40 CFR 51.1000. The state must also assess whether there are other measures that it can implement to control sources within the state but outside the nonattainment area that contribute to the $PM_{2.5}$ nonattainment status of the area in order to bring the area into attainment as expeditiously as practicable.

As discussed in Section II.D.6 of this preamble, one important component of a state's control strategy for a $PM_{2.5}$ nonattainment area is the suite of control measures that a state is already implementing or will be implementing to comply with national, regional, or state and local regulations already adopted or promulgated, as long as such measures will lead to permanent and enforceable reductions in emissions after the area is designated nonattainment. Such ''existing'' measures could apply to sources inside the nonattainment area, in which case the state must include them in the RACM and RACT and additional reasonable measures analysis for the area. The measures may also apply to sources located outside the nonattainment area but would achieve reductions in direct $PM_{2.5}$ emissions or emissions of $PM_{2.5}$ precursors to help bring the area into attainment. A state must evaluate the potential effects of all of these measures as part of its modeled attainment demonstration for the area, and must clearly indicate which of these measures will contribute toward timely attainment for the area in the attainment plan submission.

2. Identification and Selection of RACM and RACT and Additional Reasonable Measures

a. *Statutory requirements and existing guidance.* CAA section 172(c) under subpart 1 describes the general attainment plan requirement for RACM and RACT, requiring that attainment plan submissions ''provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment'' of the NAAQS. The attainment planning requirements specific to $PM_{10}$, including $PM_{2.5}$, under subpart 4 likewise impose upon states an obligation to develop attainment plans that impose RACM on sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors within a Moderate nonattainment area. CAA section 189(a)(1)(C) requires that states with areas classified as Moderate have attainment plan provisions to assure that RACM are implemented by no later than 4 years after designation of the area.[78] The EPA reads CAA sections 172(c)(1) and 189(a)(1)(C) together to require that attainment plans for Moderate nonattainment areas must provide for the implementation of RACM and RACT for existing sources of $PM_{2.5}$ and $PM_{2.5}$ precursors in the nonattainment area as expeditiously as practicable but no later than 4 years after designation.[79]

The terms RACM and RACT are not defined within subpart 4, nor do the provisions of subpart 4 specify how states are to meet the RACM and RACT requirements. However, the EPA's longstanding guidance in the General Preamble described in detail considerations for determining what control measures constitute RACM and RACT for purposes of subpart 4. The EPA's guidance for RACM for sources of $PM_{10}$ and $PM_{10}$ precursors under subpart 4 in the General Preamble included: (i) A list of some potential measures for states to consider; (ii) a statement of the EPA's expectation that the state will provide a reasoned explanation for a decision not to adopt

[77] Such exemptions could be due to a demonstrated lack of significant contribution of a certain $PM_{2.5}$ precursor to the area's elevated $PM_{2.5}$ concentrations or due to a presumptive determination that a certain source category contributes only a *de minimis* amount toward $PM_{2.5}$ levels in a nonattainment area.

[78] States with areas later reclassified as ''Serious'' nonattainment areas under subpart 4 must also develop and submit later plans to meet additional requirements for Serious areas.

[79] This interpretation is consistent with guidance described in the General Preamble. *See* 57 FR 13498 (April 16, 1992), at page 13540.

a particular control measure; (iii) recognition that some control measures might be unreasonable because the emissions from the sources that would be affected by the measure in the area are *de minimis* (*i.e.,* aggregate emissions from all sources in a particular source category do not contribute significantly to $PM_{2.5}$ concentrations in the area); (iv) an emphasis on state evaluation of potential control measures for reasonableness, considering factors such as technological and economic feasibility; and, (v) encouragement to states evaluating potential control measures imposed upon municipal or other governmental entities to include consideration of the impacts on such entities, and the possibility of partial implementation when full implementation would be infeasible (*e.g.,* phased implementation of measures such as road paving).[80] Thus, the RACM requirement under subpart 4 applies to all types of sources and is not necessarily focused upon forms of control that are strictly technology-based.

With respect to RACT requirements, the EPA's guidance in the General Preamble: (i) noted that RACT has historically been defined as ''the lowest emission limit that a source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility''; (ii) Noted that RACT generally applies to stationary sources, both stack and fugitive emissions; (iii) suggested that major stationary sources be the minimum starting point for a state's RACT analysis; and, (iv) recommended that states evaluate RACT not only for major stationary sources, but for other source categories as needed for attainment and considering the feasibility of controls.[81] Thus, the RACT requirement under subpart 4 is primarily focused on stationary sources and forms of emissions control that are technology-based.

In addition to the statutory requirements under sections 172(c)(1) and 189(a)(1)(C) for RACM and RACT, section 172(c)(6) requires that a state's attainment plan for a nonattainment area ''include enforceable emission limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment of such standard in such area by the applicable attainment date specified in this part.'' The EPA interprets this statutory provision to require a state to identify, select and implement additional measures to those identified as RACM and RACT for the area if needed to provide for timely attainment of the area. In the EPA's proposed approach detailed in this section, the EPA describes criteria for identifying and selecting ''additional reasonable measures'' for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors in a Moderate nonattainment area which may be necessary in order to bring the area into expeditious attainment.

b. *Proposed approach.* This section describes the EPA's proposed approach for determining what measures qualify as RACM and RACT or as additional reasonable measures for controlling sources contributing to nonattainment in a Moderate $PM_{2.5}$ nonattainment area. Under the proposed approach, the specific determination of RACM and RACT would be made within the broader context of assessing control measures for all stationary, area and mobile sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors that would collectively contribute to meeting the statutory Moderate area attainment date as expeditiously as practicable.[82] The proposed approach is designed to ensure that states consider and adopt control measures for sources in a way that is consistent with the statute's overarching requirement to attain the standards as expeditiously as practicable, yet to provide flexibility for states to focus regulatory resources on those sources of emissions whose control will most effectively and expeditiously contribute to attainment in a given area.

Specifically, the EPA proposes that a state must follow a process by which it would: (i) Identify all sources of emissions of direct $PM_{2.5}$ and all $PM_{2.5}$ precursors in the nonattainment area and all potential control measures to reduce emissions from those source categories not otherwise deemed *de minimis;* (ii) determine if any of the identified potential control measures are technologically infeasible; (iii) determine if any of the identified technologically feasible control measures are economically infeasible; (iv) determine which technologically and economically feasible measures can be implemented, in whole or in part, within 4 years from the date of designation of the area and which can be implemented, in whole or in part, by the end of the sixth calendar year following designation; and, (v) perform an analysis to determine the earliest practicable attainment date for the area and identify the control measures and control technologies that will be needed to achieve attainment by the demonstrated attainment date and to meet statutory control requirements.

The statutory attainment date for Moderate nonattainment areas is as expeditiously as practicable, but not later than the end of the sixth calendar year after designation of the area as nonattainment. In the case of Moderate areas that can reach attainment by the statutory attainment date, and consistent with existing policies, states would be required to evaluate the combined effect of reasonably available control measures that are not necessary to demonstrate attainment within the maximum statutory timeframe to determine whether implementation of the remaining measures could advance the attainment date by at least 1 year. The EPA has long applied this particular test—whether reasonably available control measures that were not necessary to demonstrate attainment within the maximum statutory timeframe, collectively can advance an area's applicable attainment date by at least 1 year—to satisfy the statutory provision related to an area demonstrating attainment ''as expeditiously as practicable.''[83] The EPA continues to believe that this approach provides an appropriate degree of flexibility to a state to tailor its attainment plan control strategy to the needs of a particular $PM_{2.5}$ nonattainment area. In the case of Moderate areas that cannot practicably attain by the statutory attainment date, states would be required to implement all RACM and RACT, together with any additional reasonable measures on sources in the nonattainment area. In either case, the statute requires that a state's attainment plan provide for implementation of RACM and RACT within 4 years of designation.

The following discussion provides further detail on the specific steps and criteria that the EPA proposes states must apply when making their determinations for RACM and RACT and additional reasonable measures. The EPA seeks comment on the proposed steps, criteria and

[80] *See* 57 FR 13498 (April 16, 1992), at pages 13540–41.

[81] *Ibid.*

[82] In *Sierra Club* v. *EPA,* 294 F.3d 155 (D.C. Cir. 2002), the court stated, in upholding the EPA's statutory interpretation of RACM, that the CAA does not compel a state to consider a measure without regard to whether it would expedite attainment.

[83] The term ''expeditious attainment'' is used throughout this proposal to describe the ability of a nonattainment area to attain ''as expeditiously as practicable'' based on the test described here.

considerations described below. *See* proposed 40 CFR 51.1009(a).

Step 1: Identify sources to be controlled and existing and potential control measures

i. *Identify sources to be controlled.* As described more fully in Section IV.B of this preamble, section 172(c)(3) of the CAA requires that attainment plans for $PM_{2.5}$ nonattainment areas include a ''comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants.'' As proposed, the inventory must include emissions information for all major stationary sources, nonpoint or area sources, and mobile sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors in the nonattainment area.

The EPA proposes to require that a state must look at all of the sources reflected in the nonattainment area's base year inventory as part of the first step in identifying reasonable control measures for the area, as each of these sources may play a role in the area's $PM_{2.5}$ problem and thus may be controlled currently or may need to be controlled to bring the area into attainment as expeditiously as practicable. Under this proposed approach, a state would need to consider all inventoried sources of direct $PM_{2.5}$ emissions and sources of all four scientific $PM_{2.5}$ precursors as it conducts its determination of reasonable control measures for an area. A possible exception to this comprehensive review requirement for all inventoried sources could arise if the EPA finalizes a precursor approach that would allow a state to demonstrate that one or more precursors in a nonattainment area do not significantly contribute to the $PM_{2.5}$ problem in the area and/or that reducing emissions of one or more precursors in an area would not be effective in reducing $PM_{2.5}$ concentrations in the area.[84] In such a case, a state could exempt sources of any precursor for which the state has made such a demonstration from further consideration for measures to control emissions of that precursor. Independent of whether or not the EPA finalizes such an approach to precursors, however, a state could still determine that it is not necessary to control emissions of direct $PM_{2.5}$ or any of the $PM_{2.5}$ precursors in order to attain the $PM_{2.5}$ NAAQS in a given area, or to advance the attainment date for that area, at a later point in this proposed process for determining RACM and RACT and additional reasonable measures.

ii. *De minimis source category exemptions.* The concept of exempting certain source categories from consideration for control measures due to their minimal (*i.e., de minimis*) contribution is discussed at length in the Addendum for sources located in Serious $PM_{10}$ nonattainment areas that would otherwise be subject to BACM and BACT requirements. The EPA's guidance in the General Preamble on Moderate $PM_{10}$ nonattainment area requirements also provided support for exempting *de minimis* source categories from RACM and RACT requirements: ''If it can be shown that one or more measures are unreasonable because emissions from the sources affected are insignificant (*i.e., de minimis*), those measures may be excluded from further consideration as they would not represent RACM for that area.'' [85] [86]

As with RACM for $PM_{10}$, the EPA proposes to allow states to exempt *de minimis* source categories from further consideration as they determine reasonable control measures for bringing a Moderate $PM_{2.5}$ nonattainment area into attainment with the relevant NAAQS. The EPA proposes that if a state can demonstrate that a particular source category does not contribute significantly to nonattainment of the $PM_{2.5}$ NAAQS in a Moderate nonattainment area, then the state may eliminate the source category from further consideration for control measures.[87] A state would be required to evaluate all other sources in the nonattainment area in source categories that do not qualify as *de minimis* for reasonable control measures.

The EPA notes that there are some challenges in establishing *de minimis* source categories for $PM_{2.5}$ sources in the same manner as was performed for $PM_{10}$ sources and seeks comment on the following proposed options.

(1) Defining source categories. Source categories, in particular for stationary sources, can be defined very broadly or narrowly, and the definition could determine which sources are able to meet the thresholds for *de minimis* exemptions. The North American Industry Classification System (NAICS) is the standard industrial classification system used by federal agencies. NAICS codes are between 2 and 6 digits, with greater industrial source specificity with increased digits.[88] Each digit in the code is part of a series of progressively narrower categories, and the more digits in the code signify greater classification detail. The first two digits designate the economic sector, the third digit designates the subsector, the fourth digit designates the industry group, the fifth digit designates the NAICS industry, and the sixth digit designates the national industry. The 5-digit NAICS code is the level at which there is comparability in code and definitions for most of the NAICS sectors across the three countries participating in NAICS (the United States, Canada and Mexico). The 6-digit level allows for the United States, Canada, and Mexico each to have country-specific detail. A complete and valid NAICS code contains six digits.

Defining source categories by NAICS codes would still require a determination of how broadly to set the source category boundaries as NAICS codes with fewer digits represent larger source categories (*e.g.,* sector '21' is for mining processes, while a further specification of '2122' is for metal mining processes, and '212210' is for iron ore mining). If source categories are defined in a very narrow or specific way, it is possible that many source categories will be below a set *de minimis* threshold, and therefore potentially inappropriately exempted from consideration for reasonable control measures. For this reason, the EPA proposes and seeks comment on a requirement that a state would need to define any source category for which a NAICS code exists at the four-digit industry group level. The EPA believes that relying on the four-digit industry group level to define ''source category'' for this purpose would provide an appropriate degree of distinction between industrial processes, while not making the source category definition overly broad. The EPA also seeks comment on two other alternative approaches for defining source category for this purpose, at the six-digit level, and the two-digit level. The EPA notes that not all source categories have NAICS codes, and for these other categories, states would need to use the

[84] *See* Section III of this preamble for further details on the agency's proposed options for how to handle precursors in attainment planning.

[85] 57 FR 13498 (April 16, 1992), at page 13540.

[86] Where the sources at issue contribute only negligibly to ambient concentrations that exceed the NAAQS, the EPA's policy is that it would be unreasonable to regulate those sources, and, therefore, the sources would not be subject to RACM or other control requirements, unless it is determined that even sources identified as *de minimis* must be controlled in order for the area to attain the NAAQS. In this regard, it is worth noting that the inherent authority of administrative agencies to exempt *de minimis* situations from regulation has been recognized by courts as ''a tool to be used in implementing the legislative design'' (*see Alabama Power Co.* v. *Costle,* 636 F.2d 323, 360 (D.C. Cir. 1979)).

[87] *Ibid. See Alabama Power* v. *Costle,* 636 F.2d 323, 360–61 (D.C. Cir. 1979).

[88] More information on the NAICS is available at: *http://www.census.gov/eos/www/naics* (last accessed August 12, 2013).

appropriate recognized categories, *e.g.,* on-road mobile sources. The EPA also seeks comment on alternative source categorization approaches that would ensure that sources that could be controlled with reasonable control measures to achieve meaningful reductions are not inappropriately excluded from consideration for such control measures as *de minimis.*

(2) Determining the appropriate threshold for *de minimis* emissions. For the $PM_{10}$ NAAQS, the EPA's guidance in the Addendum recommended that a source category is presumed not to be *de minimis* if the aggregate emissions from such source category have an impact that exceeds 5 μg/m³ with respect to the then-applicable 24-hour $PM_{10}$ NAAQS or an impact that exceeds 1 μg/m³ with respect to the then-applicable annual $PM_{10}$ NAAQS. The EPA designed these presumptive thresholds for *de minimis* source categories to apply to $PM_{10}$ NAAQS nonattainment areas and to the level and form of the $PM_{10}$ NAAQS at the time the Addendum was written. However, because of the differences in level and form of the $PM_{10}$ and $PM_{2.5}$ NAAQS, the agency finds that those levels are not appropriate for current or future $PM_{2.5}$ NAAQS implementation.

The EPA therefore proposes two options regarding the threshold for *de minimis* emissions. Under the first proposed option, the EPA would not establish a nationally applicable ''bright line'' threshold for defining a *de minimis* source category for purposes of implementing the $PM_{2.5}$ NAAQS in a Moderate nonattainment area. Rather, under this option, the EPA proposes to allow a state to determine whether a particular source category should be considered *de minimis* given the particular facts and circumstances of a specific $PM_{2.5}$ nonattainment area and subject to approval by the EPA. *See* proposed 40 CFR 51.1007.

Under the second option, the EPA proposes to establish a nationally applicable *de minimis* source category threshold that would be a specific percentage of the level of the relevant $PM_{2.5}$ NAAQS. The EPA seeks comment on what value within the range of 1 and 3 percent of the relevant NAAQS would represent an appropriate threshold level. The 3 percent upper end of the proposed range is generally derived from the *de minimis* source category contribution levels for $PM_{10}$ as described in the General Preamble. The EPA defined these $PM_{10}$ *de minimis* levels as follows: (i) For the annual standard of 50 μg/m³, a source category contribution of 1 μg/m³ or less to the annual average design value (*e.g.,* a contribution of about 2 percent or less); and, (ii) for the 24-hour standard of 150 μg/m³, a source category contribution of 5 μg/m³ or less to the 24-hour design value (*e.g.,* a contribution of about 3 percent or less). The 1 percent lower end of the proposed range is consistent with the value that the EPA established in the CAIR as a preliminary threshold for further evaluation of a state's contribution to interstate transport. That is, under the CAIR, a state was identified as potentially subject to additional emission control requirements if the impact of $SO_2$ and $NO_X$ emissions from sources in that state to any nonattainment or maintenance area in another state exceeded 1 percent of the relevant $PM_{2.5}$ standard at a receptor monitor in the other state. This value was merely the first step of the analysis, but it provided an initial threshold for determining whether further analysis was warranted.

The EPA is requesting comment on the appropriateness of including *de minimis* threshold options for exempting certain source categories from consideration for reasonable control measure determinations, and seeks input on several key questions: First, if a *de minimis* threshold is included, what is the appropriate definition for source categories? In addition, what are the appropriate thresholds for impacts on ambient $PM_{2.5}$ concentrations that would adequately reflect presumptive *de minimis* concentrations from a given source category comparable to those recommended for purpose of the $PM_{10}$ NAAQS? Also, should the *de minimis* source category thresholds be a percentage of the relevant NAAQS (*i.e.,* similar to what was recommended for $PM_{10}$, but set at a level that is more appropriate for the level and form of the relevant NAAQS)? The EPA requests that commenters submit any relevant data or analyses to support their comments with respect to these issues. Furthermore, the EPA notes that even in the event the agency finalizes this rulemaking with a *de minimis* source category policy of any kind, states are obligated under the CAA to demonstrate how their $PM_{2.5}$ nonattainment area(s) will attain the standard as expeditiously as practicable. Accordingly, a state could not elect to treat source categories as *de minimis* if doing so would prevent the state from being able to demonstrate attainment for an area by the statutory attainment date.

iii. *Identify existing and potential control measures and technologies.* The state's compilation of existing and potential control measures must be sufficiently broad to provide a basis for identifying all technologically and economically feasible controls that may be RACM or RACT for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursor emissions in the nonattainment area at issue. Because RACM applies to area and mobile sources as well as stationary sources, the EPA proposes to require that states consider a variety of types of measures in conducting their control strategy analysis. As stated earlier, inherent to the concept of RACM and RACT is the basic premise that the measure be ''reasonable,'' thus the EPA believes that a state may decline to evaluate control measures that are plainly ''absurd, unenforceable, or impractical,'' for example, measures that would cause ''severely disruptive socioeconomic impacts, (*e.g.* gas rationing and mandatory source shutdowns).'' It is the agency's interpretation that evaluation of such measures is not required by the CAA.[89]

Furthermore, the EPA believes that reducing air emissions may not justify adversely affecting other resources, for example, by increasing pollution in bodies of water, creating additional solid waste disposal problems or creating excessive energy demands. An otherwise available control technology may not be reasonable if these other environmental impacts are sufficiently adverse and cannot reasonably be mitigated. The EPA proposes that a state may consider a control measure for direct $PM_{2.5}$ or a $PM_{2.5}$ precursor not reasonable if, considering the availability of mitigating adverse impacts of that control on pollution of other media, the control would not, in the state's reasoned judgment, provide a net benefit to public health and the environment. It should be noted that, in many past situations, states and owners of existing sources have adopted control technologies for direct $PM_{2.5}$ and/or $PM_{2.5}$ precursors with known energy penalties and some adverse effects on other media, based on the reasoned judgment that installation of such technology would result in a net benefit to public health and the environment. States should consider this before determining that a control technology is not reasonable because it may have other, negative environmental impacts that are, on balance, marginal.

Generally, this proposed approach allows states to apply reasoned judgment as they identify potential control measures for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors in their respective nonattainment areas, and the EPA expects that a state will provide a complete and reasoned explanation to support its selection of potential control

[89] 55 FR 38327 and 57 FR 13560.

measures and control technologies as part of the attainment plan submission for any Moderate nonattainment area. The proposed regulations include language to require the inclusion of this explanation in a state's attainment plan submission.

(1) Existing control measures. The EPA proposes that, as a starting point, a state must include in its initial list of control measures those measures and technologies that are being implemented or will be implemented due to promulgated and/or adopted (*i.e.,* ''on the books'') regulations for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors in its Moderate $PM_{2.5}$ nonattainment area. The EPA expects that the state will incorporate current or anticipated emissions reductions from these ''existing'' control measures (such as expected $SO_2$ reductions from the MATS; reductions of $NO_X$ and direct $PM_{2.5}$ from engine and fuel standards to reduce emissions from on-road and nonroad mobile sources) into its attainment demonstration modeling for the nonattainment area, and therefore the EPA believes it is appropriate for the state to clearly indicate such measures in the attainment plan for the area.

The EPA recognizes that for some sources located in a Moderate $PM_{2.5}$ nonattainment area, a state may have previously conducted RACM and RACT analyses to address emissions for other statutory purposes. Some of the RACM and RACT determinations could be relatively recent, while other determinations may be 15 years old or older. The EPA proposes that a state may not simply rely on a previous RACM or RACT determination for a particular source or source category when developing the attainment plan for a $PM_{2.5}$ NAAQS, but rather that the state must consider all existing and potential new measures together as part of a comprehensive RACM and RACT analysis. In this way, the state's new RACM and RACT analysis will represent the most thorough, up-to-date review of control measures for its $PM_{2.5}$ nonattainment area. For example, the state would still need to provide a RACT analysis for a stationary source that has installed new emissions controls recently (*e.g.,* within the last 3 years), but the state's determination may consider that recent installation when determining whether additional control is technologically and economically feasible.

(2) Potential control measures. In addition to identifying existing control measures for sources in a Moderate $PM_{2.5}$ nonattainment area, a state must develop a comprehensive list of potential control measures for sources in the area. There are a number of resources available to assist states in identifying additional, potential control measures and control technologies for their RACM and RACT and additional reasonable measures determinations for their Moderate $PM_{2.5}$ nonattainment areas. First, the EPA's Office of Air Quality Planning and Standards maintains a Menu of Control Measures document, available online at *http://www.epa.gov/air/criteria.html*. This document was developed to provide information useful in the development of local emissions reduction and NAAQS SIP scenarios, and identifying and evaluating potential control measures. It provides a broad, though not comprehensive, listing of potential emissions reduction measures for direct $PM_{2.5}$ and precursors of ozone and $PM_{2.5}$ from stationary, area and mobile sources. More complete information on mobile source control measures can be found on the EPA's Office of Transportation and Air Quality Web site at *http://www.epa.gov/otaq*.

The RACT/BACT/LAER Clearinghouse (RBLC) provides a central database of air pollution technology information (including past RACT, BACT and LAER decisions contained in NSR permits) to promote the sharing of information among permitting agencies and to aid in future case-by-case control measure determinations. The RBLC permit database contains over 5,000 determinations that can help a state identify appropriate technologies to mitigate most air pollutant emission streams. The RBLC includes data submitted by several U.S. territories and all 50 states on over 200 different air pollutants and 1,000 industrial processes. The RBLC can be found at: *http://cfpub.epa.gov/rblc/*.

Additionally, the EPA maintains a Web site with links to other online sources of information on control measures for states to consider.[90] Again, the EPA recognizes that some control technology guidance for certain source categories has not been updated for many years, and, for this reason, the agency expects states to identify and consider new and updated information in their RACM and RACT determinations as it becomes available.

(3) RACM for managing emissions from wildfire and prescribed fire. Wildfire emissions account for a large portion of direct $PM_{2.5}$ emissions nationally and can significantly contribute to periodic high $PM_{2.5}$ levels.[91] Besides their effect on air quality, wildfires pose a direct threat to public safety—a threat that can be mitigated through management of wildland vegetation. Attempts to suppress wildfires have resulted in unintended consequences, including increased risks to both humans and ecosystems.[92] The use of wildland prescribed fire can influence the occurrence, behavior, and effects of catastrophic wildfires which may help manage the contribution of wildfires to background $PM_{2.5}$ levels and periodic peak $PM_{2.5}$ events. Additionally prescribed fires can have benefits to those plant and animal species that depend upon natural fires for propagation, habitat restoration, and reproduction, as well as myriad ecosystem functions (*e.g.,* carbon sequestration). The EPA understands the importance of prescribed fire which mimics a natural process necessary to manage and maintain fire-adapted ecosystems and climate change adaptation, while reducing risk of uncontrolled emissions from catastrophic wildfires, and is committed to working with federal land managers, tribes, and states to effectively manage prescribed fire use to reduce the impact of wildfire related emissions on $PM_{2.5}$.

If wildfire impacts are significant, contributing to exceedances of the standard, the EPA proposes that air agencies should consider RACM for this source. Fires play an important ecological role across the globe, benefiting those plant and animal species that depend upon natural fires for propagation, habitat restoration, and reproduction. Fires are one tool that can be used to reduce fuel load, unnatural understory, and tree density, helping to reduce the risk of catastrophic wildfires. Some wildfires and the use of prescribed fire can influence the occurrence of catastrophic wildfires which may reduce the probability of fire-induced smoke impacts and subsequent health effects. RACM must be determined for each area on a case-by-case basis. Possible RACM for wildfire may include measures that reduce wildland fuels through fuels management, including the use of prescribed fire and possibly allowing some wildfire to occur naturally in systems that are ecologically fire

[90] Links are provided to a number of national, state and local air quality agency sites from the EPA's $PM_{2.5}$ Web site: *http://www.epa.gov/pm/measures.html*.

[91] For example, *see* ''miscellaneous'' category of direct $PM_{2.5}$ emissions in Table 1.

[92] Indeed, ''fire policy that focuses on [wildfire] suppression only, delays the inevitable, promising more dangerous and destructive future . . . fires.'' Stephens, SL; Agee, JK; Fule, PZ; North, MP; Romme, WH; Swetnam, TW. (2013). Managing Forests and Fire in Changing Climates. Science 342: 41–42.

dependent. Where appropriate, states, land managers, and landowners may consider developing plans to ensure that fuel accumulations are addressed and fuels management efforts, including prescribed fire, are not delayed. The EPA also proposes that air agencies should consider RACM for managing emissions from prescribed fires (including those prescribed fires conducted to reduce future wildfire emissions). Information is available from the DOI and the USDA Forest Service on smoke management programs and basic smoke management practices. The EPA requests comment on the concept of, and practical considerations associated with, RACM for wildfire and prescribed fire, including such issues as how such measures can be characterized in the emissions inventory and attainment demonstration and made federally enforceable for adoption in a SIP.

(4) RACT for EGUs. Through guidance in the preamble to the 2007 $PM_{2.5}$ Implementation Rule, the EPA established a rebuttable presumption that compliance with the CAIR would satisfy RACM and RACT requirements for $SO_2$ and $NO_X$ emissions from EGUs in states participating in the CAIR cap-and-trade program for such emissions.[93] The EPA indicated that states could presume that EGUs located within a given nonattainment area were meeting the RACM and RACT requirements, based solely upon a regional program that imposed controls for $SO_2$ and $NO_X$ emissions from sources both within and outside designated nonattainment areas.

In June 2007, the EPA received a petition for reconsideration questioning the legality of this presumption, which the D.C. Circuit later found to be unlawful in the context of a similar presumption in the Phase 2 Ozone (NAAQS) Implementation Rule.[94] The agency granted the petition for reconsideration in 2011 and proposed to withdraw from the 2007 $PM_{2.5}$ Implementation Rule any presumption that compliance with the CAIR automatically satisfies RACM and RACT requirements for $SO_2$ and $NO_X$ emissions from EGUs located in nonattainment areas for the 1997 $PM_{2.5}$ NAAQS.[95] [96] In that proposal, the EPA explained that given the explicit wording of section 172(c)(1) that sources ''in the area'' (*i.e.,* in the nonattainment area) must at a minimum adopt RACT controls for that area, the agency believes that it is no longer appropriate to presume that this requirement is satisfied merely based upon the participation of a source in a regional cap-and-trade program. Indeed, implicit in a regional cap-and-trade program is that some sources, including those located within nonattainment areas, may elect to buy allowances in lieu of controlling emissions in order to meet the regional emissions reductions requirements.

Accordingly, the EPA is not proposing any rebuttable presumption that the CAIR or any other regional control strategy constitutes RACM or RACT for EGUs or any other source category. Instead, the EPA is clarifying that in order to meet the RACM and RACT requirements for the $PM_{2.5}$ NAAQS, states should evaluate EGU sources for RACM and RACT level controls just like any other source category, and not merely presume for EGUs located in a nonattainment area that compliance with a cap-and-trade program, including the CAIR or any other program, would satisfy their obligation to implement RACM and RACT. As required by the CAA, states are required to analyze what constitutes RACM and RACT for EGUs in each nonattainment area.

*Step 2: Determine whether an available control measure or technology is technologically feasible.* Once a state has identified existing and potential control measures and technologies for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors in the nonattainment area(s), it must evaluate these controls to determine if any of those controls would be technologically infeasible in the particular nonattainment area.

i. *Stationary sources.* With respect to the technological feasibility of control technologies for stationary sources, the EPA has a longstanding approach to evaluating facts relevant to this criterion under subpart 4.[97] The EPA interprets the term technological feasibility to include consideration of factors such as a source's processes and operating procedures, raw materials, physical plant layout, and potential environmental impacts such as increased water pollution, waste disposal and energy requirements. For example, the EPA recognizes that the process, operating procedures and raw materials used by a source can affect the feasibility of implementing process changes that reduce emissions and can also affect the selection of add-on emissions control equipment. The feasibility of modifying processes or applying control equipment also can be influenced by the physical layout of the particular plant, if the physical space available in which to implement such changes limits the choices. The EPA proposes to retain its longstanding practice that a state should be allowed to consider such factors in order to eliminate from consideration control measures that are not technologically feasible to implement.[98]

ii. *Area and mobile sources.* With respect to determining whether a given control measure might not be technologically feasible for an area or mobile source, the EPA also proposes to retain its longstanding practice that a state may consider relevant factors in conducting its analysis, such as the social acceptability of the measure (*e.g.,* residential woodstove change-out programs rely in large part on the willingness of individual citizens to participate in such a program) and local circumstances, such as the condition and extent of needed infrastructure, population size, or workforce type and habits, which may prohibit certain potential control measures from being implementable.

The EPA seeks comment on the factors described above for states to consider when determining whether a control technology or measure is technologically feasible.

*Step 3: Determine whether an available control measure or technology is economically feasible.* The EPA has a longstanding interpretation of the term ''economic feasibility'' in the context of evaluating potential RACM and RACT which involves considering the cost of reducing emissions and the difference between the cost of an emissions reduction measure at a particular source

[93] *See* the **Federal Register** published on April 25, 2007 (72 FR 20586, 20623, 20624 and 20625).

[94] *See* ''Petition for Reconsideration,'' filed by Paul Cort, Earthjustice, on behalf of the American Lung Association, Medical Advocates for Healthy Air, Natural Resources Defense Council, and the Sierra Club (June 25, 2007). A copy of the petition is in the docket for this action. The EPA's decision to grant the petition for reconsideration on the issue of the CAIR being presumptively equal to RACT for EGUs was in part based on a D,C. Circuit decision related to a similar issue. Specifically, the Court decided that the provisions in the Phase 2 Ozone Implementation Rule indicating that a state need not perform (or submit) a $NO_X$ RACM/RACT analysis for EGU sources subject to a cap-and-trade program that meets the requirements of the $NO_X$ SIP Call are inconsistent with the statutory requirements of section 172(c)(1). The Court concluded that the phrase ''in the area'' means that reductions must occur from sources within the area and ''reductions from outside the nonattainment area do not satisfy the requirement.'' *See NRDC* v. *EPA,* 571 F.3d 1245 (D.C. Cir. 2009).

[95] Letter dated April 25, 2011, from former Administrator Lisa Jackson to Paul Cort, Earthjustice. A copy of this letter is located in the docket for this action.

[96] 79 FR 32892 (June 9, 2013).

[97] *See* the **Federal Register** published on April 16, 1992 (57 FR 13498, 13540 and 13541).

[98] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42013. Guidance is provided in the context of Serious area BACM determination, but the EPA is proposing to apply it here for Moderate area RACM determinations.

and the cost of emissions reduction measures that have been implemented at other similar sources in the same or other areas.[99] Absent other indications, the EPA presumes that it is reasonable for similar sources to bear similar costs of emissions reductions. Economic feasibility of RACM and RACT is thus largely informed by evidence that other sources in a source category have in fact applied the control technology, process change or measure in question in similar circumstances.

In the preamble to the 2007 $PM_{2.5}$ Implementation Rule, the EPA provided guidance on how to interpret the term ''economic feasibility'' which deviated from the agency's longstanding interpretation of the term. After promulgating the final rule, the EPA received and granted a petition for reconsideration on issues related to the agency's revised approach to interpreting the term ''economically feasible.'' [100] [101] Consistent with the EPA's granting of that petition for reconsideration, the EPA is proposing in this action an interpretation of economic feasibility that is consistent with the EPA's longstanding interpretation of what factors are appropriate for consideration of economic feasibility in a RACM and RACT analysis, instead of that adopted in the 2007 $PM_{2.5}$ Implementation Rule.

Specifically, the EPA proposes that for each technologically feasible control measure or technology, a state must evaluate the economic feasibility of the measure or control, through consideration of the capital costs, operating and maintenance costs, and cost effectiveness (*i.e.,* cost per ton of pollutant reduced by that measure or technology) associated with such measure or control. Furthermore, the EPA proposes that a state may not reject a technologically feasible control measure or technology as being economically infeasible if such a measure or technology has been implemented at other similar sources (*i.e.,* at sources that would be included in the same source category in the emissions inventory data collection process), unless the state provides an adequate justification that clearly explains the specific circumstances of the source or sources in the nonattainment area that make such a measure or technology economically infeasible in that particular area.

The EPA believes that it is appropriate for states to give substantial weight to cost effectiveness in evaluating the economic feasibility of an emission reduction measure or technology. The cost effectiveness of a measure is its annualized cost ($/year) divided by the emissions reduced (tons/year) which yields a cost per amount of emission reduction ($/ton). Cost effectiveness provides a relative value for each emissions reduction option that is comparable with other options and, in the case of control technologies, other facilities.

The EPA also seeks comment on an alternative cost effectiveness metric that would allow a state to take into account the effect of controlling a particular precursor on reducing $PM_{2.5}$ concentrations in the area. Such a cost effectiveness metric would be the annualized cost ($/year) of a control measure divided by the emissions reduced (tons/year) multiplied by the amount of reductions needed in the precursor emissions to yield 1 $\mu g/m^3$ reduction in $PM_{2.5}$ ($/($\mu g/m^3$)). Such a metric would allow a state to compare the relative cost effectiveness associated with each measure toward the attainment goal for the nonattainment area. The EPA notes the difficulty in determining the appropriate value to relate precursor reductions to reductions in ambient $PM_{2.5}$ concentrations, and therefore seeks comment on the appropriateness of this approach and how a state might demonstrate the validity of the input values it chooses to use.

In considering what level of control is reasonable, the EPA is not proposing a fixed dollar per ton cost threshold for economic feasibility of controls identified as potential RACM and RACT. In addition, if a state contends that a source-specific control-level should not be established because the source(s) cannot afford the control measure or technology that is demonstrated to be economically feasible for other sources in its source category, the EPA proposes that the state must support the claim with information regarding the impact of imposing the identified control measure or technology on the following financial indicators, to the extent applicable:

1. Fixed and variable production costs ($/unit)
2. Product supply and demand elasticity
3. Product prices (cost absorption vs. cost pass-through)
4. Expected costs incurred by competitors
5. Company profits
6. Employment costs
7. Other costs (*e.g.,* for RACM implemented by public sector entities).[102]

The EPA seeks comment on the factors described above for states to consider when determining whether a control technology or measure is economically feasible.

*Step 4: Determine the earliest date by which a control measure or technology can be implemented in whole or in part.* CAA section 189(a)(1)(C) requires that the attainment plan for a Moderate $PM_{2.5}$ nonattainment area provide for the implementation of RACM and RACT no later than 4 years after designation. The agency has long interpreted the term ''implement'' to mean that a control measure or technology has not only been submitted to the EPA for approval as part of a SIP but has also been built, installed and/or otherwise physically manifested, and is achieving the intended emissions reductions, and the EPA proposes to retain such a definition in this rule. *See* proposed 40 CFR 51.1000. However, the EPA recognizes that a state may be able to implement a given control measure only partially within 4 years after designation. The EPA addressed this situation in the General Preamble, stating: ''It is important to note that a State should consider the feasibility of implementing measures in part when full implementation would be infeasible.'' [103] This guidance endorses the notion that a state should not reject an otherwise technologically and economically feasible control measure or technology as RACM or RACT even if it can be only partially implemented within the statutory 4-year timeframe following designation of the area. Instead, the EPA interprets the statute to require states to adopt as RACM and RACT that portion of a control measure or technology that can feasibly be implemented within 4 years of the effective date of designation. For instance, if paving unpaved roads is a control measure that is technologically and economically feasible in a nonattainment area but a state cannot pave all roads within 4 years of designation, the state must adopt as RACM a measure that requires paving of that portion of roads that the state could feasibly accomplish within 4 years if

[99] *See* the **Federal Register** published on April 16, 1992 (57 FR 13498, 13540 and 13541).

[100] ''Petition for Reconsideration,'' filed by Paul Cort, Earthjustice, on behalf of the American Lung Association, Medical Advocates for Healthy Air, Natural Resources Defense Council, and the Sierra Club (June 25, 2007). A copy of the petition is in the docket for this action.

[101] Letter dated April 25, 2011, from former Administrator Lisa Jackson to Paul Cort, Earthjustice. A copy of this letter is located in the docket for this action.

[102] These long-standing factors were established in EPA guidance in 1992 and are applicable to implementation programs for all NAAQS pollutants. *See* the appendices to the General Preamble, 57 FR 18070 (April 28, 1992).

[103] 57 FR 13498 (April 16, 1992), at page 13541.

such a measure is needed for timely attainment of the $PM_{2.5}$ NAAQS in the area.

The EPA thus proposes that a state must identify those technologically and economically feasible control measures and technologies that it can implement fully or partially within 4 years of designation of its Moderate $PM_{2.5}$ nonattainment area. Depending on the severity of the $PM_{2.5}$ nonattainment problem in the area, some or all of these measures identified as implementable within 4 years may be needed in order to bring the area into attainment as expeditiously as practicable. These measures will satisfy the EPA's criteria for RACM and RACT if the state determines, through its attainment demonstration that it needs to implement them to achieve timely attainment for the area.

In addition, the EPA proposes that a state must separately identify those technologically and economically feasible control measures that can only be implemented after the statutory window for implementing RACM and RACT. The statutory 4-year timing requirement for implementing RACM and RACT under section 189(a)(1)(C) limits the control measures and technologies that can qualify as RACM and RACT for a Moderate $PM_{2.5}$ nonattainment area. However, the statutory requirement of CAA 172(c)(6) also requires states to implement ''other measures'' necessary to provide for timely attainment in an area. The EPA proposes that among such other measures should be ''additional reasonable measures,'' which would be those measures and technologies that are otherwise technologically and economically feasible but can only be implemented in whole or in part later than 4 years after designation and initiated no later than the beginning of the sixth calendar year following designation of the area.[104] Such additional reasonable measures would necessarily be implemented on sources in the nonattainment area. However, the EPA interprets the ''other measures'' required under section 172(c)(6) to apply to stationary, area and mobile sources located outside of the nonattainment area but within the state if the application of reasonable control measures on such sources would facilitate attainment of the $PM_{2.5}$ NAAQS in the nonattainment area. *See* proposed 40 CFR 51.1009(b).

*Step 5: Model to determine the attainment date that is as expeditious as practicable and select the control measures necessary to achieve attainment and meet statutory requirements for control measures.* Section 189(a)(1) of the CAA establishes a requirement that the attainment plan for a Moderate $PM_{2.5}$ nonattainment area must demonstrate either that an area can attain the relevant NAAQS by the applicable attainment date or that it is impracticable for the area to do so. As noted previously, for Moderate $PM_{2.5}$ nonattainment areas, the ''applicable attainment date'' is as expeditious as practicable, but no later than the end of the sixth calendar year after designation as nonattainment. A complete discussion of the EPA's proposed requirements for attainment demonstration modeling is presented in Section IV.E of this preamble. However, one of the key features of attainment demonstration modeling is that it provides a means of synthesizing the effects of emissions reductions from all existing and potential new control measures identified for sources in a given nonattainment area on overall air quality in that area. States will be required to use the results of their attainment demonstration modeling to identify the appropriate combination of reasonable control measures for sources in their Moderate $PM_{2.5}$ nonattainment area and any other control measures needed on sources outside the nonattainment area to ensure expeditious attainment of the relevant NAAQS in the area and to meet the statutory requirements of sections 189(a)(1)(B) and 172(c)(6) as explained below.[105]

*Step 5a: If the state can demonstrate attainment in the area by the statutory attainment date for a Moderate area, then the state must implement those control measures needed for expeditious attainment of the NAAQS in the area.* If a state determines that a Moderate nonattainment area can attain the $PM_{2.5}$ NAAQS by the statutory attainment date, the state must adopt and implement any technologically and economically feasible control measures that are necessary to ensure that the area will attain the NAAQS as expeditiously as practicable. The EPA will consider any such measures that can be implemented within 4 years of designation of the area to fulfill the RACM and RACT requirements for the area. In addition, the EPA will consider any such measures that can only be implemented between 4 years and the sixth calendar year after designation to meet the requirements of section 172(c)(6) as ''additional reasonable measures'' for the area and necessary to demonstrate timely attainment under section 189(a)(1)(B).

Under this approach, the state may reject any otherwise technologically or economically feasible measures that are not needed to demonstrate attainment or that will not advance the attainment date by at least 1 year. That is, for a Moderate area that can demonstrate attainment by the statutory Moderate area attainment date, the EPA proposes to define as ''reasonable'' only those technologically and economically feasible measures that are necessary for expeditious attainment of the NAAQS, as the CAA does not require a state to adopt measures that are not needed for expeditious attainment in a Moderate $PM_{2.5}$ nonattainment area. Thus, a state may exclude those otherwise reasonably available measures that, if adopted and considered collectively, would not advance the attainment date for the area by at least 1 year, so long as the state can demonstrate attainment as expeditiously as practicable and no later than the statutory Moderate area attainment date. *See* proposed 40 CFR 51.1009(a)(4)(i).

The EPA recognizes that identifying which measures could not collectively advance the attainment date for a Moderate area by at least 1 year may be an iterative process that requires additional analysis and/or modeling. The agency believes that such effort is reasonable for a state seeking to demonstrate the lack of need for certain controls that are determined to be technologically and economically feasible in light of the requirement for expeditious attainment in a given Moderate nonattainment area. The basis for deciding that it would be reasonable not to require imposition of otherwise available and appropriate controls because they would not be needed for attainment, or would not advance attainment, requires a suitably robust analysis and explanation.

*Step 5b: If the state cannot demonstrate attainment by the statutory attainment date for a Moderate area, then the state must adopt all reasonable control measures.* As noted elsewhere in

[104] With respect to ''partial measures'' under this proposed approach, the EPA would require that a state implement as RACM that portion of any control measure determined to be technologically and economically feasible and implementable within 4 years after designation of a nonattainment area. The state would then be required to implement as an additional reasonable measure that portion of the same control measure that can be implemented starting 4 years from designation through the sixth calendar year following designation.

[105] Note that under section 110(l) of the CAA, after a state has adopted a control measure into the SIP for an attainment demonstration, it may remove or modify a measure if the state demonstrates to the satisfaction of the EPA that such removal or modification will not interfere with any applicable requirement of the CAA, such as attainment of the $PM_{2.5}$ NAAQS or meeting RFP requirements.

this section, section 189(a)(1)(B) of the CAA requires a state to submit as part of the attainment plan either a demonstration that the plan will provide for attainment of the relevant NAAQS by the applicable attainment date, or a demonstration that attainment by such date is ''impracticable.'' This subpart 4 requirement anticipates that not all nonattainment areas initially classified as Moderate will necessarily be able to attain by the latest statutory attainment date for Moderate areas, and it incorporates the concept of an ''impracticability demonstration'' for such areas.[106] The CAA is thus structured to provide that Moderate areas that cannot timely attain the NAAQS through the required elements of a Moderate area attainment plan will be reclassified to Serious and will have to meet additional control requirements beyond those that are ''reasonable'' to assure attainment of the NAAQS by a later date that is as expeditious as practicable.

Existing guidance in the General Preamble on implementing this section of the CAA states that ''the EPA believes it is reasonable for all available control measures that are technologically and economically feasible to be adopted for areas that do not demonstrate attainment [by the applicable attainment date].'' [107] The EPA maintains that it is reasonable to require a state to model the effects of emissions reductions from all technologically and economically feasible controls identified by the state for sources in a nonattainment area before asserting a claim that the area cannot practicably attain the relevant NAAQS by the Moderate area attainment date. However, the magnitude of certain $PM_{2.5}$ precursor emissions and/or local atmospheric conditions of some $PM_{2.5}$ nonattainment areas may render certain technologically and economically feasible control measures ineffective in reducing ambient $PM_{2.5}$ levels. Therefore, even in a Moderate $PM_{2.5}$ nonattainment area that cannot practicably attain the relevant NAAQS by the statutory attainment date, the EPA believes that it may not be reasonable in all cases to require that a state implement all technologically and economically feasible control measures identified for sources in the area.

Consistent with the EPA's long-standing interpretation that subpart 4 Moderate area control requirements must be reasonable, the EPA proposes that, for a Moderate $PM_{2.5}$ nonattainment area that cannot practicably attain the NAAQS by the statutory attainment date, a state must adopt and implement all technologically and economically feasible measures identified for sources in the area, except for any such measures that collectively will not effectively reduce ambient $PM_{2.5}$ concentrations. *See* proposed 40 CFR 51.1009(a)(4)(ii). The EPA views this approach as similar to the agency's approach of allowing states to reject any otherwise technologically or economically feasible measures that are not needed to demonstrate attainment and that will not advance the attainment date by at least 1 year for nonattainment areas for which states can demonstrate attainment by the statutory attainment date. Once again, the EPA recognizes that identifying which measures collectively will not effectively reduce ambient $PM_{2.5}$ concentrations will likely be an iterative process that requires specific analysis, potentially including modeling. However, the agency believes that such effort is appropriate for a state seeking to demonstrate the lack of need for certain controls that are determined to be technologically and economically feasible in a Moderate nonattainment area that cannot practicably attain the relevant $PM_{2.5}$ NAAQS by the latest statutory Moderate area attainment date. The basis for establishing that it would not be reasonable to require imposition of otherwise available and appropriate controls because they would not be effective in reducing ambient $PM_{2.5}$ concentrations requires an adequately robust analysis and explanation.

The EPA also proposes an alternative approach to identifying all reasonable control measures for a Moderate nonattainment area that cannot practicably attain the $PM_{2.5}$ NAAQS by the end of the sixth calendar year following designation. Under this alternative, states would be required to implement all technologically and economically feasible control measures that they have identified for sources of direct $PM_{2.5}$ emissions and sources of emissions of significant $PM_{2.5}$ precursors in the area. The EPA believes that this interpretation would be consistent with the agency's previous guidance in the General Preamble and is compelled by the language of section 189(a)(1)(C), which separately requires a state to submit a Moderate area attainment plan and meet the RACM and RACT requirement, even if the state submits a demonstration that it cannot attain the NAAQS through those measures by the applicable attainment date. In addition, as with a Moderate $PM_{2.5}$ nonattainment area which a state demonstrates can attain the NAAQS by the end of the sixth calendar year following designation, the EPA interprets the provisions of section 172(c)(6) to require that such an area must implement all additional reasonable measures that it can implement through the sixth calendar year following designation of the area, in addition to those measures meeting the definition of RACM and RACT, in order to make progress toward attainment after the end of the fourth year following designation.

As described in Section III of this preamble, the EPA is proposing three options for implementing CAA requirements applicable to $PM_{2.5}$ precursors in the context of attainment planning and NNSR permitting. Proposed precursor Options 2A and 2B would provide an opportunity for a state to demonstrate that emissions of a particular precursor from all sources located in a Moderate $PM_{2.5}$ nonattainment area do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the standard in the area, or reductions of which will not be effective in reducing ambient $PM_{2.5}$ concentrations, in which case the state would not be required to identify or otherwise evaluate control measures for the particular precursor. Under proposed precursor Options 1 and 3, on the other hand, states would rely on their control strategy analyses (*e.g.,* for Moderate nonattainment areas, analyses to determine RACM and RACT and additional reasonable measures) to identify whether and/or which controls on sources of $PM_{2.5}$ precursors are ''reasonable.'' The EPA believes that if proposed precursor Option 1 or 3 is finalized, it would be most appropriate to finalize the first approach to identifying reasonable control measures for Moderate areas that cannot practicably attain the NAAQS by the statutory attainment date, since states would not have an opportunity prior to evaluating the specific control measures for sources of $PM_{2.5}$ precursors in the nonattainment area to demonstrate that controlling all sources of a particular precursor would not be effective in reducing ambient $PM_{2.5}$ levels in the area. Likewise, if the agency finalizes proposed precursor Options 2A or 2B, the EPA believes that it would be most appropriate to finalize the alternative

[106] The concept of an ''impracticability demonstration'' is established in section 188(b), which addresses reclassifying Moderate $PM_{2.5}$ areas to Serious. Section 188(b)(1) describes the EPA's discretionary authority to reclassify an area upon a determination that an area cannot practicably attain by the Moderate area attainment date. More relevant to this determination, however, section 189(a)(1)(B) specifically provides for submission of a demonstration addressing this concept in the case of Moderate areas that cannot attain the NAAQS by the applicable attainment date.

[107] 57 FR 13498 (April 16, 1992), at page 13544.

proposed approach of requiring a state to implement all technologically and economically feasible measures identified by the state for sources in the area that can be implemented by the end of the sixth calendar year following designation if the state demonstrates that the area cannot practicably attain the NAAQS by the statutory attainment date, since the ''measures identified by the state'' would already implicitly exclude control measures on sources of any ''insignificant'' precursor. The EPA seeks comment on the two proposed approaches to selecting RACM and RACT and additional reasonable measures for Moderate nonattainment areas that cannot practicably attain the NAAQS by the statutory attainment date, and on the EPA's evaluation of the compatibility of these proposed approaches with the agency's proposed precursor options.

The EPA's proposed analytical process for determining RACM and RACT is intended to result in a comprehensive list of such technologically and economically feasible controls that would include local and state measures that could achieve emissions reductions from sources within the area, beyond those that could or would be achieved through regional or national measures. Furthermore, the EPA is proposing to require that the Moderate area attainment plan must include modeling of all RACM and RACT and additional reasonable measures, and other state, regional and federal measures, to demonstrate that a state will not be able to attain the NAAQS by the end of the sixth calendar year after designation due to the severity of nonattainment in the area and/or due to the lack of availability or feasibility of implementing controls in the area by such date.

Subpart 4 requires that Moderate areas that cannot or do not meet the Moderate area attainment date be reclassified as Serious nonattainment areas, in which case sources in the areas are then subject to BACM and BACT requirements. In the General Preamble, the EPA indicated that ''it may be reasonable, in some limited circumstances, for States to consider the compatibility of RACM and RACT with the BACM and BACT that will ultimately be implemented under the Serious area plans for those areas.'' [108] Furthermore, for such areas that do not meet the Moderate area attainment date, the EPA indicated that ''in the case of RACM for area sources, EPA anticipates that any future implementation of BACM for these sources will be additive to, and hence compatible with, RACM. This is because BACM will generally consist of a more extensive implementation of the RACM measures . . . Since EPA anticipates that RACM and BACM for these sources will be compatible, the SIP's (*sic*) for these areas should reflect the application of available control measures to existing sources in moderate nonattainment areas as determined by the analysis described . . . for RACM.'' [109] The EPA believes that a state should consider selecting and implementing controls that may qualify as BACM or BACT in a Moderate nonattainment area as part of their RACM and RACT analysis if they have reason to suspect that the area may not be able to attain the NAAQS by the applicable Moderate area attainment date as long as the control can be implemented by the statutory Moderate area attainment date. Early adoption of controls that would constitute BACM or BACT could be more efficient and could further the objectives of attaining the NAAQS expeditiously to protect public health and the environment.

3. RACM and RACT and Additional Reasonable Measures Submission Requirements

To ensure that attainment plan submissions contain the necessary supporting information to enable the EPA to review and approve a state's evaluation and selection of measures that constitute RACM and RACT in a given nonattainment area, the EPA proposes to require under the authority of section 301(a) that a state must submit the following information as part of its submission:

- A list of all source categories, sources and activities in the nonattainment area that emit direct $PM_{2.5}$ or any $PM_{2.5}$ precursor (for multi-state nonattainment areas, this would include source categories, sources and activities from all states which make up the area);
- For each source category, source or activity in the nonattainment area, an inventory of direct $PM_{2.5}$ emissions and emissions of all $PM_{2.5}$ precursors;
- For each non-*de minimis* source category, source or activity in the nonattainment area, a comprehensive list of potential control measures considered by the state for the nonattainment area; [110] [111]
- For each potential control measure considered by the state but eliminated from further consideration due to a determination by the state that the control measure or technology was not technologically feasible, a narrative explanation and quantitative or qualitative supporting documentation to justify the state's conclusion;
- For each technologically feasible emission control measure or technology, the state must provide the following information relevant to economic feasibility: (1) The control efficiency by pollutant; (2) the possible emissions reductions by pollutant; (3) the estimated cost per ton of pollutant reduced; and, (4) a determination of whether the measure is economically feasible, with narrative explanation and quantitative supporting documentation to justify the state's conclusion.
- For each technologically and economically feasible emission control measure or technology, the date by which the technology or measure could reasonably be implemented.

Each of these elements will provide information needed by the EPA to evaluate correctly and efficiently whether the state is meeting the statutory requirements for an attainment plan, and in particular meeting the statutory requirement for states to implement RACM and RACT on sources within the nonattainment area. The EPA recognizes that the base year emissions inventory for the area that the state submits in conjunction with its attainment plan will likely contain some of the information proposed to be required under the first two items in this list. However, the EPA believes that it is incumbent on the state to ensure that the information needed for the EPA to evaluate the state's RACM and RACT analysis is presented more specifically as part of the RACM and RACT analysis and in a format that provides transparency, consistency and the ability for another party to evaluate the state's analysis effectively. For this reason, the EPA is including emissions inventory information specifically relevant to the RACM and RACT element of the state's attainment plan.

4. Criteria for Effective Regulations To Implement RACM and RACT and Additional Reasonable Measures

After a state has identified a particular control measure as RACM or RACT or additional reasonable measure for a particular nonattainment area, it must

[108] *Ibid. at* 13544.

[109] *Ibid.*

[110] If the EPA finalizes proposed precursor Option 2A or 2B, which would effectively allow a state to demonstrate that a given precursor does not contribute significantly to $PM_{2.5}$ concentrations in a nonattainment area, then this step would require potential control measures only for sources of direct $PM_{2.5}$ and precursors not exempted from further analysis.

[111] Menu of Control Measures document available at *http://www.epa.gov/air/criteria.html.*

then implement that measure through a legally enforceable mechanism that will be included in the SIP (*e.g.,* a state rule that the EPA will approve as a part of the federally enforceable SIP for the state). The EPA is proposing that in order for the EPA to be able to approve any such measure as part of the SIP, the state would have to provide information to meet the following four criteria. These criteria are similar to the criteria finalized as part of the remanded 2007 $PM_{2.5}$ Implementation Rule.

First, the base year emissions from the source or group of sources to which the control measure applies and the future year projected emissions from those sources once controlled must be quantifiable so that the projected emissions reductions from the sources can be attributed to the specific measures being implemented. It is important that the emissions from the source category in question are accurately represented in the base year inventory so that emissions reductions are properly calculated. In particular, it is especially important to ensure that both the filterable and condensable components of direct $PM_{2.5}$ emissions are accurately represented in the base year.

Second, the control measures must be enforceable. This means that they must specify clear, unambiguous and measurable requirements. The measurable requirements for larger emitting facilities must include periodic source testing, monitoring or other viable means to establish whether the affected source meets the applicable emission limit. Additionally, to verify the continued performance of the control measure, specific emissions monitoring programs appropriate for the type of control measure employed and the level of emissions must be included to verify the continued performance of the control measure. The control measures and monitoring program must also have been adopted according to proper legal procedures.

Third, the results of application of the control measures must be replicable. This means that where a rule contains procedures for interpreting, changing or determining compliance with the rule, the procedures are sufficiently specific and objective so that two independent entities applying the procedures would obtain the same result.

Fourth, the control measures must be accountable. This means, for example, that source-specific emission limits must be permanent and must reflect the assumptions used in the attainment plan for the area, including the modeling conducted in conjunction with the attainment demonstration. It also means that the attainment plan must establish requirements to track emissions changes at sources and provide for corrective action if emissions reductions are not achieved according to the plan.

The EPA seeks comment on these criteria for approval of any control measures adopted by a state for a Moderate area to assure that such measures are legally enforceable.

5. Determination of RACM and RACT and Additional Reasonable Measures in Multi-State Nonattainment Areas

States in multi-state nonattainment areas will need to consult with each other on appropriate control measures for the shared nonattainment area. The agency anticipates that states could decide upon RACM and RACT and additional reasonable measures that differ from state to state in a shared nonattainment area, based upon each state's determination of the most effective strategies given the relevant mixture of sources and potential controls in the respective states' portions of a shared nonattainment area. As long as each state can adequately demonstrate that its chosen attainment strategy, including its selection and adoption of RACM and RACT and additional reasonable measures, will provide for meeting RFP requirements and for attainment of the NAAQS as expeditiously as practicable for the nonattainment area at issue, the EPA anticipates being able to approve individual state plans that may elect to control a different mix of sources or to implement different controls, under the proper circumstances. Nevertheless, in evaluating RACM and RACT and additional reasonable measures for a particular nonattainment area, states must consider potential reasonable control measures developed for other areas or other states, and particularly for other portions of an interstate nonattainment area. In addition, states in multi-state nonattainment areas must evaluate whether the reasonable measures each state may have identified as not being necessary for attainment could collectively advance the attainment date for the area by at least 1 year. The EPA may consider such measures in assessing the approvability of each state's individual attainment plan for a multistate nonattainment area.

6. Environmental Justice Considerations in Developing the Attainment Plan Control Strategy for a Moderate $PM_{2.5}$ Nonattainment Area

The EPA strongly urges states to consider environmental justice concerns with respect to any control measures they have identified as potential RACM or RACT or additional reasonable measures in an area, particularly to the extent that control measures that a state may be considering are otherwise approximately equal (in terms of technological and economic feasibility) but unequal with respect to their direct or indirect impacts on overburdened populations.[112] In such cases, the EPA encourages the state to prioritize imposition of the control measures that will result in the least possible burden and greatest degree of health protection for overburdened populations in the nonattainment area. Section IX of this preamble discusses this and other possible approaches for states to incorporate ways to address environmental justice concerns associated with implementation of the $PM_{2.5}$ NAAQS in their attainment plans and SIP development process, and the EPA seeks comment on ways to more fully address such concerns.

*E. Modeling for Attainment Demonstrations*

1. Statutory Requirements

Section 189(a) generally requires a state with a designated Moderate nonattainment area to submit an attainment plan for such area. As discussed earlier, section 189(a)(1)(B) more specifically requires the state to submit an attainment demonstration including air quality modeling to establish either: (i) That the area will attain the relevant NAAQS by the applicable attainment date; or, (ii) that it is impracticable for the area to attain the relevant NAAQS by the applicable attainment date. For Moderate nonattainment areas, the attainment date is as expeditiously as practicable, but no later than the end of the sixth calendar year after designation as nonattainment. Section 189(a)(2)(B) of the CAA requires states with designated nonattainment areas to submit attainment plans no later than 18 months after designation.

[112] The term ''overburdened populations'' is defined in the EPA's ''Plan EJ 2014'' to describe the minority, low-income, tribal, and indigenous populations or communities in the U.S. that potentially experience disproportionate environmental harms and risks as a result of greater vulnerability to environmental hazards. This increased vulnerability may be attributable to an accumulation of both negative and lack of positive environmental, health, economic or social conditions within these populations or communities. For more information on Plan EJ 2014, *see: http://www.epa.gov/environmentaljustice/plan-ej/.*

2. What is an attainment demonstration?

Section 189(a)(2)(B) does not define the term ''demonstration'' and does not specify precisely how a state should make the required demonstration. Thus, the EPA believes it is necessary to provide more specific parameters for such demonstrations in order to assure that they contain the requisite information to allow for meaningful evaluation of the issues that the demonstrations are intended to address. An attainment demonstration is a set of analyses that provide an explanation of how a state will attain the $PM_{2.5}$ NAAQS by the applicable attainment date in a particular nonattainment area.[113] The EPA is proposing that the demonstration must contain: (i) Technical analyses such as base year and future year modeling of emissions which identify sources and quantify emissions that are contributing to violations of the $PM_{2.5}$ NAAQS; and, (ii) analyses of future year emissions reductions and air quality improvement resulting from existing (*i.e.,* already-adopted or ''on the books'') national, regional and local programs, and potential new local measures needed for attainment, including RACM and RACT controls for the area. Each state with a Moderate nonattainment area must submit an attainment plan with an attainment demonstration that includes analyses supporting the state's determination of its proposed attainment date. In all cases, the state must show that the Moderate area will attain the NAAQS as expeditiously as practicable, but not later than the end of the sixth calendar year after designation. In order to establish that the attainment date is as expeditious as practicable, the state must explain why any control measures adopted in the attainment plan provide for the most expeditious attainment and, specifically, must demonstrate that collectively the reasonable measures that were not adopted as RACM or RACT or additional reasonable measures will not advance the attainment date by at least 1 year if implemented. *See* proposed 40 CFR 51.1011(a).

A state may alternatively submit a demonstration that shows that attainment by the statutory attainment date for a Moderate area is impracticable.[114] The statute does not define the term ''impracticable'' in this context, so it is necessary for the EPA to interpret this term in the context of a submission from the state for this purpose. In order to support this type of demonstration, the EPA proposes to require that the state must show that, even if all technologically and economically feasible controls that can be implemented within 6 years were implemented, the state could not attain the NAAQS within the statutory timeframe for a Moderate area. A state could do this by performing a modeling analysis which projects emissions to the sixth year after designations in order to predict future year $PM_{2.5}$ design values in the area. The projected emissions would account for all existing federal and state SIP-adopted regulations on sources outside the nonattainment area that were in place at the time, plus all measures that were identified as technologically and economically feasible controls that can be implemented in the nonattainment area within 6 years of designation (*i.e.* all measures that would qualify as RACM or RACT or as additional reasonable measures), as well as any other reasonable measures available in the state that could aid in achieving timely attainment. If the modeling shows that attainment cannot be reached by the end of the sixth calendar year following designation, then the analysis could be used to demonstrate that it is impracticable for the area to attain the relevant NAAQS by the statutory attainment date. Other information can also be used to support the demonstration, including ambient data and emissions trends data. States are encouraged to work with their respective EPA Regional Office to identify appropriate information that could be used to support an impracticability demonstration. The EPA emphasizes that states that can make the required showing that a Moderate nonattainment area cannot attain the NAAQS by the statutory attainment date are nonetheless required to meet the substantive requirements for a Moderate area attainment plan, including the implementation of control measures that are RACM and RACT and additional reasonable measures in that area.

3. What modeling is required?

States are required to submit air quality modeling in support of an attainment demonstration for a Moderate $PM_{2.5}$ nonattainment area. Although air quality modeling is not expressly required for a Moderate area demonstration showing that attainment by the attainment date is impracticable (per section 189(a)(1)(B)(ii)), the EPA proposes to interpret the CAA to require air quality modeling similar to that required for an attainment demonstration in order to demonstrate that attainment of the relevant $PM_{2.5}$ NAAQS by the statutory attainment date is impracticable. Because air quality modeling is a required element of the attainment demonstration in section 189(a)(1)(B), the EPA believes that it logically follows that similar modeling should also be required to show that an area will not be able to attain by the attainment date contemplated by the statute.

There may be limited cases in which a state may be able to demonstrate through a rigorous technical analysis with supporting documentation that attainment by the statutory Moderate area attainment date is impracticable. Given that the statute may be interpreted as not requiring air quality modeling for an impracticability demonstration, the EPA proposes and seeks comment on an alternative option under which air quality modeling would not be a requirement for a Moderate area impracticability demonstration. The EPA would recommend that a state submit modeling as part of any Moderate area impracticability demonstration, but under this alternative option such modeling would not be a regulatory requirement.

Given that secondarily formed $PM_{2.5}$ (*e.g.* ammonium sulfate, ammonium nitrate and SOA) is a large fraction of the total measured $PM_{2.5}$ in most $PM_{2.5}$ nonattainment areas, the EPA assumes that photochemical grid modeling (which considers secondary $PM_{2.5}$ formation) will be needed for a state to demonstrate attainment with the NAAQS. Most previous $PM_{2.5}$ attainment demonstrations for both the 1997 and 2006 $PM_{2.5}$ NAAQS have utilized photochemical grid models. However, in some nonattainment areas that are dominated by primary $PM_{2.5}$ emissions (*e.g.* residential wood smoke), more simplistic dispersion models, such as a combination of dispersion, receptor and box airshed models, may suffice to demonstrate that the area will attain the NAAQS. Regardless of the modeling approach selected to support the attainment demonstration, the analyses must be based on technically credible methods and provide for the timely submittal of the attainment demonstration and implementation of control measures. States should consult with their respective EPA Regional

[113] An area is designated nonattainment for either the annual $PM_{2.5}$ NAAQS or the 24-hr $PM_{2.5}$ NAAQS or both. The attainment demonstration should show that the area is attaining the form of the NAAQS for which they have been designated nonattainment.

[114] Pursuant to section 188(b)(1)(B), upon an EPA determination that attainment by the Moderate date is impracticable, the EPA shall reclassify the area as Serious within 18 months after the Moderate area attainment plan due date.

Office to determine the appropriate type of modeling demonstration for the particular nonattainment area.

4. Do states need to develop new modeling for their attainment demonstrations?

The EPA believes that the statutory provision requiring attainment demonstrations for Moderate $PM_{2.5}$ nonattainment areas to include air quality modeling can be fulfilled in a variety of ways. Thus the EPA proposes to allow states to fulfill the statutory modeling requirement through either locally generated photochemical and/or dispersion modeling or, with proper justification, through appropriate regional or national modeling. The EPA seeks comment on what types of modeling demonstrations should be required to fulfill the CAA requirement to ''include air quality modeling'' as part of the attainment demonstrations for Moderate nonattainment areas.

New modeling analyses that follow the EPA modeling guidance, conducted by the state for implementing the $PM_{2.5}$ NAAQS, will presumably satisfy the attainment demonstration modeling requirement. However, many areas that were designated as nonattainment for the 1997 and/or 2006 $PM_{2.5}$ NAAQS have already invested considerable resources in local and/or regional $PM_{2.5}$ modeling analyses. Most states with potential $PM_{2.5}$ nonattainment areas are already participating in regional modeling analyses through multi-jurisdictional organizations (MJOs). These MJOs (*e.g.* SESARM, LADCO and WRAP) represent most states with $PM_{2.5}$ nonattainment areas in the country. There is ongoing $PM_{2.5}$ modeling that may provide useful information for state $PM_{2.5}$ NAAQS attainment demonstrations.

In addition to local and regional modeling, the EPA conducts nationwide modeling (generally limited to the contiguous 48 states) in support of various national rulemakings. The base and future modeling year for national rule modeling varies depending on compliance dates for the rule being analyzed and on when the modeling was conducted. For example, there are several analyses of recent and ongoing rules which may provide useful $PM_{2.5}$ modeling information for state attainment demonstrations. Among them are modeling to support the 2012 $PM_{2.5}$ NAAQS review, the final Tier 3 mobile source emissions standards, and the current ozone NAAQS review.[115] While the analyses in these rulemaking actions may not be precisely relevant for the purposes of a $PM_{2.5}$ attainment plan, they may nevertheless provide useful information or input relevant to states developing attainment plans for the $PM_{2.5}$ NAAQS. Similar nationwide modeling efforts may be helpful for purposes of future $PM_{2.5}$ NAAQS.

States may be able to use regional and/or EPA modeling to demonstrate that specific nonattainment areas will attain the relevant $PM_{2.5}$ NAAQS by the applicable attainment date, but states must evaluate the relevant modeling information to show that it is suitable for that purpose. For example, the modeling should be evaluated to show that it is performing adequately for the area; that the future modeling year is appropriate for the particular attainment demonstration; and that the base year emissions and projected emissions and controls adequately represent the base year conditions and emissions expected to occur in the area in the future. States should work closely with the appropriate EPA Regional Office to determine what (if any) existing modeling may be suitable for use in an attainment demonstration (or an impracticability demonstration) for a Moderate $PM_{2.5}$ nonattainment area.

The EPA requests comment on how states can use existing regional and/or national modeling to meet their attainment demonstration requirements. The agency also notes that even when regional or EPA modeling is available to show that an area is expected to attain the $PM_{2.5}$ NAAQS by the applicable attainment date, other CAA requirements may be difficult to satisfy through the use of regional or EPA modeling. For example, states may or may not be able to satisfy their CAA requirements for emissions inventory submittals or RFP demonstrations by using data derived from MJO or EPA modeling. The available regional/national modeling may not include an appropriate base year or future year, and the level of detail or how the emissions were derived may not be appropriate or compatible with inventories needed to satisfy specific CAA requirements. States may have to derive more local specific inventory data, for the appropriate years, to adequately satisfy these CAA requirements.

Because it will be challenging for states to prepare new modeling analyses to meet the submission deadline for the Moderate area attainment plans, the EPA encourages states to start work on modeling analyses as soon as possible, in order to ensure that adequate time is devoted to developing a technically credible attainment demonstration. States that have the most challenging $PM_{2.5}$ problems will likely need to develop new and/or updated photochemical modeling analyses for their nonattainment areas, with emissions (including potential new controls) projected to the appropriate future attainment year.

5. What guidance is available for using models to demonstrate attainment?

The procedures for modeling $PM_{2.5}$ as part of an attainment demonstration are described in the EPA's ''Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze.''[116] All modeling in support of an attainment demonstration should be consistent with the EPA's $PM_{2.5}$ photochemical modeling guidance (referenced above) as well as the Guideline on Air Quality Models (40 CFR part 51, Appendix W).

The $PM_{2.5}$ attainment demonstration modeling guidance describes how states can apply air quality models to generate results needed to demonstrate attainment. These recommendations include developing a conceptual description of the problem to be addressed; developing a modeling/analysis protocol; selecting an appropriate model to support the demonstration; selecting appropriate meteorological episodes or time periods to model; choosing an appropriate area to model with appropriate horizontal/vertical resolution; generating meteorological and air quality inputs to the air quality model; generating emissions inputs to the air quality model; and, evaluating performance of the air quality model. After these steps are completed, the state can apply a model to simulate effects of future year emissions and candidate control strategies.

The EPA is not requiring a specific model for use in the attainment demonstration for the $PM_{2.5}$ NAAQS. At present, there is no single model which has been extensively tested and shown to be clearly superior to other available models. The current modeling guideline, 40 CFR part 51, Appendix W, does not identify a preferred model for use in attainment demonstrations of the $PM_{2.5}$ NAAQS. Thus, states may choose from several alternatives so long as the

[115] Even though the ozone NAAQS modeling will be focused on ozone, $PM_{2.5}$ modeling results will likely be generated from the analysis in order to inform health benefits calculations.

[116] The 2007 modeling guidance can be found at the following Web site: *http://www.epa.gov/scram001/guidance/guide/final-03-pm-rh-guidance.pdf*. As noted, the EPA recently released revised draft modeling guidance.

alternative is appropriate for the nonattainment area under evaluation.

In some cases, a state may need to apply multiple models in the attainment demonstration. In most cases, a photochemical grid model is needed to predict base and future year concentrations of secondary $PM_{2.5}$. Photochemical grid models can also be used to predict concentrations of primary particulate and are useful in assessing steep concentration gradients arising from area sources. However, in areas with high concentrations of primary $PM_{2.5}$, or strongly stratified air at the surface, a Gaussian plume model or puff model may also be needed to more accurately represent steep concentration gradients (or lack of mixing to the surface) in locations with a large contribution from a single or multiple primary $PM_{2.5}$ point sources or locations in near-road areas. The EPA's attainment demonstration modeling guidance provides details and recommendations on using multiple models.

Models are used to test whether control measures in an attainment plan are likely to result in attainment of the relevant standard(s). The attainment demonstration modeling guidance recommends a modeled attainment test for the annual and 24-hour $PM_{2.5}$ NAAQS that uses a combination of ambient $PM_{2.5}$ and $PM_{2.5}$ species data and modeled $PM_{2.5}$ concentrations to estimate future year air quality. In the recommended attainment test, the state applies the test at each $PM_{2.5}$ ambient monitor location within or near a designated nonattainment area. Models are used in a relative sense to estimate the response of measured air quality to future changes in emissions. Future air quality is estimated by multiplying recent monitored $PM_{2.5}$ values by the modeled relative response (percent change) to projected future changes in emissions. If the future design value at all monitoring locations in the nonattainment area does not exceed the concentration of $PM_{2.5}$ specified in the NAAQS, the area is projected to attain the NAAQS.

Because $PM_{2.5}$ is a mixture of chemical components, states should use recent observations and modeled responses of major components of $PM_{2.5}$ (*i.e.* sulfate, nitrate, organic carbon, etc.) to estimate future concentrations of each component.[117] The predicted future concentration of $PM_{2.5}$ is the sum of the future year predicted component concentrations.

The attainment demonstration modeling guidance contains additional details regarding the treatment of $PM_{2.5}$ and speciation monitoring data. Because PM species data are not available at each $PM_{2.5}$ FRM site, the EPA recommends a methodology which interpolates species data to each FRM site in order to estimate the species concentrations in the area. This information, combined with modeling results, may be used to calculate future air quality at each FRM monitoring site. The EPA has developed software to perform both the annual and 24-hour $PM_{2.5}$ attainment test (including interpolating PM species data). The software is called the Modeled Attainment Test Software (MATS) and is available for no cost at: *http://www.epa.gov/scram001/modelingapps_mats.htm*. The software is provided to make it relatively easy for states to apply the recommended modeled attainment test. However, states are not required to use MATS and can develop their own post-processing software.

The modeling guidance also describes the opportunity for states to supplement their modeling with a ''weight of evidence'' demonstration. States may use other information and analyses, in addition to the modeled attainment test, to estimate whether future attainment of the NAAQS in an area is likely. Other analyses may include, but are not limited to, emissions trends, ambient data trends and analyses, other modeling analyses, and documentation of other non-modeled emissions control strategies, including voluntary programs.

The reliability of tests for estimating future attainment depends upon having reliable databases for inputs to those tests. The modeling guidance identifies and prioritizes key data-gathering activities and analytical capabilities that will increase credibility of analyses used to estimate if the NAAQS will be attained in the area by the statutory attainment date.

The EPA is considering updates to the modeling guidance to address $PM_{2.5}$ modeling for the 2012 $PM_{2.5}$ NAAQS. The agency released a revised draft modeling guidance for developing demonstrations to meet $PM_{2.5}$, ozone, and regional haze air quality goals in December 2014, and intends to revise the guidance after considering public comments received.[118]

The application of air quality models requires a substantial effort by state and local agencies. Therefore, states should work closely with their respective EPA Regional Office in executing each step of the modeling process. Doing so will ensure that states know what EPA analyses they can rely on, if they wish, to simplify this task, and it will increase the likelihood of the EPA's approval of a state's demonstration submitted at the end of the modeling and overall attainment plan development process.

6. Demonstrating Attainment at Near-Road Monitors

The 2012 $PM_{2.5}$ NAAQS final rule contains new requirements for operating near-road monitors in the largest metropolitan areas.[119] The first monitors were required to be in place as of January 1, 2015 (*see* Section II of this preamble for more details). These monitors will not have the requisite 3 years of monitoring data necessary to calculate a $PM_{2.5}$ design value until 2018 at the earliest. Therefore, these data were not available to inform the first round of initial designations for the 2012 $PM_{2.5}$ NAAQS and there will be less than 3 years of data available when the initial attainment demonstrations for Moderate areas are due in October 2016. As a result of this timing, the agency is proposing that the initial set of Moderate area attainment demonstrations will not need to include projected design values for near-road monitor locations. However, subsequent attainment demonstrations for the $PM_{2.5}$ NAAQS (after 2018, when 3 or more years of complete ambient data are available at near-road monitors) will need to address those monitor locations in attainment plans and will need to include a demonstration that those monitor locations will show attainment of the NAAQS by the applicable statutory attainment date. The revised modeling guidance document for the $PM_{2.5}$ NAAQS includes procedures for applying a dispersion model or a combination of photochemical grid models and dispersion modeling to demonstrate attainment at near-road monitor locations.

7. Demonstrating Attainment in Unmonitored Areas

As explained in the 2012 $PM_{2.5}$ NAAQS final rule and summarized in Section II of this preamble, the EPA's

[117] The exact years of the ''recent'' ambient data are defined by the base year selected for the modeling. The guidance recommends using 5 years of ambient data, centered about the base modeling year.

[118] *See* ''Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2s, and Regional Haze,'' issued by Richard Wayland, Director of Air Quality Assessment Division, EPA Office of Air Quality Planning and Standards, to EPA Regional Air Division Directors, Regions I–X, December 3, 2014. Available at: *http://www.epa.gov/ttn/scram/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf.*

[119] 78 FR 3085 (January 15, 2013), at page 3283.

monitoring requirements for $PM_{2.5}$ are designed to ensure a robust nationwide monitoring network in both nonattainment and attainment areas. Air agencies have achieved this by maintaining their $PM_{2.5}$ networks in accordance with EPA's network design criteria. Historically, these criteria provided that CBSAs have at least one $PM_{2.5}$ monitoring site located in an ''area-wide'' location of expected maximum concentration (within the CBSA).[120] Thus, by assuring compliance with the NAAQS at the location of the expected highest area-wide concentration in the CBSA, air quality is protected throughout each CBSA. However, due to limited resources, there are limits to the number of air quality monitors that can be deployed and it therefore may be useful to consider what, if any, additional analysis needs there may be as agencies prepare their attainment plans.[121]

Under the 2007 $PM_{2.5}$ Implementation Rule, the EPA required states to follow existing modeling guidance, which suggested that a state's $PM_{2.5}$ attainment plan could be approved if it demonstrated attainment, through the modeled attainment test, at monitored locations only. But the guidance also recommended that states conduct further analyses based on the modeling results to determine whether there were unmonitored areas that merited additional analysis or investigation. The guidance further recommended that states either reduce emissions that, based on these recommended additional analyses, could cause violations in unmonitored areas, or that they place a new monitor in such an area. The EPA found that the minimum requirements for the unmonitored area analysis in the 2007 modeling guidance (and the 2007 $PM_{2.5}$ Implementation Rule) were not sufficiently clear. The EPA is therefore proposing several alternative options in order to clarify the appropriate treatment of model results in unmonitored areas for purposes of implementing current and future $PM_{2.5}$ NAAQS.

The EPA is proposing four possible approaches to demonstrating attainment in unmonitored areas. Option 1 would only require states to perform the attainment test at locations that have current or recent FRM and/or FEM monitoring data. The EPA would not require states to analyze areas that have no monitoring data with which to anchor the attainment demonstration modeling results. The EPA is proposing this approach to evaluating monitored and unmonitored areas in order to be consistent with how attainment of the $PM_{2.5}$ NAAQS is determined for purposes of designations and redesignations, and due to uncertainty in modeled projections in locations where there are no monitoring data to anchor the future year model results. As discussed in Section II of this preamble, the EPA promulgates designations for $PM_{2.5}$ NAAQS nonattainment areas based primarily on ambient data measured at FRM and FEM monitors.[122] Although the EPA considers other forms of information for purposes of evaluating areas with sources that contribute to those monitored violations for inclusion within the nonattainment area boundaries, the fundamental basis for designating an area as nonattainment for a $PM_{2.5}$ NAAQS is the presence of one or more FRM or FEM monitors with data showing violations of the NAAQS in question. Similarly, determinations of attainment of the $PM_{2.5}$ NAAQS for purposes of redesignation actions are based primarily on monitored data. When all FRM and FEM monitors in a nonattainment area measure attainment of the $PM_{2.5}$ NAAQS, the state is eligible to submit a redesignation request for the area, assuming that it has complied with all other applicable requirements for purposes of redesignation. Specifically, the EPA's approval of a redesignation request is subject to meeting the requirements of CAA section 107(d)(3)(E). Among those requirements is that the area has attained the NAAQS. For the $PM_{2.5}$ NAAQS, this determination is based on ambient data measured at the FRM and FEM monitors in the area in question. Thus, neither $PM_{2.5}$ designations nor redesignations currently take into account information regarding potential violations of the NAAQS at unmonitored locations throughout a given area. Therefore, consistent with how $PM_{2.5}$ areas are designated and redesignated, the EPA is first proposing to require that states only show attainment at $PM_{2.5}$ FRM and FEM monitoring locations as an element of their attainment demonstrations for the $PM_{2.5}$ NAAQS.

In addition, the ''relative'' attainment test for $PM_{2.5}$ uses FRM or FEM ambient monitoring data, combined with future year modeled percentage changes in $PM_{2.5}$ concentrations, to project future year design values. Since the attainment test relies on ambient monitoring data, an analysis of future year concentrations in unmonitored areas can only be accomplished by interpolating ambient data to a particular location where there is no existing monitor or recent monitoring data. Therefore, in the context of an attainment demonstration, the projection of future year $PM_{2.5}$ concentrations in unmonitored locations is inherently more uncertain than projections in monitored locations due to the fact that the ambient concentrations from which these projections are developed are unknown in the unmonitored locations.

Proposed Option 2 for unmonitored area analyses would require the state to conduct an unmonitored area analysis as part of all attainment demonstrations (for Moderate and Serious areas) and require the state to eliminate potential violations in unmonitored areas through enforceable emissions reductions in the SIP. The requirement would be based on a premise that states must demonstrate attainment of the NAAQS in all locations of a nonattainment area, and models can and should be used for that purpose. Modeled attainment demonstrations using photochemical grid models provide modeling results for all grid cells in the nonattainment area. Therefore, notwithstanding the uncertainty that is inherent to this approach as discussed above, model outputs (optionally combined with interpolated ambient data) could be used to derive estimates of $PM_{2.5}$ concentrations in unmonitored areas.

Proposed Option 3 would require states to show attainment at all current and recent monitoring locations. In addition, states would be required to provide an unmonitored area analysis as part of all attainment demonstrations (for Moderate and Serious areas). However, rather than requiring states to impose additional enforceable emissions reductions in the SIP to address potential violations in these locations, states would be required to use the unmonitored area analysis

[120] As explained in the final 2012 PM NAAQS rule, the EPA expects that each CBSA will maintain its existing highest concentration area-wide monitoring site (referred to as the design value site), *See* 78 FR 3085 (January 15, 2013), at page 3240. These sites were set up during the period of time when the network design criteria required having at least one site in an area-wide location of expected maximum concentration. The EPA intends to maintain the highest priority sites in the existing network, which are often at the neighborhood scale, as the largest part of the $PM_{2.5}$ monitoring network to continue to support a number of monitoring objectives, while also allowing lower value sites to move to near-road locations as that part of the network is phased in.

[121] Annual monitoring network plans and 5 year assessments are required by regulation in 40 CFR 58.10. The 5 year monitoring network assessment is a comprehensive evaluation of a monitoring agency's ambient air monitoring network, while the annual plan describes the existing network and changes being proposed to support implementing recommendations from the most recent 5 year assessment as well as any applicable changes finalized in association with NAAQS revisions.

[122] A monitor must have 3 years of quality-assured ambient data available to be used to calculate a $PM_{2.5}$ design value and determine compliance with the NAAQS.

results to develop an assessment of the likelihood of violations in unmonitored areas. This assessment may be especially important in areas with a relatively sparse $PM_{2.5}$ monitoring network or in locations where information such as modeling data, emissions inventories or non-FEM monitoring data (such as from special purpose monitors or saturation monitoring studies) may indicate potential high $PM_{2.5}$ concentrations in areas that are currently unmonitored.

The nature of the assessment of likelihood of violation that is required under proposed Option 3 would depend on local area modeling, but could include, as appropriate, elements such as an evaluation of the emissions inventory (particularly for local direct $PM_{2.5}$ sources), the existing ambient data for the area, and meteorological model inputs to determine if the modeled violations in unmonitored areas appear to be credible. If potential violations are found to be credible, additional steps may include imposition of enforceable emissions reductions at nearby emission sources or a commitment to deploy special purpose monitors and/or saturation monitors in the area (in order to further evaluate the problem). The state would be required to document the assessment, including analyses of emissions, meteorological inputs and ambient data and/or make a commitment to establish special purpose monitors as part of the attainment demonstration. Special purpose ambient air monitoring data that is collected after the attainment demonstration is submitted should be summarized for use in the area's 5-year monitoring assessment and, where appropriate, annual monitoring network plans.[123] Additionally, monitoring data that is collected as a result of the unmonitored area analysis assessment (after the attainment demonstration is submitted) must be reported as a quantitative milestone required under section 189(c)(1) (*see* Section IV.G of this preamble).

In summary, Option 3 would clarify that an unmonitored area analysis would be required in all attainment demonstrations, and an assessment of the unmonitored area analysis results would be required as part of the attainment demonstration documentation. In contrast to Option 2, however, the unmonitored area analysis results would not be used as part of the specific analytical approach for determining whether a particular control strategy will result in the area attaining the NAAQS.

Finally, proposed Option 4 would require states to show attainment at all current and recent monitoring locations. States would not be required to provide an unmonitored area analysis as part of the attainment demonstration. However, the EPA would encourage states to use information available to them to consider what, if any, impacts may be occurring in unmonitored areas. States could consider information such as modeling data, emissions inventories or non-FEM monitoring data (such as from special purpose monitors or saturation monitoring studies) which may indicate potential high $PM_{2.5}$ concentrations in areas that are currently unmonitored. Under this approach, states could consider model results to develop an assessment of the likelihood of violations in unmonitored areas. This proposed option differs from Option 3 in that it would not require an unmonitored area analysis. Rather, under proposed Option 4, an unmonitored area analysis would be recommended where the state and/or the EPA has reason to believe that potential violations may be occurring in unmonitored areas, or other available information indicates that further analysis is warranted. States would be expected to consult with the appropriate EPA Regional Office to evaluate available information to determine if an unmonitored area analysis is needed for a particular area.

The four options presented above would lead to a range of potential analysis costs by requiring attainment demonstrations at more locations and with varying degrees of specificity. To the extent that these analyses reveal additional locations with potential violations, the effort needed to address these violations could also be higher, and may ultimately lead to additional reductions, with their associated costs and benefits. In terms of analysis costs, Option 1 would be expected to be the least costly option, whereas Option 2 would be expected to be the most resource intensive. Option 3 is similar to Option 2, except that if a potential violation is indicated in an unmonitored area, there would not be a regulatory requirement for the air agency to identify enforceable controls to eliminate the potential violation. For example, the air agency could instead elect to site a new monitor to further characterize air quality in the area. The analysis costs associated with Option 3 would thus be similar to Option 2.

Option 4 most closely describes the current policy for the $PM_{2.5}$ NAAQS implementation program. Currently, the EPA recommends that air agencies conduct an unmonitored area analysis, but there is no regulatory requirement for the air agency to either perform an unmonitored area analysis or to impose control requirements if the analysis indicates potential violations. Thus, under Option 4, if an unmonitored area analysis is performed, the analysis costs associated with this option would be the same as for Options 2 and 3. Under Option 4, if it is determined by the EPA and the air agency to be unnecessary to perform an unmonitored area analysis, there would be no additional analysis costs beyond the monitor-only approach of Option 1. Regarding the costs and benefits of reductions resulting from additional efforts to address unmonitored locations (*i.e.,* to the extent that efforts necessary to address monitored locations do not also address unmonitored locations), the EPA does not have enough information to determine the extent of such areas or the measures that would be needed to address them, nor can the agency predict the extent to which such measures would be adopted under one option but not another.

The EPA's four proposed options reflect various combinations with respect to whether such an analysis is required and the purposes for which the state and the EPA might use the results of the analysis. The EPA requests comment on whether an unmonitored area analysis should be a required component of an attainment demonstration for a $PM_{2.5}$ nonattainment area and, if required, how the results of an unmonitored area analysis should be used. The EPA also requests comment on the potential costs and benefits of each of the four specific options, and on which of the options the commenter believes should be included in the final rule and why.

8. What future year(s) should states model in attainment demonstrations?

A state performing a modeling analysis for an attainment demonstration or impracticability analysis must select a future year for the analysis. For an attainment demonstration, a state should select the future modeling year such that all control measures relied on for attainment will have been fully implemented by the beginning of that year. To demonstrate attainment, the modeling results for the nonattainment area must predict that emissions controls implemented no later than the beginning of the last calendar year preceding the attainment date will

[123] All states are required to have an annual monitoring plan (*see* Section II of this preamble) which meets the siting criteria for $PM_{2.5}$ monitors (40 CFR 58.10).

result in $PM_{2.5}$ concentrations that meet the level of the standard.[124]

While states should choose the future modeling year based on a number of factors, the EPA recommends the last possible year permitted under the statute as a starting point for modeling. There are several reasons for this. First, states with Moderate areas that submit an impracticability demonstration must show that the area cannot attain the NAAQS by the end of the sixth calendar year following designation of the area. Therefore, the appropriate future modeling year for such a demonstration is the sixth calendar year after designation. Even if a state does not submit (or does not intend to submit) an impracticability demonstration, modeling the sixth calendar year is a logical starting point to determine if attainment by that year is likely. Second, even though attainment is determined based on 3 years of ambient data, states do not have to model 2 years before the attainment date to show modeled attainment. Since the design value is an average of the annual or 98th percentile value for 3 consecutive years of data, attainment can still be shown even if concentrations exceed the NAAQS in one or more of the 3 years used to determine attainment (as long as the average of the three annual values is below the level of the NAAQS). Therefore, it can be appropriate to model any of the 3 years used to determine attainment. Third, if ambient data show attainment level concentrations in the final statutory attainment year, a state may be eligible for up to two 1-year extensions of the attainment date, if the area meets the criteria for such extensions under CAA section 188(d). Therefore, modeling attainment level concentrations for the last year permitted by statute is acceptable.

For all of the reasons stated above, it is both acceptable, and will in fact be most efficient, for a state to begin the attainment demonstration process by modeling the last year permitted under the statute to determine future year modeled $PM_{2.5}$ concentrations in the sixth year after designations. Thus, in the attainment demonstrations for areas designated nonattainment in the first round of designations for the 2012 $PM_{2.5}$ NAAQS, it would be appropriate for states to model air quality for 2021.

Because an area must attain ''as expeditiously as practicable'' according to the CAA, additional considerations are necessary before an attainment date can be established for a Moderate $PM_{2.5}$ nonattainment area. For purposes of determining the attainment date that is as expeditious as practicable, the state must conduct future year modeling which takes into account expected growth and known controls. For example, for a Moderate nonattainment area for the 2012 $PM_{2.5}$ NAAQS, a future base case scenario for the year 2021 (6 years after designations) would project future air quality given implementation of existing federal, state and local measures. If this base case scenario demonstrates attainment, then the state must demonstrate whether attainment could be achieved in an earlier year. Therefore, the state needs to conduct an analysis to determine if, collectively, all technologically and economically feasible measures identified by the state for which the state can initiate implementation by the beginning of the sixth calendar year following designations, can advance the attainment date by at least 1 year. Results of this analysis may indicate attainment can be achieved earlier, through implementation of all reasonable control measures (*i.e.,* RACM and RACT and additional reasonable measures).

If the future base case scenario does not demonstrate attainment, then a control case scenario is needed to examine whether the implementation of all technnologically and economically feasible measures identified by the state would result in attainment in 2021 (for purposes of this example based on the 2012 $PM_{2.5}$ NAAQS). The control case scenario would add to the model potential control measures (*i.e.,* RACM and RACT and additional reasonable measures, plus any additional intrastate transport measures or other measures on sources outside of the nonattainment area that the state has identified as feasible to implement by the attainment date). This modeling, along with other relevant information, would inform a judgment as to whether attainment of the relevant NAAQS is practicable by the end of the sixth year after designation or earlier. In the case of areas designated nonattainment for the 2012 $PM_{2.5}$ NAAQS in the first round of designations, if the analysis does not demonstrate attainment by December 31, 2021, then the analysis could serve as the technical basis for the state to submit a demonstration that attainment by the latest statutory attainment date for Moderate areas is impracticable. This demonstration in turn could serve as the technical basis for the Administrator to reclassify the area to Serious.[125]

The EPA believes that it is not reasonable to require states to model each and every calendar year to determine the appropriate attainment date for a nonattainment area. Developing and modeling future year inventories is a time-consuming and resource intensive process. Multiple emissions models are needed in order to generate year-specific emissions for the various emissions sectors (*e.g.* mobile, non-road, non-EGU point and EGU point). In some cases it may be reasonable to model one additional interim year before the maximum statutory attainment date.[126] However, in most cases, the air quality benefits of an identified set of RACM and RACT and additional reasonable measures can be estimated through model sensitivity analyses and the development of transfer factors (factors to relate tons of emissions reductions in the area to $PM_{2.5}$ concentration changes in the area). For example, states can model across-the-board percentage reductions in direct $PM_{2.5}$ and/or precursor emissions (in separate model runs) to determine the impact of emissions reductions on $PM_{2.5}$ concentrations in the area. This modeling can be performed with a single attainment year modeling platform, which is much less resource intensive than modeling additional future years. The identified potential emissions reductions available from RACM and RACT and additional reasonable measures can be compared to the magnitude of the modeled $PM_{2.5}$ reductions from the sensitivity analyses to determine if all such controls will advance attainment by a year. The EPA strongly recommends that states discuss the selection of the future year(s) to model with their respective EPA Regional Office as part of the modeling protocol development process and before embarking on running the model(s).

9. Modeling Analysis of Controls That Have a De Minimis Impact on Ambient $PM_{2.5}$ Concentrations

In Section IV.D of this preamble, the EPA is proposing that if a state determines that a Moderate nonattainment area can attain the $PM_{2.5}$

[124] Note that for purposes of the $PM_{2.5}$ NAAQS, a determination of attainment (or failure to attain), which the EPA is required to make after the attainment date has passed, is based on an average of the most recent 3 years of ambient data prior to the area's attainment date.

[125] A demonstration that the area cannot practicably attain by the Moderate area attainment date would not be the only trigger for a discretionary reclassification to Serious. The Administrator maintains wide discretion in making such a determination, with an impracticability demonstration serving as one potential source of analysis to inform such a determination.

[126] If several future modeling years are available, in some cases it may be appropriate for states to interpolate $PM_{2.5}$ concentrations between years.

NAAQS by the statutory attainment date, the state must adopt and implement as reasonable control measures (*i.e.,* as RACM and RACT and additional reasonable measures) only those technologically and economically feasible control measures that are necessary to ensure that the area will attain the NAAQS as expeditiously as practicable. In a Moderate $PM_{2.5}$ nonattainment area that cannot practicably attain the relevant NAAQS by the statutory attainment date, the EPA similarly believes that it may not be reasonable in all cases to require that a state implement all technologically and economically feasible control measures. The EPA is thus proposing an option under which the state may evaluate the air quality impact of technologically and economically feasible control measures to determine if there is a subset of such measures that collectively will only achieve negligible reductions in ambient $PM_{2.5}$ concentrations in the area. Similar to the EPA's proposed approach, described earlier in this section, to determine if a set of technologically and economically feasible control measures can collectively advance the attainment date by a year for a Moderate nonattainment area for which a state can demonstrate attainment by the statutory attainment date, the state would be required under this proposed option (for a Moderate area that cannot practicably attain the NAAQS by the statutory attainment date) to use an air quality model to determine the impact on ambient $PM_{2.5}$ levels of the set of otherwise ''reasonable'' controls that it believes will not collectively reduce ambient $PM_{2.5}$ concentrations in the area. For this analysis, the state would have to show that the collective set of controls will have little to no effect on reducing $PM_{2.5}$ concentrations in the area.

10. Attainment Year Motor Vehicle Emissions Budgets

The transportation conformity rule requires that attainment plans establish motor vehicle emissions budgets for the area's attainment year. Therefore, once an area's attainment date has been established, the state would establish motor vehicle emissions budgets for direct $PM_{2.5}$ and any relevant $PM_{2.5}$ precursor for the attainment year.[127] A motor vehicle emissions budget for the purposes of a $PM_{2.5}$ attainment plan is that portion of the total allowable emissions within the nonattainment area allocated to on-road sources as defined in the submitted attainment plan.[128] Such motor vehicle emissions budgets would be calculated using the latest planning assumptions and the latest approved motor vehicle emissions model available at the time that the attainment plan is developed.[129]

*F. RFP Requirements*

1. Statutory Requirements and Existing Guidance

''Reasonable further progress'' (RFP) is a concept included in the CAA under part D, title I to assure that states make steady, incremental progress toward attaining air quality standards in the years prior to the attainment date for a nonattainment area, rather than merely deferring implementation of control measures and therefore emissions reductions until the date by which the standards are to be attained. As discussed elsewhere in this preamble, section 172 of the CAA addresses nonattainment plan provisions in general. Section 172(c)(2) requires attainment plans to provide for RFP, which is defined in section 171(l) as ''such annual incremental reductions in emissions of the relevant air pollutant as are required by [part D of title I] or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.'' Section 172(c)(3) requires the state plan to include ''a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants *in such area* . . .'' Section 172(c)(1) requires the state plan to include ''all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources *in the area* as may be obtained through the adoption, at a minimum, of reasonably available control technology) . . .''

In general terms, the EPA interprets that the purpose of requiring RFP is to ensure that states with nonattainment areas develop attainment plans that achieve generally linear progress toward attainment, rather than deferring emissions reductions until the applicable attainment date for the area. In the context of implementing the $PM_{2.5}$ NAAQS, ''generally linear progress'' means that emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors from controlled sources generally decrease year by year such that the area ultimately attains the relevant NAAQS by the applicable attainment date. In the Addendum, the EPA provided guidance and identified four specific situations in which ''linear progress'' in emissions reductions to meet RFP may be appropriate:

1. When pollutants are emitted by numerous and diverse sources.
2. Where the relationship between any individual source and the overall air quality is not explicitly quantified.
3. Where a chemical transformation is involved.
4. Where the emission reductions necessary to attain the standard are inventory-wide.[130]

For example, a state with an area whose nonattainment problem is caused primarily by area sources, such as residential wood combustion, should be able to demonstrate generally linear progress toward attainment in that area. In such an area, the state might be able to require the replacement of a specified percentage of the residential woodstoves on an annual basis for each year to assure RFP on an annual basis.

The EPA's guidance in the Addendum also provided examples of situations in nonattainment areas in which it might be less appropriate to expect RFP to be linear, including:

1. Where there are a limited number of sources.
2. Where the relationships between individual sources and air quality are relatively well defined.
3. Where the emission control systems utilized (*e.g.,* at major point sources) will result in swift and dramatic emission reductions.[131]

In nonattainment areas characterized by any of these circumstances, the EPA understands that RFP may be better represented as step-wise progress as controls are implemented and achieve significant reductions soon thereafter. For example, if an area's nonattainment problem can be attributed to a few major stationary sources, the EPA's guidance indicates that ''RFP should be met by 'adherence to an ambitious compliance schedule' which is likely to periodically yield significant emission reductions.'' [132] [133] While the EPA noted

[127] For more information on $PM_{2.5}$ precursor requirements, *see* section 93.102(b)(2)(iv) and (v) of the transportation conformity rule. *See* also the May 6, 2005, final transportation conformity rule that addressed requirements for $PM_{2.5}$ precursors. (70 FR 24280).

[128] A state would also establish motor vehicle emissions budgets for an area's attainment year. Those budgets would be the motor vehicle emissions that the SIP establishes as being necessary to attain the NAAQS.

[129] If an area includes re-entrained road dust in the motor vehicle emissions budget, the latest approved version of AP–42 should be used unless the EPA has approved an alternative model for the area.

[130] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42015.

[131] *Ibid.*

[132] USEPA, Office of Air Quality Planning and Standards, ''Guidance Document for Correction of

Continued

in the Addendum that adherence to such a schedule does not necessarily mean it would be unreasonable to achieve generally linear progress, the agency has long interpreted the language of section 171(1) not to require some specific level of emissions reductions in any given year. Unlike certain provisions under subpart 2 governing ozone NAAQS implementation, subpart 4 does not specify a set percentage of emissions reductions to be achieved over a certain period of time. Accordingly, the EPA believes that the facts and circumstances of each specific area will be relevant to whether the emissions reductions meet the agency's expectations for ''generally linear progress.''

With respect to implementation schedules, the EPA recommended in the Addendum that to meet the statutory RFP requirements, attainment plans must include ''detailed schedules for compliance with emission regulations in the [nonattainment] areas and accurately indicate the corresponding annual emission reductions to be realized from each milestone in the schedule. In reviewing the SIP, the EPA will determine whether the annual incremental emission reductions to be achieved are reasonable in light of the statutory objective to ensure timely attainment of the $PM_{10}$ NAAQS. Additionally, the EPA believes that it is appropriate to require early implementation of the most cost-effective control measures . . . while phasing in the more expensive control measures.'' [134]

The EPA believes that these prior interpretations of the Act's provisions for RFP continue to be appropriate for the $PM_{2.5}$ NAAQS. Accordingly, the following section describes the EPA's proposal for requirements to ensure that states meet the statutory provisions for RFP for Moderate $PM_{2.5}$ nonattainment areas.

2. General Proposed Approach to RFP

To satisfy the statutory requirements for RFP at section 172(c)(2), the EPA proposes that a state must submit an RFP plan as part of its Moderate area attainment plan submission. The RFP plan must contain appropriate information to demonstrate that adequate emissions reductions will be achieved through control measures in the attainment plan in order to meet the statutory definition of RFP. The plan must include an implementation schedule for control measures on sources in the nonattainment area and an analysis that demonstrates when—and through what control measures—emissions will decline from the applicable baseline year to the attainment year. As part of the analysis, the RFP plan must include a projected inventory for sources in the area for one (or more) interim year(s). The EPA is proposing and seeking comment on two options for developing an RFP plan, as well as on related requirements, as described below. *See* proposed 40 CFR 51.1012. The EPA also notes that quantitative milestones required under section 189(c) are directly linked to the RFP plan, as interim quantifiable indicators intended to demonstrate that an area is making progress toward attaining the $PM_{2.5}$ NAAQS, and are therefore related to the implementation schedule of control measures for a $PM_{2.5}$ nonattainment area. Quantitative milestones are more fully discussed in Section IV.G of this preamble.

a. *Proposed Option 1.* Under the first option, the EPA proposes that the RFP analysis for any Moderate $PM_{2.5}$ nonattainment area that can demonstrate attainment by the statutory attainment date must demonstrate either: (i) Generally linear progress toward attainment by the applicable attainment date through emissions reductions to be achieved annually between a baseline year and the projected attainment date for the area; or, (ii) step-wise progress toward attainment by the applicable attainment date that will be achieved through adherence to an ambitious compliance schedule that would not necessarily achieve reductions on an annual basis. In the second case, the state would be required to submit a clear rationale and supporting information to explain why generally linear progress during the attainment period is not reasonable on an annual basis (*e.g.,* due to the nature of the nonattainment problem and the types of sources contributing to $PM_{2.5}$ levels in the area as discussed in Section IV.F.1 of this preamble). The EPA also proposes to require that RFP analyses need to show progress in achieving emissions reductions only for direct $PM_{2.5}$ and any precursors that are controlled in the attainment plan for the nonattainment area.

Note that the two approaches presented in Option 1 for demonstrating RFP within the nonattainment area are consistent with the pattern of emissions reductions of many nationally-applicable federal emissions reduction measures. For example, new emission standards for mobile sources may achieve reductions in a generally linear manner over time, as a portion of the existing vehicle fleet is replaced each year with new vehicles meeting the more stringent standards. On the other hand, regulations to reduce emissions from certain stationary source sectors often have a single compliance date by which controls must be in place, which typically result in a significant drop in emissions over a relatively short period (*i.e.,* yield step-wise reductions).

Because the statute does not clearly establish the applicable baseline year from which to begin calculating annual emissions reductions for purposes of demonstrating RFP, the EPA is proposing to require and seeks comment on a requirement that states use the same year as the base year inventory chosen for the area, as this inventory will serve as the basis for developing the control strategy necessary to bring the area into expeditious attainment. Furthermore, in developing their RFP analyses for specific nonattainment areas, the EPA expects that states will use the emissions inventories developed for those areas and air quality modeling they have completed for attainment planning purposes. This approach is consistent with the EPA's proposed approach, described later in this section, not to interpret the CAA as allowing states to take credit for emissions reductions from sources outside a nonattainment area when developing their plan to meet the statutory RFP requirements for $PM_{2.5}$ nonattainment areas.

For states with Moderate areas that cannot demonstrate attainment by the statutory Moderate area attainment date, the statutory RFP requirements still apply. However, the EPA proposes to require that, for such areas, the state must provide an analysis of the anticipated emissions reductions associated with implementing the control measures identified as RACM and RACT and additional reasonable measures for the area. The EPA notes that even if a state adequately demonstrates that it cannot attain the NAAQS in a given area by the statutory attainment date, the CAA still requires the state to submit a Moderate area attainment plan meeting the requirements for such attainment plans, including for RFP. An additional RFP analysis will be required as part of the Serious attainment plan for the area once the EPA reclassifies it to Serious.

Similar to the approach taken for RFP in the remanded 2007 $PM_{2.5}$ Implementation Rule, the EPA is proposing under this option that all states must follow one primary

Part D SIP's for Nonattainment Areas,'' Research Triangle Park, NC, January 24, 1984, page 25.

[133] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42015.

[134] *Ibid.* at 42016.

approach for conducting the RFP analysis, but that they also have an option to conduct a secondary analysis that will provide greater flexibility in setting RFP goals with alternative emissions reductions and air quality improvement scenarios. The primary approach would be to benchmark emissions reductions on a pollutant-by-pollutant basis starting from the pollutant's baseline emissions level. The state would then be required to calculate reductions in emissions of each pollutant on an annual basis that would be needed to bring the area into attainment by the projected attainment date.

The EPA recognizes that different control measures address different pollutants, and that states may be able to implement some measures more quickly than others. Thus, in the optional secondary analysis, the state could present a different combination of emissions reductions at similar time intervals that would provide an equivalent or better result in terms of net air quality improvement. This ''equivalency determination'' would allow states flexibility to address different pollutants (*i.e.,* direct $PM_{2.5}$ and $PM_{2.5}$ precursors regulated under the control strategy for the area) according to different schedules so long as the EPA finds the projected net air quality improvements to be achieved through this alternative combination of emissions reductions to be equivalent to or better than those that would be achieved through generally linear emissions reductions across all pollutants in the area. This proposed approach recognizes that an important element of establishing appropriate emissions reductions targets for meeting RFP requirements for $PM_{2.5}$ is quantifying the relative degrees of control of various pollutants.

As discussed above, the primary approach for ensuring that RFP is met in a $PM_{2.5}$ nonattainment area is to require that the state reduce each pollutant—that is, direct $PM_{2.5}$ and all precursors not otherwise eliminated from control requirements—by some amount on an annual basis. The EPA's primary proposed RFP analysis, an emissions benchmark analysis, would reflect generally linear progress (or step-wise progress if more appropriate and adequately justified) to reduce those pollutants that the state intends to control to attain the $PM_{2.5}$ NAAQS by the applicable attainment date. *See* proposed 40 CFR 51.1012(b). For example, a state that can demonstrate that their Moderate nonattainment area can attain the 2012 $PM_{2.5}$ NAAQS by an attainment date of December 31, 2021 would also need to achieve emissions levels that represent attainment in 2021. If the attainment plan requires a 10 percent reduction in $NO_X$ emissions and a 14 percent reduction in $PM_{2.5}$ direct emissions from 2011 levels in order for the area to demonstrate attainment in 2021, then the RFP benchmark for $NO_X$ would reflect roughly a 1 percent reduction in $NO_X$ emissions per year, and the benchmark level for $PM_{2.5}$ would be roughly a 1.4 percent reduction per year.

The EPA proposes that states must provide an implementation schedule for control measures that would achieve emissions reductions consistent with those calculated as part of the RFP benchmark analysis. However, a state could choose to submit an ''equivalency'' analysis in addition to the RFP benchmark analysis and associated implementation schedule that presents an alternative combination of pollutant emission reductions (*i.e.,* alternative implementation schedule for control measures) that achieves air quality improvements that are equivalent to or better than the RFP benchmark analysis. In such a case, the state would need to make an adequate showing that the alternative schedule for implementing control measures will provide estimated air quality improvements that are roughly the same as, if not better than, those that the emissions reductions determined through the RFP benchmark analysis would provide. If a state elects to follow this approach, it must provide in its RFP plan the information necessary to assess whether an alternative schedule of emissions reductions is generally equivalent, in air quality terms, to the RFP benchmark analysis reduction levels, such as attainment demonstration modeling results that link emissions reductions of various precursor emissions with air quality improvements. Under this proposed approach, the EPA would require states to use this information to evaluate the equivalence of alternative combinations of pollutant emissions reductions. The EPA would recommend that states estimate air quality improvements associated with intermediate emissions control levels (*i.e.,* air quality improvement targets) by assuming that the same relationship between emissions and air quality applies at intermediate levels as would apply at attainment levels.

The EPA continues to recognize that because atmospheric processes are quite complex, a specific percent change in emissions of $PM_{2.5}$ precursors does not lead to an equivalent percent change in air quality, potentially creating uncertainty as to whether alternate emissions control scenarios will achieve equivalent benefits. Nevertheless, the EPA believes that it is important to provide the flexibility to address different pollutants on different timetables so long as the plan can reasonably be expected to achieve the intended air quality benefits represented by the RFP benchmark analysis. In general, the EPA would not expect a state to conduct dispersion modeling specifically to assess whether an alternative approach to meeting RFP will provide equivalent air quality benefits as the benchmark approach. Instead, the attainment plan modeling addresses the nonlinearities at attainment levels, and the EPA believes for RFP analysis purposes that the relationship between emissions and air quality at attainment levels provides an adequate approximation of the relationship at interim RFP levels.

*b. Proposed Option 2.* Under the second option, the EPA proposes a simplified approach to developing an RFP plan that focuses on the emissions reductions anticipated from each of the particular control measures identified by the state as part of the analysis to identify RACM and RACT and additional reasonable measures for sources in the nonattainment area. Under this option, the first step in developing the RFP plan would be for the state to establish the implementation schedule on a year-by-year basis for all control measures contained in the control strategy for sources in the area beginning with the date of designation of the area and ending with the projected attainment date of the area. The schedule would need to comply with the statutory requirement that all RACM and RACT must be implemented within the first 4 years following designation, but the state would have discretion beyond that requirement to schedule the implementation of any other measures necessary for expeditious attainment. Overall, the implementation schedule would need to demonstrate that control measures to bring the area into attainment will be implemented as expeditiously as practicable.

The second step in developing an RFP plan under this second proposed option would be for the state to calculate the emissions reductions that would be achieved by all measures implemented on sources in the area corresponding with quantitative milestone dates (*i.e.,* by 4.5 years and 7.5 years after designation of the area). These are the dates by which milestones for the area must be met, after which a report is due to the EPA from the state to verify that

the area has met the milestones identified for the area and thereby has also met the RFP requirements for the area. The EPA proposes that the state must calculate the emissions reductions to be achieved at each milestone year on a pollutant-by-pollutant basis.

The third step under this proposed option would be for the state to conduct modeling or employ another quantitative method to predict the overall $PM_{2.5}$ concentrations in the nonattainment area in each milestone year. This air quality target could simply be interpolated between the design value at the time of the area's designation and the design value in the projected attainment year. These air quality target values would serve as a points of comparison for the monitored ambient air data that the EPA is proposing that the state must submit as part of the milestone report due after the area reaches each milestone date.

This simplified approach to determining RFP for a Moderate nonattainment area could apply equally well to areas that can demonstrate attainment with the relevant NAAQS by the statutory attainment date and those that cannot. *See* proposed 40 CFR 51.1012(c). In addition, the EPA believes it offers a reasonable approach to ensure that RFP is generally being met in the area without requiring extensive quantitative analysis so long as it is generally linear for purposes of achieving annual emissions reductions. The EPA seeks comment on these two options proposed for states to meet the statutory RFP requirements.

3. RFP Inventories for RFP Analyses

The EPA proposes that a state with a Moderate $PM_{2.5}$ nonattainment area must submit one or more emissions projections as part of the RFP plan (the ''RFP inventory'') for the area that, at a minimum, includes projected emissions by different source types corresponding to the quantitative milestone date(s) for the area, described in greater detail in Section IV.H of this preamble. Specifically, the EPA proposes that the RFP plan for any Moderate area must contain a projected RFP inventory for each calendar year in which quantitative milestones for a Moderate nonattainment area must be met. For example, as explained in Section IV.H of this preamble, a state must identify as part of the attainment plan submission for a Moderate nonattainment area quantitative milestones to be achieved every 3 years from the Moderate area attainment plan due date, or 4.5 years from the effective date of designation of the area.[135] For example, the first round of designations for the 2012 $PM_{2.5}$ NAAQS become effective in April 2015; Moderate area attainment plans for these areas will thus be due 18 months later, or in October 2016. The first quantitative milestones for each of these areas would then have to be met in October 2019; the second quantitative milestones, in October 2022; and so on, until the area attains the NAAQS. Under the EPA's proposed approach for projected emissions inventories for RFP analyses, the state would be required to submit such inventories as part of the Moderate area attainment plan due in October 2016 that project emissions from sources in the nonattainment area for the same calendar years as those for which quantitative milestones would be due.

The transportation conformity rule requires that attainment plans establish motor vehicle emissions budgets. RFP plans submitted as part of an attainment plan submission would therefore be required to establish motor vehicle emissions budgets for direct $PM_{2.5}$ and any relevant $PM_{2.5}$ precursor.[136] A motor vehicle emissions budget for the purposes of a $PM_{2.5}$ RFP plan is that portion of the total allowable emissions allocated to on-road sources as defined in the submitted RFP plan for the relevant years as described above.[137] Such motor vehicle emissions budgets would be calculated using the latest planning assumptions and the latest approved motor vehicle emissions model available at the time that the attainment plan is developed.[138]

4. Geographic Coverage of Emission Sources for RFP

The EPA is proposing that the RFP demonstration to be included with a state's $PM_{2.5}$ nonattainment area plan must include emissions only for sources located in the nonattainment area, and not from an area larger than the nonattainment area. This policy approach differs from the remanded 2007 $PM_{2.5}$ implementation rule. This section describes the evolution of policy on a similar RFP issue in the ozone NAAQS implementation program, and it discusses the reasoning behind this revised approach for $PM_{2.5}$.

In the preamble to the remanded 2007 $PM_{2.5}$ Implementation Rule, the EPA allowed states to incorporate reductions of $NO_X$ and $SO_2$ emissions up to 200 km from outside the nonattainment area (and potentially for reductions of VOC or ammonia) into their RFP plan when certain conditions were met. This policy was included in the 2007 $PM_{2.5}$ Implementation Rule in part to be consistent with a similar RFP policy for $NO_X$ and VOC that was included in the November 2005 Phase 2 ozone NAAQS implementation rule which provided guidance for states on implementing the 1997 ozone NAAQS.[139]

Under the policy in the 2007 $PM_{2.5}$ NAAQS implementation rule, if a state intended to include emissions reductions from outside the nonattainment area in the RFP plan, the state would need to take on the additional work associated with developing: (i) An expanded baseline emissions inventory for the entire geographic area (*i.e.,* the nonattainment area plus the additional area outside the nonattainment area) that characterizes emissions for all stationary, area and mobile sources (rather than for just a select few stationary sources) in the overall area; and, (ii) a projected attainment year inventory for this expanded area outside the boundaries of the designated nonattainment area. By requiring inclusion of all types of sources in these ''expanded area'' emissions inventories, the EPA intended for this approach to reflect the projected net emissions reductions in this area (the difference between the ''expanded area'' base year inventory and the projected attainment year inventory). However, it should be noted that development of these more extensive inventories would likely have involved a substantial amount of additional time and resources. In addition, the state would have needed to have provided information supporting its decision regarding how far outside the nonattainment area the RFP inventory should extend. While this ''outside the nonattainment area'' RFP approach was theoretically available to states in developing their $PM_{2.5}$ attainment plans due in 2008, there were no states to the agency's knowledge that elected to follow this approach.

[135] According to section 189(a)(2)(B), Moderate area attainment plans are due to the EPA 18 months after designation.

[136] For more information on $PM_{2.5}$ precursor requirements, *see* section 93.102(b)(2)(iv) and (v) of the transportation conformity rule. *See* also the May 6, 2005, final transportation conformity rule that addressed requirements for $PM_{2.5}$ precursors. (70 FR 24280).

[137] A state would also establish motor vehicle emissions budgets for an area's attainment year. Those budgets would be the motor vehicle emissions that the SIP establishes as being necessary to attain the NAAQS.

[138] If an area includes re-entrained road dust in the motor vehicle emissions budget, the latest approved version of AP–42 should be used unless the EPA has approved an alternative model for the area.

[139] *See* Phase 2 Ozone Implementation rule, 70 FR 71612 (November 29, 2005).

Both the 2005 Phase 2 ozone implementation rule and the 2007 $PM_{2.5}$ Implementation Rule were challenged on several issues. With regard to the Phase 2 ozone implementation rule, the EPA granted a petition for reconsideration and ultimately issued a final notice of reconsideration in June 2007. In November 2008, the U.S. Court of Appeals for the DC Circuit heard oral argument concerning multiple petitions for judicial review of the Phase 2 ozone rule and the notice of reconsideration. One of the issues in this case involved whether compliance by EGUs with a regional emissions trading program could be considered to meet the RACT requirement for those sources located in a nonattainment area. In its July 2009 decision, the court emphasized that: ''the RACT requirement calls for reductions in emissions from sources in the area; reductions from sources outside the nonattainment area do not satisfy the requirement . . . Accordingly, participation in the $NO_X$ SIP call would constitute RACT only if participation entailed at least RACT-level reductions in emissions from sources within the nonattainment area.''

In light of this court decision, the EPA has determined that the best reading of the statute would be to interpret the term ''sources in the area'' in the same manner where it appears in different nonattainment provisions for ozone. The term appears in CAA section 182 (requirements for ozone nonattainment areas) with regard to RFP as well as RACT. The decision on the Phase 2 ozone rule found that section 182(b)(2) requires that a SIP must provide for implementation of RACT (under section 172(c)) for emissions sources ''in the area,'' meaning in the nonattainment area. Similarly, the EPA believes that when section 182(b)(1)(A)–(B) defines baseline emissions for RFP as ''the total amount of actual VOC or $NO_X$ emissions from all anthropogenic sources in the area,'' this also means sources in the nonattainment area.

With regard to the 2007 $PM_{2.5}$ Implementation Rule, the EPA received a petition for reconsideration in June 2007 that raised objections on several issues. One such issue dealt with the EPA's interpretation of the statutory RFP requirements to allow a state to take ''credit'' for emissions reductions from outside the nonattainment area when addressing RFP in its attainment plan.[140] The EPA granted the petition for reconsideration on this issue in 2010, after the D.C. Circuit issued its decision on the Phase 2 Ozone Implementation Rule.[141] [142]

Specifically, the EPA believes that the DC Circuit's interpretation of the phrase ''sources in the area'' applies to RACT and RFP requirements for both the ozone NAAQS and the $PM_{2.5}$ NAAQS. In particular, for $PM_{2.5}$, the statutory language at section 171(1) defines RFP in terms of ''reductions in emissions'' required in an attainment plan, which the EPA interprets as being directly linked to the baseline emissions inventory for sources located in a $PM_{2.5}$ nonattainment area. The baseline emissions inventory is the foundation for the attainment plan. The emissions inventory requirement of section 172(c)(3) explicitly requires that the attainment plan inventory include all sources of the relevant pollutants ''in such area,'' which is a clear reference to the designated nonattainment area. Given that the baseline inventory must reflect the emissions ''in such area,'' and that this inventory provides the starting point for a state's RFP analysis, in which the state must calculate generally linear progress in emissions reductions that will lead to attainment of the NAAQS in the area, the EPA believes it is appropriate that a state should focus on sources located within the nonattainment area when conducting its analysis to determine the annual emissions reductions necessary for demonstrating RFP.

The EPA believes that the most appropriate approach with regard to the geographic area required to be covered for demonstrating RFP in a $PM_{2.5}$ attainment plan also should be limited to the nonattainment area for two other reasons. First, EPA believes that it makes policy sense for the $PM_{2.5}$ implementation rule approach to be consistent with the approach in the ozone implementation rule. In the past, a number of areas have been designated as nonattainment for both standards, and the nonattainment area boundaries often are the same. For such areas, a common policy approach for the geographic area covered by the RFP plan will be more efficient to implement and would be expected to be less burdensome for the air agency than if the geographic areas covered by RFP plans for the two pollutants differed.

Second, a policy allowing the geographic area of the RFP plan to be larger than the nonattainment area would conflict with a key provision of subpart 4 which requires annual incremental reductions in emissions from sources within the nonattainment area. Under subpart 4, an area that fails to attain the standard by the Serious area attainment date is then subject to the provisions of section 189(d). Section 189(d) specifies that the state must submit a plan revision within 12 months which provides for ''an annual reduction in $PM_{10}$ or $PM_{10}$ precursor emissions *within the area* of not less than 5 percent of the amount of such emissions as reported in the most recent inventory prepared *for such area''* (emphasis added). The EPA does not believe the rule should include an RFP policy approach which would not be consistent with section 189(d).

After reconsideration of the approach to RFP that was opposed in the petition for reconsideration of the 2007 $PM_{2.5}$ Implementation Rule, and in light of the DC Circuit decision on the Ozone Phase 2 Implementation Rule, the EPA believes the best reading of the statute is that the CAA does not allow for a state to include emissions reductions from sources outside a nonattainment area when developing the plan to meet the CAA section 172(c)(2) RFP requirements for a $PM_{2.5}$ nonattainment area. The EPA seeks comment on this proposed approach.

5. Other RFP Considerations

In general, the EPA seeks to ensure that $PM_{2.5}$ nonattainment areas that are shared by more than one state or tribe meet RFP requirements as a whole. States and tribes that share a nonattainment area should therefore consult with one another to develop the RFP analysis and control strategy implementation schedule for the area as a whole. Such states and tribes should work with the EPA region or regions that oversee them to confirm that their collective approach is appropriate for RFP.

The EPA's proposed approach for states to meet the RFP requirement is designed to ensure emissions reductions will yield incremental improvements in air quality on the path to attainment, while being sufficiently flexible to accommodate the range of control strategies necessary to address the complex mixtures of pollutants comprising $PM_{2.5}$ in different areas. The EPA seeks comment on all of its proposed requirements and options for

[140] This same petition raised concerns regarding the criteria used to determine the economic feasibility of controls being considered for RACT for the 1997 $PM_{2.5}$ NAAQS. *See* ''Petition for Reconsideration,'' filed by Paul Cort, Earthjustice, on behalf of the American Lung Association, Medical Advocates for Healthy Air, Natural Resources Defense Council, and the Sierra Club (June 25, 2007). A copy of the petition is in the docket for this action.

[141] Letter dated May 13, 2010, from Gina McCarthy to David S. Baron and Paul Cort, Earthjustice. A copy of the letter is located in the docket for this action.

[142] *See NRDC* v. *EPA,* 571 F.3d 1245 (D.C. Cir. 2009).

RFP plans and analyses for Moderate $PM_{2.5}$ attainment plans.

*G. Quantitative Milestones*

1. Statutory Requirements and Existing Guidance

Section 189(c)(1) requires that a $PM_{10}$ NAAQS attainment plan submission has ''quantitative milestones which are to be achieved every 3 years until the area is redesignated to attainment and which demonstrate reasonable further progress . . . toward attainment by the applicable date.'' Section 189(c)(2) further requires that, within 90 days of each milestone, each affected state must submit a demonstration that all measures to assure RFP have been implemented and that the quantitative milestone has been met. Thus, the CAA imposes requirements upon states not only to make ''reasonable further progress'' toward attainment, but also to identify objective means (*i.e.,* quantitative milestones) by which to measure this reasonable further progress every 3 years, and to submit them as part of the attainment plan for the nonattainment area. In addition, according to section 189(c)(2), states must, within 90 days of the passage of each such milestone, submit to the EPA a demonstration that control measures have been implemented according to the approved RFP plan schedule and the milestone has been met.

The EPA has previously described its interpretation of the requirements under section 189(c) for the $PM_{10}$ NAAQS in the General Preamble and the Addendum and believes that these interpretations should also apply both in developing plans that demonstrate RFP and include appropriate quantitative milestones, and in demonstrating that those milestones have been met for the $PM_{2.5}$ NAAQS.[143] [144] The EPA's guidance in the Addendum also noted that: ''Section 189(c) provides that the quantitative milestones submitted by a State for an area also must be consistent with RFP for the area. Thus, EPA will determine an area's compliance with RFP in conjunction with determining its compliance with the quantitative milestone requirement. Because RFP is an annual emission reduction requirement and the quantitative milestones are to be achieved every 3 years, when a state demonstrates an area's compliance with the quantitative milestone requirement, it should also demonstrate that RFP has been achieved during each of the relevant 3 years.'' [145]

The EPA's existing guidance in the Addendum with respect to the quantitative milestone requirements of CAA section 189(c) thus includes several important features: (i) That the control measures comprising the RFP plan should be implemented and in place to meet the statutory quantitative emissions reductions milestone requirement; (ii) that it is reasonable for the 3-year periods for quantitative milestones to run from the statutory due date for the Moderate area attainment plan submission; and, (iii) that the precise form that the quantitative milestones should take is not specified, but the state must choose milestones that will allow it to quantify or measure, track and report progress adequately and objectively.

The EPA's proposed approach to identifying quantitative milestones for any Moderate $PM_{2.5}$ nonattainment area and demonstrating compliance with the milestones is generally consistent with the existing guidance, as described in the following sections.

2. Proposed Approach

The statute at section 189(c) is clear that quantitative milestones must be achieved every 3 years, however it does not make clear the starting date for counting the 3 year periods. In the General Preamble, the agency proposed that quantitative milestones must be achieved every 3 years starting from the attainment plan submission due date (*i.e.,* because the Moderate area attainment plan is due no later than 18 months after designation of the area, the first set of milestones would need to be achieved 4.5 years after the area's designation) until the attainment date.[146] The EPA proposes to maintain this approach for the $PM_{2.5}$ NAAQS. Specifically, the EPA proposes that the attainment plan for a Moderate area that can demonstrate attainment by the statutory Moderate area attainment date must identify appropriate quantitative milestones to be achieved by 4.5 years following designation of the area. For a Moderate area that cannot practicably attain the relevant $PM_{2.5}$ NAAQS within the statutory timeframe for a Moderate area, the EPA proposes that a state must submit two sets of quantitative milestones—one set to be achieved at year 4.5 from designation and the second set to be achieved at year 7.5 from designation. The EPA believes that this proposed requirement will help to ensure that the state maintains progress toward bringing the area into attainment during the period in which such area is reclassified to Serious, the state works to develop a Serious area attainment plan for the area, and the EPA approves it. Pursuant to the statute, the EPA must reclassify a Moderate area for which a state submits an attainment impracticability demonstration within 18 months after the Moderate area attainment plan due date, or no later than 3 years after the date of designation of the area. Even under a scenario in which the state develops and submits a Serious area attainment plan 18 months after being reclassified to Serious, the milestone date of 4.5 years after designation would likely come and go before the area had a new set of approved quantitative milestones with which to demonstrate compliance. Similarly, the milestone date of 7.5 years after designation could also come and go before the EPA is able to fully approve the Serious area plan and any quantitative milestones contained therein. Because of the timing of the various steps involved in reclassifying a Moderate area to Serious and a state developing a new Serious area plan, the EPA believes that requiring a state to identify quantitative milestones that the area must achieve 4.5 years and 7.5 years after designation as elements of its Moderate area attainment plan is reasonable and seeks comment on this proposed requirement.

The EPA is also proposing that the quantitative milestones contained in the attainment plan for a Moderate nonattainment area must be constructed such that they can be tracked, quantified and/or measured adequately in order for the state to meet its milestone reporting obligations, which come due 90 days after a given milestone date. In the Addendum, the EPA suggested some possible metrics that ''support and demonstrate how the overall quantitative milestones identified for an area may be met,'' such as percent implementation of control strategies, percent compliance with implemented control measures, and adherence to a compliance schedule. This list was not exclusive or exhaustive but reflected the EPA's view that the purpose of the quantitative milestone requirement is to provide an objective way to assess that the state is making the necessary progress towards attainment in the area by the applicable attainment date.[147] The EPA continues to believe that the quantitative milestone requirement

[143] *See* the **Federal Register** published on April 16, 1992, General Preamble (57 FR 13498 and 13539).

[144] *See* the **Federal Register** published on August 16, 1994, Addendum to General Preamble (59 FR 41998, 42015, 42016 and 42017).

[145] *Ibid.*

[146] General Preamble, 57 FR 13498 (April 16, 1992), at page 13539.

[147] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42016.

should be interpreted to allow states to devise milestones that are suitable for the specific facts and circumstances of the attainment plan for a particular area, so long as they provide an objective means to measure RFP.

The EPA therefore proposes to require that states select the quantitative milestones that are appropriate and quantifiable and that will provide for objective evaluation of progress toward attainment in their Moderate $PM_{2.5}$ nonattainment area, whether the area can practicably attain the $PM_{2.5}$ NAAQS by the statutory attainment date or not. For this approach, the EPA is not proposing to require that such quantitative milestones must take any particular form, merely that they provide a means to evaluate progress (*i.e.,* demonstrate RFP) meaningfully. The EPA, in its attainment plan approval process, will determine if the specific quantitative milestones developed by the state for a specific nonattainment area satisfy the statutory requirements. The EPA recommends that states confer with their respective EPA regional office to develop appropriate quantitative milestones. *See* proposed 40 CFR 51.1013(a)(1).

In addition to this general proposed approach for selecting quantitative milestones for a Moderate nonattainment area, the EPA is proposing and seeks comment on a requirement that, at a minimum, states must include in all attainment plans for Moderate $PM_{2.5}$ nonattainment areas a metric to confirm that all control measures identified and adopted as RACM and RACT for the area have been fully implemented within 4 years of designation. This metric specifically derives from the statutory provision that applies to all Moderate areas and thus represents a milestone that all Moderate areas must meet regardless of whether it is listed explicitly as an individual milestone. The EPA believes it would be appropriate to include it as a metric that any state with a Moderate nonattainment area would need to demonstrate compliance with when they submit their milestone report as described below, and thus seeks comment on this proposal.

3. Milestone Report Submittal

Under the quantitative milestone requirement of section 189(c)(2), a state must demonstrate to the EPA that the RFP plan for the area and its approved milestones are being met within 90 days after the milestone due date. The EPA then has 90 days to determine whether or not a state's demonstration is adequate. Specifically, section 189(c)(2) requires that: ''Not later than 90 days after the date on which a milestone applicable to the area occurs, each State in which all or part of such [nonattainment] area is located shall submit to the Administrator a demonstration that all measures in the plan approved under this section have been implemented and that the milestone has been met. A demonstration under this subsection shall be submitted in such form and manner, and shall contain such information and analysis, as the Administrator shall require.''

In the event a state fails to submit a milestone demonstration report by the due date or the EPA determines that a milestone was not met, the state must submit a SIP revision within 9 months of either the missed reporting deadline or the EPA's determination of the state's failure to meet a milestone. According to the statutory requirements of section 189(c)(3), the new SIP revision must assure ''that the State will achieve the next milestone (or attain the national ambient air quality standard . . ., if there is no next milestone) by the applicable date.'' If a state fails to make a SIP submission to correct a failure to meet RFP expeditiously, sanctions under sections 110(m) and 179(b) may apply. If a state is unable to correct a failure to meet RFP, this may be evidence that the state cannot practicably attain the NAAQS by the applicable attainment date and may serve as a basis for reclassification of the area to Serious under the agency's discretionary authority. *See* proposed 40 CFR 51.1013(c).

Because the statute does not define the parameters of these demonstrations, the statute grants the EPA discretion to determine the components of the required demonstration and the form and manner for submission. In the Addendum, the EPA offered guidance about what the milestone report should contain: ''This report must contain technical support sufficient to document completion statistics for appropriate milestones. For example, the demonstration should graphically display RFP over the course of the relevant 3 years and indicate how the emission reductions achieved to date compare to those required or scheduled to meet RFP and the required [quantitative] milestones. The calculations (and any assumptions made) necessary to determine the emission reductions to date should also be submitted. The demonstration should also contain an evaluation of whether the $PM_{10}$ NAAQS will be attained by the projected attainment date.'' [148] The EPA believes this guidance is still appropriate for states demonstrating compliance with RFP and quantitative milestones for $PM_{2.5}$ NAAQS and hereby proposes under the authority of section 301(a) to require that the milestone report submission must include the following four components:

First, the report must include a certification by the Governor or Governor's designee that the state's attainment plan control strategy, including the RFP plan, is being implemented as described in the applicable attainment plan. Second, as described in the Addendum, the report must contain technical support, including calculations, sufficient to document completion statistics for appropriate milestones and to demonstrate that the quantitative milestones have been satisfied and how the emissions reductions achieved to date compare to those required or scheduled to meet RFP. Third, the state must submit an air quality screening analysis to determine if measured air quality progress is consistent with the expected air quality improvement target correlated with the RFP emissions reductions for the previous 3-year period. Fourth, the report must contain an evaluation of whether the $PM_{2.5}$ NAAQS will be attained by the projected attainment date for the area. In addition, the EPA proposes that the milestone report must include a description and schedule for any remedial actions the state has taken or will take to address any failure to meet a quantitative milestone, including the implementation status of contingency measures for failing to meet RFP in the area. *See* proposed 40 CFR 51.1013(b). The EPA seeks comment on these proposed components to a milestone report.

The EPA stated in the Addendum that the milestone report must be submitted from the Governor or Governor's designee to the Regional Administrator of the respective EPA Regional Office serving the submitting state, and that the EPA will notify the state of its determination (regarding whether or not the state's report is adequate) by sending a letter to the appropriate Governor or Governor's designee. The EPA believes that it would be appropriate for states to submit milestone reports, including supporting documents, through the agency's electronic SIP (eSIP) submission system in order to simplify the process and reduce resource burden on all sides. The EPA seeks comment on how electronic reporting could facilitate a state's submittal of the required milestone report, how it could accommodate the various narrative and

[148] *Ibid.* at 42017.

data-dependent components that the EPA is proposing be part of such a submittal, and what particular system features might be desirable to accommodate milestone report submissions through the eSIP system.

*H. Contingency Measures*

States with $PM_{2.5}$ nonattainment areas must include contingency measures in their attainment plans consistent with section 172(c)(9). Contingency measures are additional control measures to be implemented in the event that an area fails to meet RFP requirements or fails to attain the $PM_{2.5}$ standard by the applicable attainment date. These measures must be fully adopted rules or control measures that are ready to be implemented quickly upon failure to meet RFP or failure of the area to meet the standard by its attainment date, and such measures are required to take effect without further action by the state or the EPA. The EPA provided extensive guidance on contingency measures in the General Preamble and Addendum, including the following: ''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. After the EPA determines that a moderate $PM_{10}$ nonattainment area has failed to attain the $PM_{10}$ NAAQS, the EPA generally expects all actions needed to effect full implementation of the measures to occur within 60 days after the EPA notifies the state of the area's failure. The state should ensure that the measures are fully implemented as expeditiously as practicable after they take effect.'' [149]

The EPA does not believe that the D.C. Circuit's decision in *NRDC* v. *EPA* affects the overall contingency measure requirements that were finalized in the remanded 2007 $PM_{2.5}$ Implementation Rule, because section 172(c)(9) imposes the contingency measure requirement for attainment plans for the $PM_{2.5}$ NAAQS and it is not superseded or subsumed by any specific contingency measure requirements under subpart 4. Although section 172(c)(9) requires contingency measures, the provision does not specify exactly what parameters such measures must meet. The EPA has longstanding interpretations of the statute with respect to the contingency measure requirement, both for PM and for other pollutants, in the General Preamble and Addendum. The EPA proposes to adopt an approach to contingency measures for the $PM_{2.5}$ NAAQS similar to that recommended in earlier EPA guidance, but seeks comment on particular proposed approaches that differ in important ways from earlier guidance on contingency measures for the $PM_{2.5}$ NAAQS. The EPA believes that it may be necessary to adopt a different approach to contingency measures for $PM_{2.5}$ attainment plans due to proposed changes in determining RFP for a $PM_{2.5}$ nonattainment area and in order to accommodate Moderate $PM_{2.5}$ nonattainment areas that cannot practicably attain the standard by the statutory Moderate area attainment date.

The EPA is proposing and seeking comment on the following general requirements for contingency measures to be approvable as part of a state's Moderate area attainment plan submission for the $PM_{2.5}$ NAAQS:

1. Contingency measures must be fully adopted rules or control measures that are ready to be implemented quickly upon a determination by the Administrator of the nonattainment area's failure to meet RFP or failure to meet the standard by its attainment date.

2. The state's attainment plan submission must contain trigger mechanisms for the contingency measures, specify a schedule for implementation, and indicate that the measures will be implemented with minimal further action by the state or by the EPA.

3. Contingency measures must consist of control measures that are not otherwise included in the control strategy for the attainment plan.

4. Contingency measures must provide for emissions reductions approximately equivalent to 1 year's worth of reductions needed for RFP, based on the overall level of reductions needed to demonstrate attainment divided by the number of years from the base year to the attainment year, or approximately equivalent to 1 year's worth of air quality improvement or emissions reductions proportional to the overall amount of air quality improvement or emissions reductions to be achieved by the area's attainment plan. *See* proposed 40 CFR 51.1014.

The EPA interprets the contingency measure requirement of section 172(c)(9) to require control measures that are not already included in the attainment plan for other purposes, such as to meet RACM and RACT requirements. However, suitable contingency measures may be measures that were technologically and economically feasible for the area, but did not qualify as RACM or RACT or additional reasonable measures for one or more reasons. For example, a candidate contingency measure may have been deemed technologically and economically feasible, but it was not needed to achieve expeditious attainment in a Moderate area for which the state could demonstrate attainment by the statutory attainment date and therefore was not included as part of the attainment demonstration for the area. The agency believes it is important that states make decisions concerning contingency measures in conjunction with their determination of the overall control strategy for bringing the area into expeditious attainment, and that states first must identify those control measures needed in order to demonstrate expeditious attainment of the standards; any remaining measures should then be considered as candidates for contingency measures.

For Moderate areas that cannot practicably attain the NAAQS by the statutory attainment date, the EPA is proposing that states must implement all control measures that they determine to be reasonable for sources in the area. In such cases, the EPA expects that contingency measures for such nonattainment areas would necessarily exceed the criteria for determining whether a measure is reasonable (*i.e.,* technologically and economically feasible) as described in Section IV.D of this preamble. Such contingency measures would only be triggered in the event the area fails to meet RFP; the EPA does not interpret the requirement for contingency measures for failing to attain the NAAQS by the applicable attainment date to apply to a Moderate area that a state demonstrates cannot practicably attain the NAAQS by the statutory attainment date. Rather, the EPA believes it is appropriate for the state to identify and adopt contingency measures for failing to attain the NAAQS in a timely way as part of the Serious area attainment plan that it will develop once the EPA reclassifies such an area.

The EPA proposes that for any Moderate $PM_{2.5}$ nonattainment area, contingency measures can include measures that achieve emissions reductions on sources located outside the nonattainment area as well as from sources within the nonattainment area, provided that the measures are factually demonstrated to produce the appropriate air quality impact within the nonattainment area. The EPA continues to believe it appropriate that a state might choose to rely on federal measures (*e.g.* federal mobile source measures based on the incremental turnover of the motor vehicle fleet each year) and local measures already scheduled for implementation for

[149] *Ibid.* at 42015.

purposes other than meeting attainment plan requirements, such as RACM and RACT, as meeting part or all of the contingency measure requirements, as the purpose of the contingency measures is to provide a cushion while the attainment plan for the area is being revised to meet the missed attainment milestone. The EPA has approved numerous attainment plans under an interpretation that one or more federal or local measures that are in place and provide reductions in the year following a failure to attain the relevant NAAQS or meet RFP in excess of the reductions required by the attainment demonstration or RFP plan can meet the contingency measure requirements.[150] [151]

The EPA recognizes that some states have historically relied on emissions reductions achieved through the implementation of control measures in excess of what was determined to be necessary to meet RFP in certain $PM_{2.5}$ nonattainment areas in order to satisfy the contingency measure requirement in such areas. The EPA believes that this approach is reasonable for Moderate $PM_{2.5}$ nonattainment areas that can demonstrate attainment by the statutory attainment date, as the state would calculate the emissions reductions needed for RFP separately from the control strategy determination for such an area. However, crediting an area for ''excess'' emissions reductions to satisfy the contingency measure requirement would not be possible for a Moderate area that cannot practicably attain by the statutory attainment date under the EPA's proposed approach for calculating RFP for such areas, as RFP would be calculated directly from the projected emissions reductions from all control measures identified for the area (as RACM and RACT or additional reasonable measures), such that there would be no difference between emissions reductions estimated from control measures and those estimated for demonstrating RFP.

As mentioned earlier, contingency measures should represent a portion of the actual emissions reductions necessary to bring about attainment in the area. Consistent with the EPA's past approach for contingency measures for $PM_{2.5}$ nonattainment areas, the EPA proposes to require that the emissions reductions anticipated by imposition of the contingency measures must be equal to approximately 1 year's worth of emissions reductions while the state is revising its attainment plan for the area. The EPA has historically applied a policy of equating 1 year's worth of emissions reductions for contingency measures with those annual reductions determined to be necessary to achieve RFP for the area, unless the state demonstrates that some smaller reduction is appropriate. As described in Section IV.F of this preamble, the EPA is proposing an approach for interpreting the statutory RFP requirement that would require demonstrating RFP based on reductions from sources located inside the nonattainment area. Keeping with the historic linkage between RFP and contingency measures, the EPA is also proposing and seeking comment on a similar approach for calculating 1 year's worth of emissions reductions for purposes of adopting appropriate contingency measures. That is, the EPA's proposed approach for determining the level of emissions reductions for contingency measure purposes is to calculate the annual reductions in emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors needed from sources located inside the nonattainment area. The EPA seeks comment on this proposed approach.

The CAA requires that states must implement contingency measures after the EPA determines that the area has either failed to meet RFP requirements, or failed to attain the standards by the applicable attainment date. The purpose of the contingency measure provision is to ensure that corrective measures are put in place automatically at the time that the EPA makes its determination that an area has either failed to meet RFP or failed to meet the standard by its attainment date. The EPA is required to determine within 90 days after receiving a state's milestone demonstration, and within 6 months after the attainment date for an area, whether these requirements have been met. The consequences for states with areas that fail to attain the NAAQS or to meet RFP are described in section 179(d) of the CAA and discussed in Section V of this preamble.

As noted earlier in this section, the EPA proposes to require that states must submit contingency measures at the same time as the rest of the Moderate area attainment plan elements, *i.e.,* within 18 months after designation. Section 172(b) requires the Administrator to ''establish a schedule according to which the State containing such [nonattainment] area shall submit a plan or plan revision (including the plan items) meeting the applicable [subpart 1 nonattainment plan] requirements. . . Such schedule shall, at a minimum, include a date or dates, extending no later than 3 years from the date of the nonattainment designation . . .'' The EPA believes it is reasonable to require the submittal of contingency measures for Moderate $PM_{2.5}$ nonattainment areas on the same schedule as the other Moderate area attainment plan requirements because of the close relationship between an area's control strategy, RFP analysis and selection of quantitative milestones, and contingency measures. The EPA seeks comment on this proposed due date for submission of contingency measures.

*I. Attainment Dates*

1. Statutory Requirements

Section 188 establishes the attainment dates for Moderate and Serious $PM_{10}$ nonattainment areas, which also apply to Moderate and Serious $PM_{2.5}$ nonattainment areas. Section 188(c)(1) provides that for a Moderate area, ''the attainment date shall be as expeditiously as practicable but no later than the end of the sixth calendar year after the area's designation as nonattainment.'' The EPA has the responsibility for determining whether a nonattainment area has attained the standard by its applicable attainment date. Section 179(c)(1) requires the EPA to make determinations of attainment no later than 6 months following the attainment date for the area. Under section 179(c)(2), the EPA must publish a notice in the **Federal Register** identifying those areas which failed to attain by the applicable attainment date. The statute further provides that the EPA may revise or supplement its determination of attainment for the affected areas based upon more complete information or analysis concerning the air quality for the area as of the area's attainment date.

Section 179(c)(1) provides that the EPA is to base the attainment determination for an area upon an area's ''air quality data as of the attainment date.'' The EPA will make the determination of whether an area's air quality is meeting the $PM_{2.5}$ NAAQS by the applicable attainment date based upon data gathered from the air quality monitoring sites which have been entered into the EPA's Air Quality System (AQS) database. No special or additional attainment plan submission will be required from the state for this determination.

A Moderate $PM_{2.5}$ nonattainment area's air quality status is determined in accordance with Appendix N of 40 CFR

[150] *See,* e.g., 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).

[151] A court ruling upheld contingency measures for ozone attainment plans 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 Cir., 2004).

part 50. To show attainment of the current 24-hour and annual standards for $PM_{2.5}$, the most recent 3 consecutive years' data prior to the area's attainment date must show that $PM_{2.5}$ concentrations over the prior 3-year period are at or below the levels of the standards. A complete year of air quality data, as described in part 50, Appendix N, is comprised of all 4 calendar quarters with each quarter containing data from at least 75 percent of the scheduled sampling days.

The EPA will begin processing and analyzing data related to the attainment of Moderate $PM_{2.5}$ nonattainment areas after the applicable attainment date for the affected areas. Current EPA regulations, under 40 CFR part 58, set the deadline for the state to submit air quality data into the AQS database as no later than 90 days after the end of the calendar year.

While the EPA may determine that an area's air quality data indicates that an area may be meeting the $PM_{2.5}$ NAAQS for a specified period of time, this does not eliminate the state's responsibility under the Act to adopt and implement an approvable attainment plan. If the area's monitored data indicates that the area is factually attaining the NAAQS, however, the EPA may issue a ''clean data determination'' which will suspend the obligation of the state to submit the elements of the attainment plan for the area that are related to planning requirements, as discussed in Section IX.C of this preamble. If the EPA determines that an area has attained the standard as of its attainment date, the area will remain classified as nonattainment until the state has requested, and the EPA has approved, redesignation to attainment for the area.

In order for an area to be redesignated as attainment, the state must comply with the five requirements listed under section 107(d)(3)(E) of the CAA. Briefly, this section requires that:

- The EPA has determined that the area has met the $PM_{2.5}$ NAAQS;
- The EPA has fully approved the applicable state implementation plan;
- The improvement in air quality is due to permanent and enforceable reductions in emissions;
- The EPA has fully approved a maintenance plan for the area; and,
- The state(s) containing the area or portions of the area have met all applicable requirements under section 110 and part D.

2. Proposed Approach

As noted earlier, section 188(c)(1) states that for a Moderate area, ''the attainment date shall be as expeditiously as practicable but no later than the end of the sixth calendar year after the area's designation as nonattainment.'' For purposes of clarity, the EPA proposes to interpret the reference to ''the area's designation'' in this provision as meaning ''the area's effective date of designation,'' consistent with the agency's approach for implementing the 1997 and 2006 $PM_{2.5}$ NAAQS and with its approach for implementing NAAQS for other criteria pollutants under part D, title I of the CAA. *See* proposed 40 CFR 51.1000. As discussed elsewhere in this preamble, the effective date of designation is April 15, 2015, for areas designated nonattainment in the first round of designations for the 2012 $PM_{2.5}$ NAAQS. For these areas, the Moderate area attainment date would be as expeditious as practicable, but no later than December 31, 2021 (*i.e.,* the end of the sixth calendar year after designation). The EPA seeks comment on this proposed interpretation of the date of designation of a $PM_{2.5}$ NAAQS nonattainment area and the resulting attainment date for such areas.

As described in Sections IV.D and IV.E of this preamble, in the case of a Moderate $PM_{2.5}$ nonattainment area for which a state can demonstrate attainment by the end of the sixth calendar year following designation, the state must follow a two-step process for determining the appropriate attainment date for the area. First, the state must demonstrate through air quality modeling that the area can attain the relevant NAAQS by the latest statutory attainment date and determine which control measures and technologies are needed for the area to attain by that date. Second, the state must determine whether implementing other reasonable controls (*i.e.,* those not needed for attainment by the latest possible date but that are technologically and economically feasible) can cumulatively advance the attainment date for the area by at least 1 year. In the event that a state determines that the area can attain the relevant NAAQS earlier through the application of other measures, the state must propose the earlier date as part of the attainment plan submission for the area. When the EPA takes action to approve the different elements of the attainment plan for the area, one of the elements that the agency will take action on will be the state's proposed attainment date for the area. If the EPA approves an attainment date for the area that is earlier than the latest date allowed by statute, then the applicable attainment date for the area will be the approved date. *See* proposed 40 CFR 51.1004(a)(1)(i). If the area ultimately needs additional time to attain the relevant NAAQS, the state may request an attainment date extension for the Moderate nonattainment area under section 188 as long as certain conditions are met, as described in Section IV.J.

The EPA's approach to approving an attainment date for a $PM_{2.5}$ nonattainment area will be different for a Moderate area that cannot practicably attain the relevant $PM_{2.5}$ NAAQS by the end of the sixth calendar year after designation. Given that the agency will reclassify any such area to Serious and thereby trigger additional Serious area requirements for the area, the EPA will approve an attainment date for the area when it takes action on the Serious area attainment plan submitted for the area. In the interim, before the EPA takes action to reclassify the area, the statutory Moderate area attainment date will continue to apply to such an area. *See* proposed 40 CFR 51.1000 and 51.1004(a)(1)(ii). When the EPA reclassifies the area, then the presumptive attainment date for the area will be as expeditious as practicable, but no later than the end of the tenth calendar year following designation. A complete discussion of Serious area attainment dates is provided in Section VI.H of this preamble.

*J. Attainment Date Extensions*

1. Statutory Requirements

The CAA under subpart 4 provides the EPA with authority to grant extensions of the attainment date for a Moderate area that otherwise could be found to have failed to attain the relevant $PM_{2.5}$ NAAQS, if the area can meet specific statutory criteria related to the implementation of measures contained in the attainment plan for the area, and to monitored air quality in the area. Specifically, under section 188(d), a state may apply to the EPA for an extension of a Moderate area's attainment date of one additional year (the ''Extension Year'') if ''(1) the state has complied with all requirements and commitments pertaining to the area in the applicable implementation plan; and (2) no more than one exceedance of the 24-hour [NAAQS] level for $PM_{10}$ has occurred in the area in the year preceding the Extension Year, and the annual mean concentration of $PM_{10}$ in the area for such year is less than or equal to the standard level.'' Section 188(d) limits the number of 1-year extensions that the EPA may grant for a Moderate nonattainment area to two.

The provisions of section 188(d) thus allow a state an opportunity to demonstrate that a Moderate area should continue to be classified as

Moderate and not be reclassified to Serious even if the area exceeded the level of the applicable $PM_{2.5}$ NAAQS in one or both of the 2 calendar years preceding the year in which the area is otherwise required to attain the NAAQS. Although section 188(d) provides the criteria for such an extension, the EPA believes that there are some ambiguities in the statutory language that warrant interpretation and clarification through regulations for the $PM_{2.5}$ NAAQS. The EPA is thus proposing a preferred interpretation of section 188(d) to provide clarity to states about how and when they may qualify for a Moderate area attainment date extension for purposes of the $PM_{2.5}$ NAAQS.

2. Proposed Interpretations of Attainment Date Extension Criteria

With respect to the criterion in section 188(d)(1) that requires that ''the state has complied with all requirements and commitments pertaining to the area in the applicable implementation plan,'' the EPA proposes to interpret this provision to mean that the state has implemented the control measures in the SIP submission it made to address the attainment plan requirements for the applicable $PM_{2.5}$ NAAQS, and not to require the area to have a fully approved attainment plan that meets all of the CAA's requirements for Moderate areas. This proposed interpretation is based on the plain language of section 188(d) that does not explicitly require that the state comply with all requirements pertaining to the area in the CAA, but merely requires that the state comply with all requirements in the applicable SIP.[152] In other words, the EPA believes that section 188(d)(1) should be interpreted to mean that so long as the state has submitted the necessary attainment plan for the area for the applicable $PM_{2.5}$ NAAQs and is implementing the control measures in the submission, the fact that the EPA has not yet acted on such submission to make it an approved part of the applicable SIP should not be a barrier to the state obtaining an extension of the attainment date under section 188(d)(1). For the same reason, the EPA also proposes to read this provision not to bar an extension if all or part of an area's Moderate area plan is disapproved or has been promulgated by the EPA as a federal implementation plan (FIP). In the case that the ''applicable implementation plan'' is a FIP (or combination of SIP and FIP), then the EPA proposes that the state must have implemented the control measures contained therein in order to meet the statutory criteria at section 188(d)(1) for a Moderate area attainment date extension. The EPA seeks comment on this proposed interpretation of section 188(d)(1). *See* proposed 40 CFR 51.1005(a)(2).

The EPA also proposes and seeks comment on an alternative interpretation of section 188(d)(1) that would require a state to have a Moderate area attainment plan fully approved by the EPA as meeting the applicable attainment plan requirements under sections 172 and 189 for a Moderate $PM_{2.5}$ nonattainment area before the state obtains an extension. Given that Moderate area attainment plans are due 18 months from the date of designation, and that RACM and RACT must be implemented within 4 years after designation, states should have sufficient time under the statutory schedule to satisfy all applicable requirements in advance of seeking a Moderate area attainment date extension. Under this alternative approach, the EPA proposes that a state subject to a FIP (or SIP and FIP) for a Moderate $PM_{2.5}$ nonattainment area could qualify for an attainment date extension for the area if it had implemented all requirements and commitments of the FIP (or SIP and FIP), as the FIP (or SIP and FIP) would be the ''applicable implementation plan'' for the area. Although this alternative interpretation could also be a reasonable reading of this criterion of section 188(d)(1), the EPA considers it less appropriate than the preferred interpretation because this approach could foreclose states from obtaining an otherwise appropriate extension merely because of logistical and timing considerations that might have prevented the EPA from acting on the state's attainment plan by the requisite point in time. Nevertheless, the EPA seeks comment on this alternative interpretation of section 188(d)(1).

The second criterion that states must meet to qualify for an extension relates to the monitored ambient air in a nonattainment area in the year prior to the attainment date for the area. If a state has met the requirements of section 188(d)(1), the EPA may grant an extension of a Moderate area's attainment date if the state also satisfies the requirements of section 188(d)(2) that ''no more than one exceedance of the 24-hour national ambient air quality standard level for $PM_{10}$ has occurred in the area in the year preceding the Extension Year, and the annual mean concentration of $PM_{10}$ in the area for such year is less than or equal to the standard level.'' Again, the EPA may grant up to two such 1-year extensions and thus this criterion would apply to the calendar year prior to the applicable attainment date and to the Extension Year, in the case of a second extension.

The EPA believes that the references to the ambient air quality standards in section 188(d)(2) are ambiguous in two significant ways in the context of the $PM_{2.5}$ NAAQS implementation. First, the statutory language explicitly sets ambient air quality conditions for an attainment date extension in terms that relate factually to the 24-hour $PM_{10}$ NAAQS that was in effect at the time of the 1990 Amendments of the CAA, which has a statistical form that is substantially different from the 24-hour $PM_{2.5}$ NAAQS. Specifically, the form of the 24-hour $PM_{10}$ NAAQS allows for no more than one ''exceedance'' of the standard per year on average over 3 years, and if there is more than one such exceedance on average over 3 years the area is violating the NAAQS. Thus, as a means of limiting extensions to areas that are close to attaining the NAAQS in the calendar year prior to the applicable attainment date, section 188(d)(2) imposes the criterion of having ''no more than one exceedance of the 24-hour . . . standard level'' as a way of demonstrating that a nonattainment area has ''clean data'' for the year prior to the attainment date.[153] This statutory language does not translate readily to the $PM_{2.5}$ NAAQS, which postdate the creation of section 188(d) and are not structured with the same mathematical form. For example, the 2006 24-hour $PM_{2.5}$ NAAQS incorporates a 3-year average of the 98th percentile form, which means that an area with valid monitored ambient readings every day (or almost every day) could have seven readings above the numerical level of the standard (*i.e.,* ''exceedances'') in any given year and still have ''clean data'' for that year. A literal interpretation of section 188(d)(2) to permit only one exceedance of the 24-hour $PM_{2.5}$ NAAQS, rather than the number of exceedances that is relevant for purposes of determining attainment of such NAAQS, is illogical. In light of the different form of the $PM_{2.5}$ NAAQS, the statutory language of section 188(d)(2) is thus ambiguous in how it should apply to implementation of the 24-hour $PM_{2.5}$ NAAQS.

Additionally, the language of section 188(d)(2) may be considered ambiguous

[152] This interpretation as applied to section 188(e) for Serious area attainment date extensions was upheld by the Ninth Circuit Court of Appeals in *Vigil* v. *Leavitt,* 366 F.3d 1025, amended at 381 F.3d 826 (9th Cir. 2004).

[153] The 24-hour $PM_{10}$ NAAQS, set at 150 $\mu g/m^3$, cannot be exceeded more than once per year on average, over 3 years.

as to how it should apply to the $PM_{2.5}$ NAAQS to the extent that it does not specify whether the air quality criteria for an attainment date extension apply equally for a Moderate area designated nonattainment for both the 24-hour and annual standards, or for just one of the standards. In practice, most areas designated nonattainment for the $PM_{10}$ NAAQS following passage of the 1990 CAA Amendments were designated nonattainment only for the 24-hour $PM_{10}$ NAAQS, with a few designated for only the annual $PM_{10}$ NAAQS or for both the 24-hour and the annual $PM_{10}$ NAAQS. The 24-hour NAAQS has served as the ''controlling'' (*i.e.,* functionally more stringent) $PM_{10}$ standard, such that the agency's experience to date in granting $PM_{10}$ Moderate area attainment date extension requests has been limited to extending the attainment date for the 24-hour $PM_{10}$ NAAQS.[154]

The situation is distinctly different for $PM_{2.5}$ nonattainment areas, as the specific facts and circumstances of a particular area may warrant a nonattainment designation for either the 24-hour standard or the annual standard, but often not both. In most cases, for instance, the current nonattainment areas for $PM_{2.5}$ are designated either for the 1997 annual NAAQS or for the 2006 24-hour NAAQS, but not both.[155] For example, the EPA recently promulgated designations for areas violating only the annual $PM_{2.5}$ NAAQS revised in 2012, not the 24-hour NAAQS which was retained at the level established during the 2006 p.m. NAAQS review. If a $PM_{2.5}$ nonattainment area is designated only for the 24-hour or only for the annual $PM_{2.5}$ NAAQS, this situation raises the question of how section 188(d)(2) air quality criteria for both standards should apply to such a $PM_{2.5}$ NAAQS nonattainment area if the state seeks an extension of the applicable attainment date for such area.

Due to the ambiguities associated with applying this subpart 4 requirement to current and future $PM_{2.5}$ NAAQS, the agency believes it is important to propose a reasonable interpretation of the statutory requirement and seek public comment on this preferred interpretation as well as two alternative interpretations specifying the $PM_{2.5}$ standard or standards for which a state would need to demonstrate a Moderate nonattainment area met the air quality criteria of section 188(d)(2) in order to qualify for an attainment date extension. The agency also believes it is important to clarify how the air quality criteria of section 188(d)(2) apply specifically for the 24-hour $PM_{2.5}$ NAAQS. For this reason, the EPA is proposing a preferred interpretation of section 188(d)(2) for application to current and future $PM_{2.5}$ NAAQS, and is seeking comment on two alternative interpretations that the agency considers less appropriate.

The preferred proposed approach would only require a state to demonstrate that in the year prior to the applicable attainment date for the area, a Moderate area did not exceed the level of (*i.e.,* had clean data for) the specific $PM_{2.5}$ NAAQS for which the area is designated nonattainment (the ''applicable NAAQS'') and for which the state is seeking the extension of the attainment date. The second approach, on which the EPA seeks comment, would require that a state demonstrate that in the year prior to the applicable attainment date for an area, the Moderate area did not exceed the level of the specific $PM_{2.5}$ NAAQS for which the area is designated nonattainment (the applicable NAAQS), and did not exceed the most stringent level of any other $PM_{2.5}$ NAAQS in effect nationally at the time the area was designated for the applicable NAAQS. The third approach, on which the EPA also seeks comment, would require that a state demonstrate that in the year prior to the applicable attainment date for an area, the Moderate area did not have more than one exceedance of the level of the 24-hour $PM_{2.5}$ standard, and that the annual mean concentration of $PM_{2.5}$ in the area for the attainment year was less than or equal to the annual standard, regardless of the NAAQS for which the state is seeking an attainment date extension.

The EPA prefers the proposed interpretation (described in more detail later in this section) for implementing the Moderate area attainment date extension criteria of section 188(d)(2) considering the fact that, due to the specific atmospheric conditions and source-dependent nature of $PM_{2.5}$ problems in different areas around the country, the EPA has historically designated, and may continue to designate, $PM_{2.5}$ nonattainment areas for either the annual or the 24-hour NAAQS. As discussed earlier, the agency's designations processes for the 2006 revised 24-hour $PM_{2.5}$ NAAQS and the 2012 revised annual $PM_{2.5}$ NAAQS have each been conducted to address only one standard individually. In addition, the current 24-hour $PM_{2.5}$ NAAQS does not have a ''one exceedance'' form of the standard, as cited in section 188(d)(2). Nevertheless, the EPA requests comment on the second and third interpretations of section 188(d)(2) described later in this section because they more closely reflect the specific statutory wording.

a. *Proposed approach: the EPA preferred option.* The EPA's proposed interpretation of section 188(d)(2) would simply require that a state demonstrate that in the year prior to the applicable attainment date for the area, a Moderate nonattainment area had clean data for the specific $PM_{2.5}$ NAAQS for which the state was seeking an attainment date extension (the applicable NAAQS). Under this proposed approach, a state seeking an attainment date extension for a Moderate nonattainment area for a 24-hour $PM_{2.5}$ NAAQS would be required to demonstrate that the area had clean data for that particular standard in the calendar year prior to the applicable attainment date for the area, rather than demonstrating that the area necessarily had no more than one exceedance of the 24-hour $PM_{2.5}$ NAAQS.

For example, under this proposed interpretation of section 188(d)(2), in the case of a state seeking an extension of the attainment date for a Moderate area designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS, the state would need to demonstrate that the area had no more than the allowable number of valid monitored readings exceeding 35μg/m³ to meet the 98th percentile statistical form of the standard in the year prior to the area's attainment date. The state would not have to demonstrate that the area also had clean data for any other $PM_{2.5}$ NAAQS, including any annual $PM_{2.5}$ NAAQS or later revision of the 24-hour $PM_{2.5}$ NAAQS.

Likewise under the EPA's preferred approach, a state seeking an attainment date extension for a Moderate nonattainment area for an annual $PM_{2.5}$ NAAQS would be required to demonstrate that the area had clean data for that particular standard in the calendar year prior to the applicable attainment date for the area. For example, in the case of a state seeking an extension of the attainment date for a Moderate area designated nonattainment for the 2012 annual $PM_{2.5}$ NAAQS, the state would need to demonstrate that the annual mean concentration of $PM_{2.5}$ at each monitor in the area as analyzed in accordance with Appendix N to 40 CFR part 50 for the year prior to the area's attainment date was less than or equal to 12.0 μg/

[154] For examples of the EPA actions to extend attainment dates for Moderate $PM_{10}$ areas, *see* 61 FR 20730 (May 8, 1996), 61 FR 66602 (December 18, 1996), and 66 FR 32752 (June 18, 2001).

[155] Nonattainment areas designated for both the 24-hour and annual $PM_{2.5}$ NAAQS are located in central and southern CA.

$m^3$. Again, under this proposed approach, the state would not have to demonstrate that the area had clean data for any other $PM_{2.5}$ NAAQS.

Under the EPA's preferred approach, if a state were to have an area that is designated nonattainment for both the 24-hour and the annual $PM_{2.5}$ NAAQS, with the same applicable attainment date, then a state seeking attainment date extensions for both NAAQS would need to meet the ambient air quality criterion for both NAAQS. The EPA notes that this would not be a common occurrence, but under this interpretation, these would be the only circumstances under which a state should be required to have clean data for both NAAQS in order to qualify for an extension of the applicable attainment date under section 188(d)(2). If a state has a nonattainment area that is only designated for either the 24-hour or the annual $PM_{2.5}$ NAAQS, the EPA believes that the state need only meet the air quality criterion of section 188(d)(2) for the NAAQS relevant to the attainment date at issue. *See* proposed 40 CFR 51.1005(a)(1)(ii) and (iii).

The EPA believes this preferred interpretation of section 188(d)(2) is appropriate for two reasons. First, as discussed above, while most $PM_{10}$ nonattainment areas were designated nonattainment for either just the 24-hour $PM_{10}$ NAAQS or for both the 24-hour and annual $PM_{10}$ NAAQS, the majority of current $PM_{2.5}$ nonattainment areas are designated for either the 24-hour or the annual $PM_{2.5}$ NAAQS, and should arguably only need to demonstrate clean data for the NAAQS for which the area is designated nonattainment. For those few $PM_{2.5}$ nonattainment areas designated for 24-hour and annual $PM_{2.5}$ NAAQS, the EPA believes it may also be appropriate that a state must only demonstrate clean data for the specific NAAQS for which the state is seeking an attainment date extension because such an approach is consistent with the statute's overall approach to designating nonattainment areas and implementing control strategies for each separate $PM_{2.5}$ NAAQS.

Second, as discussed earlier, the statutory language that requires that a nonattainment area have ''no more than one exceedance of the 24-hour'' NAAQS level reflects a statistical form for the 24-hour $PM_{10}$ standard that is different from the current form of the 24-hour $PM_{2.5}$ NAAQS. This difference, and the fact that the form could be subject to further revision in the future, leads the EPA to conclude that it is appropriate to describe this particular criterion more broadly so that it can apply to any 24-hour $PM_{2.5}$ NAAQS, now or in the future regardless of the specific statistical form any such NAAQS may take. The EPA seeks comment on this preferred proposed approach.

b. *Alternative approach 1.* The EPA also seeks comment on two alternative interpretations of section 188(d)(2). The EPA's first alternative interpretation of section 188(d)(2) would require that a state seeking an attainment date extension for a Moderate $PM_{2.5}$ nonattainment area would have to demonstrate that the area met the level of the $PM_{2.5}$ NAAQS for which it is seeking the attainment date extension, as well as met the numerical level of the most stringent $PM_{2.5}$ NAAQS in effect at the time the area was designated nonattainment. That is, under this approach, the area would need to have clean data for the year preceding the attainment date for the $PM_{2.5}$ NAAQS for which the state is seeking an attainment date extension and for the other $PM_{2.5}$ NAAQS that were part of the same suite of $PM_{2.5}$ standards (*i.e.,* both the 24-hour and the annual $PM_{2.5}$ NAAQS) in effect at the time the EPA designated the area nonattainment.

For example, if a state seeks an extension of the attainment date for an area designated nonattainment only for the 2012 annual $PM_{2.5}$ NAAQS, it would have to demonstrate that the annual mean concentration of $PM_{2.5}$ at each monitor in the Moderate area as analyzed in accordance with Appendix N to 40 CFR part 50 in the attainment year was less than or equal to 12.0 μg/$m^3$. Additionally, the state would have to demonstrate that the 98th percentile of valid 24-hour monitored readings in the area for the year preceding the attainment date did not exceed 35 μg/$m^3$, the level of the 24-hour $PM_{2.5}$ NAAQS set in 2006 and retained with the 2012 p.m. NAAQS review as part of the suite of PM NAAQS, even if the area was not designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS.[156] As with the agency's preferred approach, a state seeking an attainment date extension for a Moderate nonattainment area for a 24-hour $PM_{2.5}$ NAAQS would be required to demonstrate that the area had clean data for that particular standard in the calendar year prior to the applicable attainment date for the area in accordance with the statistical form of the 24-hour $PM_{2.5}$ NAAQS, rather than demonstrating that the area had no more than one exceedance of the 24-hour $PM_{2.5}$ NAAQS.

The EPA presents this first alternative interpretation of the statute for two reasons. First, as noted earlier, the statute at section 188(b)(2) does not specify whether the air quality criteria for an attainment date extension apply for Moderate areas designated nonattainment for both the 24-hour and annual $PM_{10}$ standards, or for just one of the standards. Read literally, however, the statute seems to require that an area seeking an extension of a Moderate area attainment date for any $PM_{10}$ NAAQS must be meeting the level of both the 24-hour standard and the annual standard, even if it was only designated for just one of the standards. Under this interpretation of the statute for purposes of implementing the $PM_{2.5}$ NAAQS, even though an area may be designated nonattainment for only one $PM_{2.5}$ NAAQS and therefore seeking an attainment date extension only for that particular NAAQS, it would also have to meet the level of the other $PM_{2.5}$ standards. As explained above, the EPA does not consider this the most appropriate interpretation of section 188(d). However, under this alternative interpretation the agency would take the position that the other $PM_{2.5}$ standards whose level the state must show the Moderate nonattainment area met in the year preceding its attainment date would be the most stringent $PM_{2.5}$ NAAQS in effect nationally at the time the area was designated nonattainment. For example, if the EPA were to strengthen the 24-hour $PM_{2.5}$ standard below the current 35 μg/$m^3$ prior to December 31, 2021 (the anticipated statutory Moderate area attainment date for the 2012 $PM_{2.5}$ NAAQS), then an area seeking an extension of the Moderate area attainment date for the 2012 $PM_{2.5}$ NAAQS would have to demonstrate that the area met the most stringent 24-hour $PM_{2.5}$ NAAQS that applied at the time it was designated (35 μg/$m^3$), and not the less stringent 24-hour NAAQS set in 1997 (65 μg/$m^3$) or any more stringent standard set after designation but before the attainment date.

Second, as with the proposed approach to interpreting section 188(d)(2), the EPA believes it is appropriate to interpret the statutory language regarding ''no more than one exceedance of the 24-hour'' NAAQS level broadly to mean that the area had clean data for the 24-hour $PM_{2.5}$ NAAQS, consistent with the form of the NAAQS at issue, so that the requirement can apply to any 24-hour $PM_{2.5}$ NAAQS, now or in the future. Even if it were appropriate to interpret section

[156] Given the rounding provisions specified in 40 CFR part 50, Appendix N, these criteria would be satisfied if the concentrations before final rounding are less than an annual average of 12.05 μg/$m^3$ and a 24-hour value of 35.5 μg/$m^3$.

188(d)(2) to require that a state meet the air quality criterion for both the 24-hour and the annual $PM_{2.5}$ NAAQS, the EPA believes that the statutory provision concerning the number of exceedances must still be read in light of the different form of the 24-hour $PM_{2.5}$ NAAQS. The EPA seeks comment on this first alternative interpretation of section 188(d)(2).

c. *Alternative approach 2.* The EPA's second alternative interpretation of section 188(d)(2) would require that a state demonstrate that a Moderate area did not have more than one exceedance of the applicable 24-hour $PM_{2.5}$ standard level, and the annual mean concentration of $PM_{2.5}$ in the area was less than or equal to the applicable annual $PM_{2.5}$ standard level, in the year preceding the applicable attainment date for the area. In other words, the EPA would not interpret the air quality criterion with respect to the 24-hour $PM_{2.5}$ NAAQS in light of the significantly different form of the $PM_{2.5}$ NAAQS. Furthermore, as with the first alternative interpretation, the ''applicable'' $PM_{2.5}$ standards would be those that applied at the time the Moderate area was designated for a given $PM_{2.5}$ NAAQS, even if the area was not designated nonattainment for all of them. This interpretation would mean that regardless of the form of the applicable 24-hour $PM_{2.5}$ standard, the Moderate area seeking an attainment date extension could not have more than one exceedance of the numerical level of the applicable 24-hour standard in order to qualify for a Moderate area attainment date extension. This requirement would be more stringent—and in some cases considerably so—than under the preferred proposed and first alternative interpretations, given the current statistical form of the 24-hour $PM_{2.5}$ NAAQS. Additionally, under this reading of section 188(d)(2), any future changes to the $PM_{2.5}$ NAAQS in terms of form or averaging time would also not be addressed, potentially creating confusion with respect to how a $PM_{2.5}$ Moderate area could qualify for an attainment date extension in the future.

The EPA believes that, while this interpretation of section 188(d)(2) may appear to be a straightforward reading of the statutory language, it does not reasonably account for the important differences between the statistical form of the $PM_{10}$ and $PM_{2.5}$ NAAQS or between the EPA's longstanding convention for designating $PM_{10}$ and $PM_{2.5}$ nonattainment areas generally. The EPA therefore seeks comment on its preferred proposed approach and two alternative approaches for interpreting the air quality criteria of section 188(d)(2) that a state would need to demonstrate compliance with in order for the EPA to consider granting an extension of a Moderate $PM_{2.5}$ area attainment date.

3. Proposed Process for Attainment Date Extension Request Submittals

Regardless of which interpretation of section 188(d)(1) the EPA finalizes as part of this rulemaking, the EPA proposes to require states to submit sufficient information to demonstrate that they have complied with applicable requirements and commitments in the applicable implementation plan. This information would be needed in order for the EPA to make a decision on whether to grant a 1-year attainment date extension. The EPA would not be authorized to grant an attainment date extension to an area unless the state can demonstrate that it has met all of the requirements and commitments contained in the state's applicable implementation plan for the area. Under the EPA's first proposed approach for interpreting section 188(d)(1), a state would have to demonstrate that control measures have been submitted in the form of a SIP revision and that RACM and RACT and additional reasonable measures for sources in the area have been implemented. Under the agency's alternative proposal for interpreting section 188(b)(1), the attainment plan submitted by the state would have to have been fully approved by the EPA and the state would have to be in compliance with any elements required under any applicable FIP for the area. In addition, under the EPA's second proposed approach, the state would have to demonstrate that: (i) RACM and RACT and additional reasonable measures for sources in the area have been implemented, and (ii) the area has made emissions reductions progress that represents RFP toward attainment of the NAAQS and has met its quantitative milestones, and the state has submitted a milestone compliance demonstration (milestone report) to that effect if due. Any decision made by the EPA to extend the attainment date for an area would be based on facts specific to the nonattainment area at issue.

Section 188(d) does not specify the process by which the EPA should evaluate and act upon requests from states for an extension of the Moderate area attainment date. However, the EPA proposes that an attainment date extension would only be granted after the agency provides notice in the **Federal Register** and an opportunity for the public to comment. This notice-and-comment process would allow for appropriate evaluation of the relevant criteria and facts in order to assure that the extension is granted or denied after full evaluation. This process also is consistent with past practice by the EPA in granting attainment date extensions, most recently for ozone nonattainment areas. In addition, for ease of implementation, the EPA proposes to interpret section 188(d) to authorize the EPA to stipulate that any extension would begin on January 1 and end on December 31 of the extension year and these dates would not depend on when the state submitted its request for an extension or was granted the extension by the EPA. The EPA believes this is a reasonable approach as the applicable attainment date for the area will either be the end of the sixth calendar year following designation of the area, or the end of an earlier calendar year if the state could advance attainment of the area by at least 1 year through the implementation of extra control measures. In addition, compliance with the relevant NAAQS will be evaluated based on monitored data collected over a full calendar year (*i.e.,* over the period beginning January 1 and ending December 31), so starting the extension year on January 1 is logical.

Because air quality criteria are part of the conditions that must be met in order for the EPA to grant a Moderate area attainment date extension, the EPA proposes to require that a state seeking such an extension must submit its complete attainment date extension request, including any available preliminary data for the year preceding the area's applicable Moderate attainment date, on or before the area's attainment date. The EPA also proposes to require that the state requesting such an extension must submit to the respective EPA Regional Office certified ambient $PM_{2.5}$ monitoring data for the year preceding the attainment date for the area in question by no later than February 28 of the year following the area's attainment date. Submission of the necessary data by this date will allow the EPA to review the state's request and take appropriate action on the request prior to the date by which the EPA is required to make a determination that the area failed to attain by its Moderate area attainment date, *i.e.,* within 6 months of the applicable attainment date (*see* the discussion of reclassification in Section V of this preamble). The EPA seeks comment on these proposed deadlines for a state to request an extension of a Moderate area's attainment date and submit certified air quality data as required under CAA section 188(d)(2).

As noted earlier in this discussion of Moderate area attainment date extensions, the statute at section 188(d) provides that a state may seek up to two 1-year extensions of the Moderate area attainment date if it meets the applicable criteria of sections 188(d)(1) and 188(d)(2). The statute makes no distinction between the criteria that must be met for the first 1-year extension and the criteria for the second 1-year extension, therefore the EPA plans to apply the same interpretations of the statutory criteria proposed throughout this section, including the proposed deadlines for the state to submit the extension request and the certified air quality data, for purposes of a state seeking a second 1-year attainment date extension for a Moderate nonattainment area.

The EPA seeks comment on the proposed approaches described above for interpreting the criteria of section 188(d)(1) and 188(d)(2) and establishing a process for states to request attainment date extensions for Moderate areas.

## V. How would a $PM_{2.5}$ Moderate nonattainment area be reclassified to Serious?

As discussed elsewhere in this preamble, subpart 4, part D of title I of the CAA establishes a two-tier classification system for areas designated nonattainment for the $PM_{2.5}$ NAAQS. While all areas designated nonattainment are initially classified as Moderate, section 188(b) describes two pathways by which the EPA has the authority or the duty to reclassify a Moderate nonattainment area to a Serious nonattainment area. Pursuant to section 188 (b)(1), the EPA has general discretionary authority to reclassify from Moderate to Serious any area that the Administrator determines cannot practicably attain the NAAQS by the applicable Moderate area attainment date. Pursuant to section 188(b)(2), the EPA has a mandatory duty to reclassify from Moderate to Serious any area that fails to attain the NAAQS by the applicable Moderate area attainment date. Both of these pathways are more fully described below.

### *A. Discretionary Authority*

The EPA's discretionary authority to reclassify a Moderate area to Serious derives from language in section 188(b)(1) of the CAA which provides that: ''The Administrator may reclassify as a Serious $PM_{10}$ nonattainment area . . . any area that the Administrator determines cannot practicably attain the [NAAQS] . . . by the attainment date . . . for Moderate Areas.'' The use of this discretionary authority thus would be triggered by the EPA making a determination that the Moderate area in question could not practicably attain by its statutory attainment date.

The CAA does not specify the basis on which the EPA may make the determination that the area cannot practicably attain by the applicable attainment date. In the General Preamble, the EPA explained that the agency could base this determination upon whatever factors are pertinent and do so whether or not the state in question has submitted a Moderate area attainment plan, and whether or not the state has made the demonstration contemplated in section 189(a)(1)(B).[157] The EPA may make such a determination based on evaluation of the attainment plan for the Moderate area in question or other facts known to the agency. As discussed earlier in this preamble, the attainment plan that a state would submit for a Moderate nonattainment area must include either a demonstration that the area will attain the NAAQS by the statutory Moderate area attainment date or a demonstration that attaining by the statutory Moderate area attainment date is impracticable. If the state makes and the EPA concurs with an impracticability demonstration submitted as part of the attainment plan, then the demonstration could serve as the basis for the EPA initiating a notice-and-comment rulemaking to reclassify the area to Serious. However, the CAA does not specify the basis for the EPA's exercise of its discretionary authority and does not require the EPA to make its determination based on a submission from the state. Indeed, such a prerequisite would be illogical in the case of a state that fails to make any attainment plan submission or fails to address the issue of the need for reclassification in such submission.

Section 188(b)(1)(B) does establish mandatory timeframes by which EPA must act if it intends to exercise its discretionary authority to reclassify areas as appropriate following the Moderate area attainment plan due date, stating that ''the Administrator shall reclassify appropriate areas within 18 months after the required date for the state's submission of a SIP for the Moderate Area.'' In the case of areas designated nonattainment for the 2012 $PM_{2.5}$ NAAQS in the first round of designations, states will be required by statute to submit a Moderate area attainment plan within 18 months of the date of designation (April 2015), or no later than October 2016. Pursuant to section 188(b)(1)(B), the EPA would then have until April 2018 (18 months following the Moderate area attainment plan submission deadline) to use its discretionary authority to reclassify any area that the EPA determines at that time cannot practicably attain by the Moderate area attainment date of December 2021.

As noted above, the EPA believes that while a Moderate area impracticability demonstration as contemplated in section 189(a)(1)(B) is desirable in order to help the agency make a determination that the area cannot practicably attain by its attainment date, such a demonstration is not necessary to trigger action by the EPA to reclassify a Moderate area to Serious. The statute does not prohibit the EPA from using the weight of available evidence, including information available in the public record of a state, to make such a determination, even in the absence of a complete attainment plan submission. Thus, the EPA expressed in the General Preamble that:

> . . . under the plain meaning of the terms of section 188(b)(1) EPA has general discretion to reclassify at any time before the applicable attainment date any area EPA determines cannot practically attain the standards by such date. Accordingly, CAA section 188(b)(1) is a general expression of delegated rulemaking authority. In addition, subparagraphs (A) and (B) of CAA section 188(b)(1) mandate that the EPA reclassify at specified timeframes any areas it determines appropriate for reclassification at those dates. These subparagraphs do not restrict the general authority but simply specify that, at a minimum, it must be exercised at certain times.[158]

The EPA continues to consider this the correct interpretation of the statutory requirements concerning its authority to reclassify a Moderate nonattainment area to Serious at any time prior to the area's Moderate area attainment date, if the agency determines that the area cannot practicably attain the relevant $PM_{2.5}$ NAAQS by that date.

The EPA emphasizes that states with an area designated as nonattainment for the $PM_{2.5}$ NAAQS are required to meet all Moderate area attainment plan requirements, even after the EPA reclassifies the area to Serious. Section 189(b)(1) states clearly that ''in addition to'' the Moderate area attainment plan requirements, states with areas reclassified to Serious must also meet Serious area attainment plan requirements, *i.e.,* the reclassification does not eliminate the statutory obligation to meet Moderate area

[157] *See* the **Federal Register** published on April 16, 1994 (57 FR 13498, 13537 and 13538).

[158] *Ibid.* at 13537.

attainment plan requirements.[159] Thus, the EPA believes that reclassifying Moderate areas to Serious at any time under its discretionary authority does not reward areas who delay development and implementation of control measures by excusing states from meeting substantive Moderate area attainment plan requirements or by extending the applicable attainment date. The EPA articulated this position in the General Preamble, explaining that this interpretation:

. . . creates an incentive for the timely submittal and effective implementation of moderate area SIP requirements and facilitates the $PM_{10}$ attainment objective. For example, if an area that fails to submit a timely moderate area SIP is reclassified, this does not obviate the requirement that the area submit and implement RACM consistent with the moderate area schedule. Accordingly, the area could be subject to sanctions for its delay in submitting the RACM SIP requirement . . . Further, reclassification before the applicable attainment date will ensure that additional control measures (*i.e.,* in addition to RACM, serious areas must implement best available control measures (BACM)), are implemented sooner and will expedite the application of more stringent new source review requirements to the area . . . Similarly, where an area submits a timely moderate area SIP, EPA may not discover that the area cannot practicably attain until sometime after it begins implementing its moderate area control measures. The EPA then may want to reclassify the area in order to facilitate the development and implementation of BACM.[160]

The EPA considers this the correct interpretation of the statutory requirements and proposes to apply this longstanding interpretation of section 188(b)(1) to nonattainment areas for the $PM_{2.5}$ NAAQS.

*B. Mandatory Duty*

In addition to the EPA's discretionary authority to reclassify a Moderate area to Serious under certain circumstances, the CAA also directs the EPA to do so under other circumstances. The alternative circumstances under which the EPA will reclassify an area from Moderate to Serious are if that area fails to attain the relevant NAAQS by the applicable Moderate area attainment date, including any extension of that date under section 188(d) for which the area qualifies. Under such circumstances, the EPA has a mandatory duty to identify any area that fails to attain the $PM_{2.5}$ NAAQS by the applicable Moderate area attainment date. Reclassification under such circumstances would happen by operation of law when the EPA determines that the area failed to attain the NAAQS by the applicable attainment date, in accordance with section 188(b)(2)(A). Section 188(b)(2) requires that ''within six months following the applicable attainment date for a $PM_{10}$ nonattainment area, the Administrator shall determine whether the area attained the standard by that date'' and publish its determination in the **Federal Register**. The EPA proposes that the date of reclassification for an area reclassified under the EPA's mandatory duty to reclassify an area would be the effective date of the **Federal Register** document announcing that the area had not attained the relevant $PM_{2.5}$ NAAQS and is therefore reclassified by operation of law. Thus, for example in the case of the 2012 $PM_{2.5}$ NAAQS, assuming a Moderate $PM_{2.5}$ nonattainment area fails to attain the standard by its approved attainment date of December 31, 2021, the EPA would be required to publish in the **Federal Register** no later than June 30, 2022 its determination that the area failed to attain the NAAQS and is therefore reclassified as Serious by operation of law. The date of reclassification for the area would be the effective date of the **Federal Register** document, or sometime after June 30, 2022. To meet the requirements of section 189(b)(2), the Serious area attainment plan for the area would be due within 18 months thereafter, or no later than December 2023.

An alternative approach for setting the date of reclassification for an area reclassified to Serious under the EPA's mandatory authority could be to make it the same date as the missed attainment date for the area. Applying this approach in the example above would yield an earlier date of reclassification of December 31, 2021, and an earlier Serious area attainment plan due date of June 30, 2023.

Although section 188(b)(2) does not explicitly address this issue, the EPA believes that its proposed approach is a reasonable interpretation of statutory ambiguity in section 188(b)(2) and preferable over the alternative approach for two reasons. First, the statute at section 189(b)(2) gives a state 18 months from the date of reclassification of an area to submit for the EPA's approval an attainment demonstration with air quality modeling and provisions to assure timely implementation of BACM and BACT on sources in the nonattainment area. The EPA believes that it is reasonable for a state with a Serious $PM_{2.5}$ nonattainment area to have 18 months plus the additional time needed by the EPA to issue a **Federal Register** document announcing the area's failure to attain by the applicable Moderate area attainment date and subsequent reclassification (up to 6 additional months) to ensure that the state has time to develop and submit a thorough, complete and accurate Serious area attainment plan that will provide for timely attainment of the NAAQS. Second, the statutory attainment date for a Serious area reclassified under any circumstances is as expeditious as practicable but no later than the end of the tenth year following designation of the area, and is thus independent of the date of reclassification of the area. Allowing a state some additional amount of time beyond 18 months from the missed attainment date to develop and submit a complete Serious area attainment plan, including adopting BACM and BACT, will not change the statutory obligation on the state for the area to attain the relevant NAAQS by the applicable attainment date. On the contrary, the EPA believes that the extra time may in fact help the area timely attain the relevant NAAQS by allowing the state to develop a more effective attainment plan for the area.

The EPA seeks comment on its proposed approach of basing the date of reclassification for an area reclassified under the agency's mandatory duty in section 188(b)(2) on the effective date for the **Federal Register** document in which the EPA announces that the area failed to attain the $PM_{2.5}$ NAAQS by the applicable Moderate area attainment date and is reclassified by operation of law. The EPA intends to make determinations of whether or not an area attained the relevant NAAQS pursuant to section 188(b)(2) via notice-and-comment rulemaking.

## VI. What are the EPA's proposed requirements for Serious area attainment plans?

Sections 189(b) and (c) of the CAA include the following requirements for Serious area attainment plan submissions: (i) An attainment demonstration (section 189(b)(1)(A)); (ii) provisions for the implementation of best available control measures (BACM) no later than 4 years after reclassification of the area to Serious (section 189(b)(1)(B)); (iii) quantitative milestones that will be used to evaluate compliance with the requirement to

[159] *See, Vigil* v. *Leavitt,* 366 F.3d 1025, amended at 381 F.3d 826 (9th Cir. 2004).

[160] 57 FR 13498 (April 16, 1992), at page 13537.

demonstrate RFP (section 189(c)); and, (iv) regulation of $PM_{2.5}$ precursors (in general to meet attainment and control strategy requirements and as specifically required for major stationary sources by section 189(e)). Other subpart 1 requirements for attainment plans not otherwise superseded under subpart 4 also apply to Serious areas for the $PM_{2.5}$ NAAQS, including: (i) A description of the expected annual incremental reductions in emissions that will demonstrate RFP (section 172(c)(2)); (ii) emissions inventories (section 172(c)(3)); (iii) other control measures (besides BACM and BACT) needed for attainment (section 172(c)(6)); and, (iv) contingency measures (section 172(c)(9)).

Additionally, section 189(b)(1) requires that ''in addition'' to the attainment plan requirements specific to Serious areas, states must also meet all Moderate area attainment plan requirements. The EPA interprets the statutory language of section 189(b)(1) to require states with areas that are reclassified to Serious to meet Moderate area attainment plan requirements, including any areas that the EPA reclassifies through rulemaking under its discretionary authority, even if that occurs before the area has met all of its Moderate area attainment plan requirements.[161]

The remainder of this section presents the EPA's proposed regulatory approaches to implement the requirements for attainment plan submissions for Serious areas.

*A. Plan Due Dates*

The timing of Serious area attainment plan elements is dictated by two provisions of the CAA: Section 189(b)(2) for certain subpart 4 elements and section 172(b) for subpart 1 elements not superseded by subpart 4 requirements. Section 189(b)(2) addresses the due dates for Serious area attainment demonstrations due under section 189(b)(1)(A) and provisions for BACM and BACT implementation under section 189(b)(1)(B). Specifically, section 189(b)(2) stipulates two alternative schedules for states to submit Serious area attainment demonstrations, depending upon the statutory authority invoked by the EPA to reclassify the area from Moderate to Serious. For an area reclassified to Serious by operation of law under section 188(b)(2) upon a determination by the EPA that the area failed to attain the relevant NAAQS by the applicable Moderate area attainment date, a state must submit a new attainment demonstration for the area no later than 18 months after reclassification. For an area reclassified to Serious pursuant to the agency's discretionary authority provided under section 188(b)(1), a state must submit a new attainment demonstration no later than 4 years after reclassification of the area.[162] For all Serious nonattainment areas, section 189(b)(2) requires a state to submit within 18 months of an area's reclassification ''provisions to assure that the best available control measures [BACM] for the control of $PM_{10}$ shall be implemented no later than 4 years after the date the area is classified (or reclassified) as a Serious Area.''

In contrast, section 172(b) provides the EPA discretion to set a due date for subpart 1 attainment plan elements that is no later than 3 years after designation of the area. In the Addendum, the EPA interpreted the date of reclassification of an area to Serious to be analogous to the date of designation of the area to nonattainment generally.[163] If the EPA selects the proposed option, discussed later in this section, to adopt this convention, the subpart 1 attainment plan elements of provisions to demonstrate RFP, emissions inventories, additional control measures beyond BACM and BACT needed for expeditious attainment of the $PM_{2.5}$ NAAQS, and contingency measures could in theory be due as late as 3 years after reclassification of an area to Serious. For the reasons discussed below, the EPA believes that it is necessary to harmonize the submission dates of the various elements of a Serious are attainment plan for the $PM_{2.5}$ NAAQS to provide for more effective evaluation of such attainment plan submissions by states, the EPA and members of the general public.

As with Moderate area attainment plans consisting of both subpart 1 and 4 elements, the EPA presumes that simultaneous development and submission of most, if not all, of the Serious area attainment plan elements will be most effective, both for the state in developing the plan and for the EPA in reviewing the state's submission, given the interplay between all plan elements in the formation of a successful control strategy for the area. Just as importantly, a complete attainment plan submission facilitates the general public's review of the entire control strategy adopted by the state. Therefore where there is ambiguity in the statutory provisions, the EPA is proposing one or more approaches to schedule submission of the various elements of Serious area attainment plans in a way that will facilitate better development and evaluation of such attainment plan submissions. The EPA's proposed options for due dates for specific elements of a Serious area attainment plan are described below.

1. Area Reclassified to Serious After Failing To Attain the $PM_{2.5}$ NAAQS

If the EPA reclassifies a Moderate area to Serious because of a failure to attain the relevant NAAQS by the applicable attainment date, section 189(b)(2) requires that the state must submit both the attainment demonstration for the area and provisions to ensure timely BACM and BACT implementation to the EPA within 18 months after reclassification. Because an up-to-date base year emissions inventory, required under section 172(c)(3), will serve as the foundation of a state's BACM and BACT determination, and additional control measures (beyond BACM and BACT) that are necessary for expeditious attainment of the $PM_{2.5}$ NAAQS as required under section 172(c)(6) will need to be identified in order to complete the control strategy for the area, the EPA proposes that both the base year inventory and additional control measures (beyond BACM and BACT) needed for expeditious attainment must also be submitted within 18 months after reclassification of the area to Serious by operation of law.

The EPA also proposes and seeks comment on two possible due dates for the remaining Serious area attainment plan elements for areas that failed to attain the NAAQS by the applicable Moderate area attainment date. Those plan elements are provisions for RFP, quantitative milestones and contingency measures. The first proposed due date for these remaining Serious area attainment plan elements would be no later than 18 months after reclassification of the area, consistent with the due date for the plan elements already described above. As noted above, the EPA maintains that requiring states to submit all elements of an attainment plan by the same date is reasonable because it allows for a complete review of the state submission by the EPA, regulated entities, and the general public, and it also may prove most efficient for states. *See* proposed 40 CFR 51.1003(b)(2)(ii).

The alternate proposed due date for the remaining elements would be 3 years following reclassification to

[161] *See Vigil* v. *Leavitt,* 366 F.3d 1025, amended at 381 F.3d 826 (9th Cir. 2004).

[162] Section V of this preamble provides a more detailed discussion of the process for reclassifying areas with severe nonattainment problems to Serious.

[163] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42015.

Serious, which would be consistent with guidance the EPA provided in the Addendum specific to the due date for contingency measures for Serious areas.[164] This guidance references the EPA's discretion under section 172(b) to establish due dates up to 3 years after designation for attainment plan elements required under section 172(c), which also include RFP provisions. Subpart 4 meanwhile requires quantitative milestones to demonstrate RFP but does not specify a due date for submitting such milestones as part of the attainment plan for the area (as separate and distinct from the clear statutory requirements related to demonstrating compliance with those milestones established in the attainment plan). When taken together, the EPA believes that these statutory provisions may be read to permit a state to submit these three elements of the plan as late as 3 years after reclassification of the area. While the EPA does not believe that such a reading is as logical as the agency's first proposed approach, the EPA seeks comment on this alternative proposed approach to setting due dates for a state to submit an RFP plan, quantitative milestones and contingency measures for a Serious area reclassified under the EPA's mandatory authority.

2. Area Reclassified to Serious Due to an Inability To Practicably Attain the NAAQS by the Statutory Moderate Area Attainment Date

If the EPA determines that a Moderate area cannot practicably attain the relevant NAAQS by the applicable attainment date and reclassifies the area to Serious pursuant to its discretionary authority under section 188(b)(1), section 189(b)(2) requires the state to submit provisions to ensure timely implementation of BACM and BACT to the EPA within 18 months after reclassification. As stated earlier, because an up-to-date emissions inventory serves as the foundation for a state's BACM and BACT determination and pursuant to the authority granted to the EPA under section 172(b), the EPA proposes that the state must meet the emissions inventory requirement under section 172(c)(3) also within 18 months after reclassification of the area by submission of an up-to-date emissions inventory.

With respect to the attainment demonstration requirement for Serious areas reclassified pursuant to section 188(b)(1), section 189(b)(2) allows the state up to 4 years after reclassification to submit a new attainment demonstration for an area reclassified to Serious because it cannot practicably attain the $PM_{2.5}$ NAAQS by the applicable Moderate area attainment date. This due date could generally be appropriate, notwithstanding the related issues discussed in the following paragraphs, if the EPA finalizes an approach for determining the overall control strategy for the area in which BACM and BACT are identified independent of the attainment demonstration for the area (*see* proposed Option 1 for BACM and BACT determinations described in Section VI.D of this preamble).

However, the EPA is also proposing an alternative approach for determining the control strategy for a Serious area, under which BACM and BACT and additional feasible measures would be identified in conjunction with the attainment demonstration for the area (*see* proposed Option 2 for BACM and BACT determinations described in Section VI.D of this preamble). Under such an approach, the EPA proposes that the due date for the Serious area attainment demonstration would be no later than 18 months after reclassification if the EPA finalizes its proposed Option 2 for determining BACM and BACT for the area, as the attainment demonstration would be necessary in order for the EPA and the public to determine whether the control strategy identified for the area is adequate, and the statute requires that a state submit its BACM provisions within 18 months after reclassification of an area.

With respect to other elements of a Serious area attainment plan, under the EPA's prior interpretation as described in the Addendum, the EPA had suggested that states could submit contingency measures no later than 3 years after reclassification of an area to Serious because of the language of section 172(b).[165] The EPA believes it may be appropriate to extend a similar approach to establishing due dates for some other attainment plan elements required under subpart 1. Therefore, the EPA proposes to provide a state with the maximum time permitted under section 172(b)—3 years from the date of reclassification of the area—to submit the following plan elements: Provisions to demonstrate RFP, other control measures (beyond BACM and BACT) needed to bring the area into expeditious attainment, and contingency measures. The EPA proposes that quantitative milestones, required under subpart 4 but linked to RFP which is required under subpart 1, would also be included with the plan elements due 3 years following reclassification.

The EPA believes that this proposed due date for certain attainment plan elements required under subparts 1 and 4 would be most appropriate if finalized in conjunction with proposed Option 2 for BACM and BACT, which would require the state to submit the attainment demonstration for the area within 18 months after reclassification of the area to Serious. However, in the event the EPA finalizes proposed Option 1 for determining BACM and BACT for a Serious nonattainment area independent of the attainment demonstration for the area, the attainment demonstration for the area would be due no later than 4 years after the date of reclassification of the area to Serious. Given the integral role that the attainment demonstration plays in helping to identify additional feasible measures (beyond BACM and BACT) that an area may need to attain the relevant standard expeditiously (and which are required under section 172(c)(6)), to calculate emissions reductions needed on an annual basis to demonstrate RFP, and to calculate the emissions reductions that contingency measures need to achieve and identify what controls could constitute such measures, the EPA is proposing and seeking comment on an alternative submittal deadline for provisions for RFP and quantitative milestones, additional control measures needed for expeditious attainment, and contingency measures that would align their due date with the statutory Serious area attainment demonstration due date, no later than 4 years from the date of reclassification. *See* proposed 40 CFR 51.1003(b)(2)(i). The EPA believes that coordinating submission of attainment plan elements so that they may be developed and reviewed together can prove most efficient for the submitting state, the EPA, and the general public, and therefore this proposed alternative is the agency's preferred approach. However, the EPA seeks comment on all of its proposed due date options for the various elements of a Serious area attainment plan.

*B. Emissions Inventory Requirements*

1. What emissions inventory requirements apply to Serious area attainment plans?

As with $PM_{2.5}$ nonattainment areas classified as Moderate, Congress did not create a specific emissions inventory requirement in subpart 4 that would supersede the emissions inventory requirement under subpart 1 for Serious areas. Thus, the statutory emissions

[164] *Ibid.* at 42015.

[165] *Ibid.* at 42015.

inventory requirements that apply for Serious area attainment plans continue to be those of section 172(c)(3), which explicitly requires ''a comprehensive, accurate, and current inventory of actual emissions of the relevant pollutants'' in the nonattainment area. In addition, the specific attainment plan requirements for the $PM_{2.5}$ NAAQS set forth in section 189(a) and associated modeling requirements make an accurate and up-to-date emissions inventory a critical element of any viable attainment plan. Finally, the additional attainment plan requirements for the $PM_{2.5}$ NAAQS for Serious areas contained in subpart 4 at section 189(b) have additional requirements that affect the emissions inventory requirements for Serious areas.[166]

As noted earlier in this preamble, states must use the best available, current emissions inventory information for attainment plan development, because complete, high quality emissions inventory data are essential for the development of an effective control strategy. To assist states in preparing complete, high quality inventories, the EPA provides guidance for developing emissions inventories in its SIP Emissions Inventory Guidance, available at *http://www.epa.gov/ttn/chief/eidocs/eiguid/index.html*. The EPA recommends that states consult this guidance while developing emissions inventories to meet requirements for Serious area attainment plans.

2. How do states meet the inventory requirements for the $PM_{2.5}$ NAAQS for areas classified as Serious?

As with Moderate $PM_{2.5}$ nonattainment areas, neither section 172(c)(3) nor the provisions specifically applicable to attainment plans for the $PM_{2.5}$ NAAQS in subpart 4 specify how states should meet statutory emissions inventory requirements for Serious $PM_{2.5}$ nonattainment areas. Section 172(c)(3) requires that states submit ''a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in such area, *including such periodic revisions as the Administrator may determine necessary to assure that the requirements of this part are met''* (emphasis added). The EPA interprets this provision to authorize the agency to require states to revise their base year emissions inventories whenever the state is required to submit a new attainment plan because of a change in the nonattainment area's status (*e.g.* failure to attain by the applicable attainment date resulting in reclassification). In addition, pursuant to CAA section 301, the EPA has additional authority to promulgate regulations as necessary for the implementation of the $PM_{2.5}$ NAAQS, including requirements pertaining to emissions inventories. Accordingly, the EPA is proposing specific emissions inventory requirements it considers necessary to effectuate the attainment plan requirements of the CAA for the $PM_{2.5}$ NAAQS.

Like Moderate areas, there are three key facets of the EPA's proposed emissions inventory requirements, as laid out below: (i) The types of inventories required; (ii) the content of these inventories; and, (iii) the timing of submittal of these inventories. The three facets are addressed in the following paragraphs.

First, the EPA proposes that the same two types of inventories required for Moderate areas are also required for Serious areas. While these inventories are the same types and names of inventories as for Moderate areas, they must be created specifically for Serious area attainment plans in accordance with the applicable Serious area requirements. The first type of inventory, the ''base year inventory for the nonattainment area,'' is expressly required by section 172(c)(3). The second type of inventory the EPA is proposing to require under section 301(a)(1) is necessary to implement the attainment demonstration requirement of section 189(a)(1)(B). This second inventory is called the ''attainment projected inventory for the nonattainment area.'' *See* proposed 40 CFR 51.1008(b)(1) and (2).

Second, the EPA proposes that the content of the inventories will follow the content requirements for Moderate area inventories, with one exception needed to meet the requirements of section 189(b)(3). For Serious areas, section 189(b)(3) defines a separate emissions threshold for major sources in Serious nonattainment areas (70 tpy potential to emit of $PM_{10}$), and this major source threshold is used in 40 CFR part 51, subpart A (the AERR) to define which sources must be reported as point sources for $PM_{10}$. This threshold is lower than the 100 tpy potential to emit general requirement for major sources of $PM_{10}$, $PM_{2.5}$ or one of its precursors that is used for Moderate area emissions inventories. Inventories for Serious area attainment plans must include these smaller sources as point sources (rather than the nonpoint source category that would apply for these in Moderate area plans) using the lower threshold specified in the CAA and codified in 40 CFR part 51, subpart A. Also as described above and in 40 CFR part 51, subpart A, this means that all other smaller stationary sources must be included in the inventory as nonpoint sources.

Third, Section VI.A of this preamble describes the EPA's proposal to require that a state submit the base year inventory for a Serious nonattainment area at the same time that it submits provisions to implement BACM and BACT on sources in the area (due no later than 18 months from reclassification of the area pursuant to section 189(b)(2)) as the base year inventory serves as the starting point for conducting a BACM and BACT determination. On the other hand, because the attainment projected inventory is more closely related to the Serious area attainment demonstration, the EPA believes that a state should be required to submit its attainment projected inventory with the attainment demonstration for a given Serious area in order to allow effective evaluation of the attainment plan as a whole. Consequently, the EPA is proposing to establish the regulatory requirement that attainment projected emissions inventories be submitted at the same time as the Serious area attainment demonstration, which would mean no later than 18 months after reclassification for areas reclassified after failing to attain the NAAQS by the applicable Moderate area attainment date, or no later than 4 years after reclassification for areas reclassified by the EPA because the area cannot practicably attain the NAAQS by the statutory attainment date if the EPA finalizes proposed Option 1 for determining BACM and BACT for area. *See* proposed 40 CFR 51.1008(b)(3) and (4). If the EPA finalizes an approach for determining BACM and BACT that links the control strategy analysis to the attainment demonstration, then the attainment demonstration including the attainment projected emissions inventory would be due no later than 18 months after reclassification (*i.e.,* at the same time BACM provisions are due under the statute).

The EPA seeks comment on these proposed requirements and due dates for emissions inventories for Serious area attainment plans.

### *C. Pollutants To Be Addressed in the Plan*

Section III of this preamble includes a detailed discussion about how states should address $PM_{2.5}$ precursors in attainment plans and in the NNSR

[166] All definitions described in Section IV.B of this preamble for areas classified as Moderate apply in this section.

program for purposes of implementing current and future $PM_{2.5}$ NAAQS. While evaluating sources of direct $PM_{2.5}$ for BACM and BACT is an implicit requirement in the context of implementing the $PM_{2.5}$ NAAQS under any scenario, the EPA is proposing and seeking comment on several options for addressing $PM_{2.5}$ precursors under the $PM_{2.5}$ NAAQS implementation program. The EPA interprets the requirements of the CAA to allow an air agency to provide a ''precursor demonstration'' that can seek to make a technical case to the EPA that one or more $PM_{2.5}$ precursors need not be subject to control requirements in a given nonattainment area, whether from sources in general or from major stationary sources. Section III presented three options describing different proposed approaches to such precursor demonstrations, and requested comment on each. The discussion for each option described how precursors would be addressed for Moderate areas and for Serious areas.

In general terms, the three options can be summarized as follows:

- Option 1: Two independent analyses: (a) An attainment planning analysis demonstrating that control measures for a particular precursor are not needed for expeditious attainment, meaning that the precursor can be excluded from measures needed to attain as expeditiously as practicable for all types of sources; and, (b) a section 189(e) technical demonstration showing that major stationary sources of a particular precursor do not contribute significantly to levels that exceed the $PM_{2.5}$ standard, meaning that the precursor can be excluded from control requirements for major sources and from NNSR permitting. For an area reclassified to Serious, the state would once again need to evaluate potential control measures for all sources of direct $PM_{2.5}$ and all $PM_{2.5}$ precursor emissions as part of the control strategy determination process (described more fully in Section VI.D of this preamble).
- Option 2: Single analysis demonstrating that all emissions of a particular precursor from within the area do not significantly contribute to $PM_{2.5}$ levels that exceed the standard, meaning that control requirements for emissions of the precursor from major stationary and area sources, as well as mobile sources, would not be required for expeditious attainment, control requirements for major sources, or for NNSR permitting. For an area reclassified to Serious for which a precursor had previously been demonstrated to not significantly contribute to $PM_{2.5}$ levels that exceed the standard, the air agency would be required to update the precursor demonstration taking into account any relevant information or technical tools that had been developed since the initial demonstration was approved, but could still conclude that control requirements are not required for Serious area attainment planning if the updated demonstration still shows that all source emissions of a precursor do not significantly contribute to $PM_{2.5}$ levels that exceed the standard.
- Option 3: An attainment planning analysis demonstrating that control measures for all types of sources of a particular precursor are not needed for expeditious attainment also would be deemed to meet the section 189(e) technical demonstration requirement, meaning that the state would not need to regulate emissions of the particular precursor from major stationary sources under the NNSR permitting program or other control requirements for major stationary sources. As under proposed precursor Option 1, for an area reclassified to Serious, the state would once again need to evaluate potential control measures for all sources of direct $PM_{2.5}$ and all $PM_{2.5}$ precursor emissions as part of the control strategy determination process (*see* Section VI.D of this preamble).

The EPA will finalize its approach to $PM_{2.5}$ precursors and clarify the implications for states conducting analyses to determine the appropriate control strategy for a Serious area after considering public comment received on this proposal.

*D. Attainment Plan Control Strategy*

1. General Approach To Designing a Control Strategy for a Serious Nonattainment Area

As noted in Section IV.D of this preamble, the statutory attainment planning requirements of subparts 1 and 4 were established to ensure that states meet the following goals of the CAA: (i) Implement measures that provide for attainment of the $PM_{2.5}$ NAAQS as expeditiously as practicable, and (ii) adopt emission reduction strategies that will be the most effective, and the most cost effective, at reducing $PM_{2.5}$ levels in nonattainment areas. A state has discretion to require reductions from any source inside or outside of a $PM_{2.5}$ nonattainment area (but within the state's boundaries) in order to fulfill its obligation to demonstrate attainment in a $PM_{2.5}$ nonattainment area as expeditiously as practicable, in addition to having an obligation to meet the statutory requirements for specific control measures on sources located within a nonattainment area (*e.g.,* BACM and BACT). A state may need to require emissions reductions on sources located outside of a $PM_{2.5}$ nonattainment area if such reductions are needed in order to provide for expeditious attainment of the $PM_{2.5}$ NAAQS.

The following sections describe the EPA's proposed approach for a state to follow in order to identify and select the complete suite of measures needed for an approvable attainment plan submission for a Serious $PM_{2.5}$ nonattainment area.

2. Identification and Selection of BACM and BACT and Additional Feasible Measures

a. *Statutory requirements and existing guidance.* As discussed earlier, a state must prepare a new attainment plan for any Moderate area reclassified to Serious. Such a plan must include provisions to implement BACM on sources in a Serious nonattainment area, as provided by section 189(b)(1)(B), no later than 4 years after reclassification. Under section 189(b)(2), a state has 18 months following reclassification to submit these BACM provisions.

Section 189(b)(1)(B) refers only to BACM, but the EPA has long interpreted this term to include BACT, just as the analogous term for RACM includes RACT for Moderate areas. The legislative history for the 1990 Amendments to the CAA supports this interpretation, as the EPA has explained in past guidance.[167] Additionally, the requirement for BACT in the context of $PM_{2.5}$ NAAQS implementation in nonattainment areas is separate and distinct from the requirement for BACT under the Prevention of Significant Deterioration (PSD) permitting program for new stationary sources in areas designated as attainment or unclassifiable for the $PM_{2.5}$ NAAQS. As described later in this section, the process and criteria that states have historically used to determine BACT for PSD have been applied to determine BACT for $PM_{10}$ NAAQS implementation, but these requirements are otherwise unrelated.

Longstanding guidance in the General Preamble and Addendum, together with past practice associated with implementing the $PM_{10}$ NAAQS under subpart 4, have helped to establish a general approach for states and the EPA to determine BACM and BACT for Serious $PM_{10}$ nonattainment areas. This approach has served as the basis for developing a more stringent control strategy for a Serious $PM_{10}$ nonattainment area than that developed

[167] *Ibid.* at 42008–09.

for such area when it was classified as Moderate. Indeed, as BACM and BACT are required to be implemented when a Moderate nonattainment area is reclassified as Serious due to its actual or projected inability to attain the relevant NAAQS by the Moderate area attainment date through the implementation of ''reasonable'' measures, it is logical that ''best'' control measures should represent a more stringent and potentially more costly level of control.[168] The level of stringency generally refers to the overall level of emissions reductions of a control measure or technology, or of such measures and technologies combined.

Congress first defined BACT in CAA section 169(3) for the PSD permitting program as: ''an emission limitation based on the maximum degree of reduction of each pollutant . . . which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques . . .''

In the Addendum, the EPA provided guidance concerning the requirements for BACM and BACT for Serious area attainment plan requirements for the $PM_{10}$ NAAQS.[169] The EPA discussed in the Addendum that when Congress amended the CAA, Congress selected the same ''best'' terminology for $PM_{10}$ nonattainment areas as they did for the language selected for the PSD program in 1977. The EPA interpreted this word choice at the time to mean that PSD BACT and $PM_{10}$ nonattainment area BACM should be generally analogous in definition and implementation, but with some differences due to different end policy goals between the PSD and nonattainment area programs.[170] The EPA thus defined BACM for $PM_{10}$ Serious nonattainment area planning to be the maximum degree of emission reduction achievable from a source or source category which is determined on a case-by-case basis, considering energy, economic and environmental impacts and other costs.[171]

The EPA has described BACM as a generally independent requirement, to be determined without regard to the specific attainment analysis (*i.e.,* attainment demonstration) for the area.[172] The EPA established that such an interpretation is in accordance with the structural scheme of the CAA, which by its definition requires that when an area is classified as Serious, BACM are implemented in addition to RACM. Because of the two types of measures employed, the EPA found it reasonable in the past to interpret the statute as requiring a different analysis for determining BACM, *i.e.,* that while RACM has been interpreted as those reasonable measures necessary to bring a nonattainment area into expeditious attainment, BACM has been interpreted as those measures that best control sources' emissions without regard to whether such measures are needed for purposes of attainment of the relevant NAAQS in the area. The view that BACM and BACT measures are generally independent of the attainment needs of the area is also consistent with the statutorily specified submission date for BACM and BACT control measures, versus the statutorily specified submission date for the attainment demonstration for Serious areas. Specifically, states with Serious nonattainment areas must submit BACM and BACT measures within 18 months of reclassification of areas to Serious, whereas they are given up to 4 years from reclassification to submit the attainment demonstration for such areas.

In addition, the EPA has historically provided an exemption from BACM and BACT for source categories that contribute only *de minimis* levels to ambient $PM_{10}$ concentrations in a Serious nonattainment area. In the Addendum, the EPA proposed that all sources in a Serious area are subject to BACM unless ''the state adequately demonstrates that a particular source category does not contribute significantly to nonattainment of the NAAQS.''[173] Because the language regarding BACM implementation in section 189(b)(1)(B) of the CAA requires ''provisions to assure that best available control measures (BACM) for the control of $PM_{10}$ shall be implemented . . .'' without stating that ''all'' BACM must be implemented, the EPA has interpreted this language as providing the EPA discretion to exclude from BACM requirements source categories that do not contribute significantly to an area's nonattainment status. Additionally, in the Addendum, the EPA argued that based on the decision in *Alabama Power Co.* v. *Costle,* the courts have supported the interpretation that sources that contribute negligibly to an area's nonattainment status can be excluded from regulation.[174] The EPA further indicated that the same criteria used in the NSR permitting program at the time to determine if a source category contributes significantly to an area's nonattainment status should apply, such that a source category would be considered a significant contributor to an area's nonattainment status if its emission contribution was expected to exceed 5 $\mu g/m^3$ for the 24-hour $PM_{10}$ NAAQS (150 $\mu g/m^3$ at the time), or 1 $\mu g/m^3$ for the annual $PM_{10}$ NAAQS (50 $\mu g/m^3$ at the time).

A discussion of the EPA's existing process and criteria for determining BACM and BACT for Serious $PM_{10}$ nonattainment areas and the agency's proposed options for defining the criteria by which a state must determine BACM and BACT and additional feasible measures for a Serious $PM_{2.5}$ nonattainment area are presented in the sections that follow.

In accordance with the $PM_{10}$ guidance in the Addendum, the EPA has applied a four-step process for states to use to identify measures that constitute BACM or BACT for sources located in $PM_{10}$ Serious areas. The four-step BACM selection process was designed to take into account the local facts and circumstances and the nature of the air pollution problem in a given nonattainment area. The BACM determination process for $PM_{10}$ Serious nonattainment areas has historically entailed: (i) Developing a comprehensive inventory of sources and source categories of directly emitted $PM_{10}$ and $PM_{10}$ precursors; (ii) evaluating source category impact and determining if any source categories are *de minimis* and thus do not need further evaluation for emission controls; (iii) evaluating alternative control measures available for significant source categories for technological feasibility; and, (iv) evaluating costs (*i.e.,* economic feasibility) of the technologically

[168] *Ibid.* at 42009.

[169] *Ibid.* at 42009.

[170] *Ibid.* at 42010. ''EPA will interpret PSD BACT and PM–10 BACM as generally similar because, despite the similarity in terminology, certain key differences exist between control measures applicable in the PSD and PM–10 serious nonattainment area programs. The BACT under the PSD program applies only in areas already meeting the NAAQS, while PM–10 applies in areas which are seriously violating the NAAQS. The difference in policy goals, arguably, suggests that the PM–10 BACM control standard should be more stringent than that for PSD BACT. . . . EPA considers it reasonable to use the approach adopted in the PSD BACT program as defined in section 169(3) of the Act as an analogue for determining appropriate PM–10 nonattainment control measures in serious areas, while at the same time retaining the discretion to depart from that approach on a case-by-case basis as particular circumstances warrant.''

[171] *Ibid.*

[172] *Ibid.* at 42011.

[173] *Ibid.* at 42011.

[174] *See Alabama Power Co.* v. *Costle,* 636 F.2d 323, 360–61 (D.C. Cir. 1979).

feasible control measures.[175] [176] These steps are described more fully below.

*Step 1: Inventory sources and precursors.* As with any control strategy analysis for a nonattainment area, the EPA recommended that a state begin with a current emissions inventory as the first step toward determining what constitutes BACM or BACT for a particular Serious $PM_{10}$ nonattainment area. The EPA expected that a state would start with the base year emissions inventory submitted with the Moderate area attainment plan for the area as required under section 172(c)(3), and update it as necessary to reflect new source construction, facility shutdowns, growth in certain source categories, and any other relevant changes. The EPA reiterated in the Addendum that the emissions inventory for the area must identify both nonanthropogenic and anthropogenic emissions sources.[177]

*Step 2: Evaluate source category impact.* The next step in the BACM analysis for $PM_{10}$ Serious areas was for the state to identify source categories having significant (*i.e.,* non-*de minimis*) impacts on air quality in the Serious area. The EPA suggested in the Addendum that receptor modeling, screening modeling, or refined dispersion modeling would likely be necessary to identify key source categories, which the state may have performed during the development of the Moderate area attainment plan.[178]

*Step 3: Evaluate alternative control techniques.* Once the significant source categories were identified for a $PM_{10}$ Serious nonattainment area, the state was expected to evaluate the technological and economic feasibility of control measures ''discussed in the BACM guidance documents and other relevant materials for all source categories impacting the nonattainment area except those with a *de minimis* impact considering emission reductions achieved with RACM.'' [179] Control measures were supposed to be expanded to include options not previously considered RACM as well as consider additional measures not previously evaluated in the RACM analysis.

Under the Addendum, the test for determining technological feasibility could differ depending on the type of source category evaluated. For area sources, the EPA's guidance suggested that technological feasibility depended on the ability to alter the characteristics that affect emissions from the sources, such as the size or extent of the area sources and operation procedures. The EPA's guidance suggested that for specific point sources, technological feasibility should consider factors such as layout of the plant, space available to make changes in the plant, energy requirements, operating procedures, and materials used, among others.[180]

*Step 4: Evaluate costs of control.* The EPA's previous guidance recommended that a control should be considered economically feasible by the state when ''the control technology in question has previously been implemented at other sources in a similar source category without unreasonable economic impacts.'' [181] Feasibility of public funding for BACM could have been a consideration that states evaluated for all of the technologically feasible control measures determined in Step 3. Other costs that could be considered included capital costs, operating and maintenance costs, and the cost effectiveness of a particular control measure or technology.[182]

The EPA believes that the difference between RACM and BACM primarily lies in the extent of the actual emissions reductions achieved through the application of a given suite of candidate measures. For example, a state may have deemed a candidate RACM or RACT measure economically infeasible because its cost effectiveness (dollar per ton of pollutant reduced) was high relative to other measures, but the same measure could qualify as BACM if, for the increased cost, it would ultimately provide substantial $PM_{2.5}$ attainment benefits. An example of RACM might be to implement a particular control in a limited way, while BACM could mean a more widespread implementation of that same measure, even though wider implementation would incur greater cost. In the $PM_{10}$ context, states and the EPA have determined that BACM have sometimes been measures that were first implemented as RACM, but were then later implemented on a broader scale as BACM in the nonattainment area after it was reclassified as Serious.[183]

While the proposed approaches and criteria for identifying appropriate control measures for a Serious area are necessarily different than for a Moderate area, it is important to note two similarities: first, that the EPA interprets the requirement under section 172(c)(6) for a state to adopt ''other measures'' needed for attainment to apply to sources located inside and outside of any $PM_{2.5}$ nonattainment area (but within the state's boundaries), whether the area is classified as Moderate or Serious; and, second, similar to the RACM requirement for Moderate nonattainment areas under subpart 4, section 189(b)(1)(B) requires that BACM must be implemented no later than 4 years after a Moderate area is reclassified to Serious.

Taking these two statutory provisions together, the EPA proposes that the other measures required under section 172(c)(6) must include ''additional feasible measures,'' which would be those measures and technologies that otherwise meet the criteria for BACM and BACT but that can only be implemented in whole or in part beginning 4 years after reclassification of an area, but no later than the statutory attainment date for the area. *See* proposed 40 CFR 51.1000. Such measures would necessarily be implemented on sources in the nonattainment area, and a state would only be required to implement them if they were needed in addition to BACM and BACT to bring the area into expeditious attainment. The state must

[175] For additional information, *see ibid.* at 42012–13.

[176] For examples of how states have applied these steps and criteria for Serious $PM_{10}$ nonattainment areas and how the EPA has evaluated them, *see generally* Approval and Promulgation of Implementation Plans for California—San Joaquin Valley PM–10 Nonattainment Area; Serious Area Plan for Attainment of the 24-Hour and Annual PM–10 Standards, 69 FR 5412 (February 4, 2004); Approval and Promulgation of Implementation Plans for California—San Joaquin Valley PM–10 Nonattainment Area; Serious Area Plan for Attainment of the 24-Hour and Annual PM–10 Standards, 69 FR 30006 (May 26, 2004); Approval and Promulgation of Implementation Plans for Arizona; Maricopa County PM—10 Nonattainment Area; Serious Area Plan for Attainment of the 24-Hour and Annual PM–10 Standards, 73 FR 45542 (August 14, 2008); Approval and Promulgation of Implementation Plans; Arizona—Maricopa County PM–10 Nonattainment Area; Serious Area Plan for Attainment of the Annual PM–10 Standard, 65 FR 19964 (April 13, 2000), at page 19972.

[177] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42012.

[178] *Ibid.*

[179] *Ibid.* at 42012. At the time of publication of the Addendum, the EPA had already issued BACM guidance documents pursuant to section 190 for residential wood combustion, prescribed burning, and fugitive dust. The agency referred to these documents as establishing the control measures that a state should consider, at a minimum, as BACM for those $PM_{10}$ sources in Serious $PM_{10}$ nonattainment areas.

[180] *Ibid.* at 42013 (discussing in detail factors which affect the selection of mobile, area, and point source alternative control techniques for particulate matter).

[181] *Ibid.* at 42013.

[182] EPA Air Pollution Control Cost Manual, Sixth Edition, (EPA/452/B–02–001), July 2002 (explaining how to determine costs under a BACT analysis).

[183] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42014. The Addendum provides one example of RACM to reduce $PM_{10}$, to ''[p]ave 4 miles of unpaved city streets.'' *Ibid.* BACM for $PM_{10}$ for the same nonattainment area could later mean to ''[p]ave 10 miles of the most heavily-traveled, unpaved county roads.'' *Ibid.* Therefore, the measure itself was not necessarily changed, but the extent to which the measure was implemented was significantly expanded. Such a measure would also contribute to more expeditious attainment of the NAAQS.

also assess whether there are other control measures that it can implement to control sources within the state but outside the nonattainment area that contribute to the $PM_{2.5}$ nonattainment status of the area in order to bring the area into attainment as expeditiously as practicable, and may consider existing measures that, applied more extensively, could meet the more stringent criteria for control measures that must be adopted to bring a Serious nonattainment area into expeditious attainment.

These ''additional feasible measures'' would be analogous to the ''additional reasonable measures'' in the proposed RACM and RACT analysis process, which are technologically and economically feasible measures that cannot qualify as RACM or RACT because they cannot be implemented within 4 years of designation of a Moderate nonattainment area. Under either of the two proposed approaches for determining BACM and BACT for sources in a Serious nonattainment area descrfibed later in this section, a state would identify additional feasible measures as part of the BACM and BACT determination process, just as additional reasonable measures would be identified as part of the state's RACM and RACT determination process.

The EPA recognizes that only a nonattainment area that is reclassified under the agency's discretionary authority might have sufficient time between the required date for implementing BACM and BACT and the statutory Serious area attainment date to implement additional measures beyond BACM and BACT. BACM and BACT must be implemented no later than 4 years after reclassification of the area; areas reclassified to Serious because they cannot practicably attain the relevant NAAQS by the applicable attainment date could potentially have significantly more than 4 years between the date of reclassification and the statutory Serious area attainment date, during which time the area could continue to implement additional measures to bring the area into attainment. By way of illustration, for areas designated in the first round of designations for the 2012 $PM_{2.5}$ NAAQS, the statutory Moderate area attainment date will be no later than December 31, 2021. If a state submits a Moderate area attainment plan by the statutory attainment plan due date (18 months after designation, or in this example, October 2016) and the plan demonstrates that the area cannot practicably attain the NAAQS by December 31, 2021, then the EPA has a statutory duty to reclassify such an area within 18 months of the attainment plan due date (*i.e.,* by April 2018). The statutory Serious area attainment date would be the end of the tenth year following designation, or December 31, 2025. In such a case, the state would need to implement BACM for the area within 4 years of reclassification, or by April 2022, leaving over 3.5 years between the statutory deadline for implementing BACM and the statutory attainment date for the area. The EPA's proposal to require the state to identify and adopt additional feasible measures for the area would mean that the state would need to identify those control measures and technologies that are feasible (according to the proposed BACM and BACT criteria described later in this section) and that can be implemented between April 2022 and December 2025. The EPA expects that while such a long span of time may be available only to a very few Serious nonattainment areas, it would be appropriate to require such areas to implement measures in addition to BACM and BACT if, taken together, they can advance the attainment date for the area by at least 1 year. The EPA seeks comment on its proposal to require additional feasible measures for Serious nonattainment areas as described here.

b. *Proposed approaches for determining BACM and BACT and additional feasible measures for Serious $PM_{2.5}$ nonattainment areas.* The EPA proposes and seeks comment on two approaches for a state to meet the statutory control requirements that apply for Serious nonattainment areas. The EPA is first proposing an approach consistent with prior guidance summarized in the preceding section of this preamble which would center on determining BACM and BACT and additional feasible measures ''generally independent'' of whether such measures are needed for expeditious attainment of the relevant NAAQS in a Serious $PM_{2.5}$ nonattainment area. Under this first proposed approach, states would have the option, with the proper evidence and justification, to eliminate *de minimis* source categories from consideration for controls.

The EPA's second proposed approach would require states to identify BACM and BACT and additional feasible measures simply within the context of what is necessary to bring an area into attainment as expeditiously as practicable. In other words, the second proposed option would take a different approach to determining Serious area control measures from the approach included in prior EPA guidance, in that it would allow states not to impose specific measures that would otherwise be BACM or BACT (or additional feasible measures) in the area, if those measures would not be necessary to bring the area into attainment with the relevant NAAQS by the statutory attainment date, and the collective emissions reductions from such measures would not be sufficient to advance the attainment date by at least 1 year in the area. A discussion of the proposed options follows.

i. *Proposed Option 1.* The EPA seeks comment on a proposed approach to maintain, with some modifications, the existing approach to determining BACM and BACT for Serious $PM_{10}$ nonattainment areas to BACM and BACT determinations for Serious $PM_{2.5}$ nonattainment areas. Under this approach, a state would be required to determine BACM and BACT and additional feasible measures for a Serious $PM_{2.5}$ nonattainment area independent of an analysis of the specific attainment needs of the Serious area; in other words, the BACM and BACT analysis would need to be conducted without regard to whether all such controls are needed to bring the area into expeditious attainment. Keeping in mind that the overall objective of the implementation of BACM and BACT and additional feasible measures is to bring a Serious $PM_{2.5}$ nonattainment area into attainment as expeditiously as practicable, this option would continue to provide that the test for BACM puts a ''greater emphasis on the merits of the measure or technology alone,'' rather than on ''flexibility in considering other factors,'' in contrast to the approach for determining RACM and RACT described in both the EPA's past guidance and in this proposal in Section IV.D.[184] This Option 1 is consistent with the statutory provisions governing the timing for submission of BACM and BACT measures versus the timing for attainment demonstrations for Serious areas. By interpreting the statutory requirement for BACM and BACT for Serious $PM_{2.5}$ nonattainment areas as a requirement that a state must meet independent of the attainment planning needs of the area, the EPA would not consider such requirement to be a ''planning'' requirement tied to the actual attainment status of the area, and thus would not suspend such a requirement in the event the agency determines that a Serious area is attaining the relevant $PM_{2.5}$ NAAQS and

[184] *Ibid.*

in turn grants a clean data determination for the area.[185]

Under the EPA's first proposed approach, a state would be required to follow a multi-step process similar to the existing BACM process for $PM_{10}$ (outlined earlier in this section) to identify and select control measures and technologies more stringent than RACM and RACT and additional reasonable measures for non-*de minimis* source categories in the nonattainment area. This process would involve analyzing the impact of the different source categories identified in the up-to-date base year emissions inventory for the area to identify those with a significant contribution to the area's $PM_{2.5}$ concentrations. Any source categories found not to have such an impact would be considered *de minimis* and therefore exempt from further consideration. The specific steps the EPA is proposing for this approach are explained below. *See* proposed 40 CFR 51.1010(a) for proposed Option 1.

*Step 1: Update base year emissions inventory for the area.* The first step under this proposed approach would be for the state to develop a detailed emissions inventory of the various sources and source categories that emit direct $PM_{2.5}$ and $PM_{2.5}$ precursors in the Serious area. This inventory should be the most comprehensive and accurate inventory available. The EPA expects that the work for this step would be completed in order to meet the emissions inventory requirements for Serious area plans as described in Section VI.B, and would start with reviewing and updating the emissions inventory submitted as part of the Moderate area attainment plan for the area.

*Step 2: Evaluate source category impacts.* As with BACM for $PM_{10,}$ the EPA proposes to allow states to exempt from further consideration *de minimis* source categories in Step 2 of the agency's first proposed approach for determining BACM and BACT for a Serious $PM_{2.5}$ nonattainment area. The EPA proposes to apply the same overarching test for identifying *de minimis* source categories as that described in the Addendum.[186] That is, if a state can demonstrate that a particular source category does not contribute significantly to nonattainment of the $PM_{2.5}$ NAAQS after the application of any RACM or RACT controls on the sources in the source category, then the state may eliminate the source category from further consideration for BACM or BACT.[187] A state would be required to evaluate for BACM and BACT controls all other sources in the nonattainment area in source categories that do not qualify as *de minimis.*

This option could be beneficial for some states that may already exclude *de minimis* $PM_{10}$ source categories from BACM in Serious $PM_{10}$ nonattainment areas or that may exclude *de minimis* $PM_{2.5}$ source categories from RACM and RACT and additional reasonable measures in Moderate $PM_{2.5}$ nonattainment areas. As discussed earlier, a state may rely on receptor or dispersion modeling conducted for the area as part of its Moderate area attainment plan. Alternative or additional modeling, including screening modeling, or filter analysis may also be necessary to identify significant contributors to $PM_{2.5}$ levels in the area. More discussion on the EPA's proposal regarding how to evaluate source category impacts and identify those that are *de minimis* can be found in Section IV.D of this preamble. The EPA notes that a state may face the same challenges in establishing *de minimis* source categories for $PM_{2.5}$ sources in a Serious nonattainment area as it did in establishing *de minimis* source categories for $PM_{2.5}$ sources when the area was classified as Moderate. Therefore, the EPA seeks comment on its proposed options, described in Section IV.D, for defining source categories and determining the appropriate threshold for *de minimis* emissions. The EPA requests that commenters submit any relevant data or analyses to support their comments. In the absence of compelling evidence to support establishing a nationally-applicable ''bright line'' threshold for defining a *de minimis* source category for purposes of implementing the $PM_{2.5}$ NAAQS in a Serious nonattainment area, the EPA would apply a presumptive approach allowing a state to apply its own reasoned judgment to determine whether a particular source category should be considered *de minimis* in the event the EPA finalizes proposed Option 1 for BACM and BACT determinations.

*Step 3: Identify existing and potential control measures.* After evaluating source category impacts to eliminate *de minimis* source categories from further consideration, the state would identify all existing and potential measures (including those measures that were rejected in the RACM and RACT determination and additional new potential measures) for reducing emissions from the remaining (*i.e.,* non-*de minimis*) source categories listed in the latest base year emissions inventory for the area. For purposes of identifying new measures to consider in its BACM and BACT analysis, the EPA proposes to require that the state conduct a survey of other nonattainment areas for the $PM_{2.5}$ NAAQS and other NAAQS (*i.e.,* $PM_{10}$, ozone, $SO_2$ and $NO_X$) both in the same state and in other states to identify potential control measures that other air agencies are implementing, and the state must incorporate such measures into the list of potential control measures for the source categories in the Serious nonattainment area. The EPA would expect the state to identify an array of existing and potential new measures at least as broad as that identified for the same area as part of the RACM and RACT analysis, in order to ensure that the state has a sufficiently expansive and comprehensive set of potential measures to evaluate. Therefore, at a minimum, the EPA proposes that the list of potential measures must include all measures identified as potential control measures for the nonattainment area when it was classified as Moderate or, for a given source category, one or more alternative control measures or technologies that would control emissions even more stringently than the measures and technologies included in the RACM and RACT analysis. In this way, the state will begin its BACM and BACT determination with a list of potential control options that is as complete and up-to-date as possible.

In addition to identifying existing control measures for sources in a Serious $PM_{2.5}$ nonattainment area, a state must develop a comprehensive list of potential control measures for sources in the area. The EPA's RACT/BACT/LAER Clearinghouse provides a central data base of air pollution technology information that may be highly relevant to states seeking information on stationary source control technology that may qualify as BACT for $PM_{2.5}$ NAAQS implementation, and is available online at *http://cfpub.epa.gov/RBLC/.* There are also other resources available to assist states in identifying other potential control measures and control technologies for their BACM and BACT determinations. The EPA encourages states with Serious $PM_{2.5}$ nonattainment areas to visit the agency's Web site to find links to other online sources of information on potential

[185] For a complete discussion of the EPA's Clean Data Policy and the EPA's proposal for applying this policy for purposes of implementing the $PM_{2.5}$ NAAQS, *see* Section IX.C of this preamble.

[186] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42011.

[187] *Ibid. See also Alabama Power* v. *Costle,* 636 F.2d 323, 360–61 (D.C. Cir. 1979).

control measures for states to consider.[188]

Specific to potential control measures for mobile source emissions, the EPA's past guidance has indicated that where mobile sources contribute significantly to $PM_{2.5}$ violations, ''the state must, at a minimum, address the transportation control measures listed in CAA section 108(f) to determine whether such measures are achievable in the area considering energy, environmental and economic impacts and other costs.'' [189] The EPA proposes to retain this guidance and require that a state include for evaluation as BACM for mobile sources those measures listed in section 108(f), and the agency seeks comment on this specific requirement.

*Step 4: Determine whether an available control measure or technology is technologically feasible.* After developing a list of existing and potential new measures to evaluate for BACM and BACT, the state would then need to determine the technological feasibility of each identified control measure in light of a number of considerations, including each measure's individual energy and environmental impacts.[190]

(1) Stationary sources. As described under the technological feasibility criteria for the control measures analysis for Moderate area attainment plans in Section IV.D, the EPA's prior guidance on factors to consider for judging whether a particular control technology is technologically feasible should include a source's processes and operating procedures, raw materials, physical plant layout and potential environmental impacts such as increased water pollution, waste disposal and energy requirements. For example, the EPA recognizes that the process, operating procedures and raw materials used by a source can affect the feasibility of implementing process changes that reduce emissions and can also affect the selection of add-on emission control equipment. The feasibility of modifying processes or applying control equipment also can be influenced by the physical layout of the particular plant, if the physical space available in which to implement such changes limits the choices.[191]

(2) Area and mobile sources. With respect to determining whether a given control measure might not be technologically feasible as BACM for an area or mobile source, the EPA proposes that a state may consider factors in conducting its analysis that are similar to factors the state may have considered during the RACM and RACT determination process, such as the social acceptability of the measure, and local circumstances, such as the condition and extent of needed infrastructure, population size or workforce type and habits, which may prohibit certain potential control measures from being implementable. However, in the instance where a given control measure has been applied in another NAAQS nonattainment area (for $PM_{2.5}$ or other pollutant), the EPA proposes that the state will need to provide a detailed justification for rejecting any potential BACM measure as technologically infeasible. Furthermore, if the state identifies a certain control measure for area or mobile sources that has been implemented in another nonattainment area and may qualify as BACM or BACT for the state's Serious nonattainment area, the state must provide a reasoned justification if it deems it technologically infeasible to implement the same control measure to the same extent or magnitude as it was applied in the other nonattainment area.

The EPA seeks comment on the factors described above for states to consider when evaluating the technological feasibility of a control measure or technology for BACM and BACT.

*Step 5: Determine whether an available control technology or measure is economically feasible.* The fifth step under this proposed approach is to evaluate the costs of implementing each of the technologically feasible control measures and technologies in order to eliminate from further consideration any measures determined to be economically infeasible. As discussed elsewhere in this proposal, in assessing ''best'' control measures and technologies, states with Serious $PM_{2.5}$ nonattainment areas must identify a control strategy for the area that overall is more stringent than that identified for the area when the state considered only the ''reasonableness'' of potential control measures. Thus the EPA is proposing to require states to consider emission reduction measures with higher costs per ton when assessing the economic feasibility of BACM and BACT controls (and, where applicable, additional feasible measures) as compared to the economic feasibility criteria applied in their RACM and RACT analysis (and analysis for additional reasonable measures) for the same nonattainment area.

Indeed, consistent with prior guidance on evaluating costs of a potential BACM or BACT control, the EPA maintains that while the economic feasibility of a control measure is as important as its technological feasibility under the RACM and RACT determination process, economic feasibility is a less significant factor in the BACM and BACT determination process. In other words, a state must apply a higher standard for eliminating a technologically feasible control measure from further consideration as BACM due to cost alone.

In the Addendum, the EPA stated that ''for $PM_{10}$ BACM purposes, it is reasonable for similar sources to bear similar costs of emission reduction.'' [192] Additionally, the EPA indicated that ''economic feasibility for $PM_{10}$ BACM purposes should focus upon evidence that the control technology in question has previously been implemented at other sources in a similar source category without unreasonable economic impacts.'' [193] Thus, a state may not eliminate a particular control measure from further consideration as potential BACM if similar sources have successfully implemented such a measure. That is, a state must at a minimum continue to consider as potential BACM any technologically feasible control measures or technologies implemented by similar sources.

In addition, the EPA seeks to clarify that a state may not automatically eliminate a particular control measure merely because other sources have not implemented the measure. In other words, a state must continue to consider technologically feasible measures that have not been implemented by similar sources but that can nonetheless effectively reduce emissions from the source category in question at a cost that is not wholly cost prohibitive.

As with the EPA's proposed approach for evaluating economic feasibility of potential reasonable measures for Moderate area attainment plans, the EPA proposes that for each technologically feasible control measure or technology, a state must evaluate the economic feasibility of the measure or control through consideration of the capital costs, operating and maintenance costs, and cost effectiveness (*i.e.,* cost per ton of pollutant reduced by that measure or technology) associated with such measure or control. While the EPA is

[188] Links are provided to a number of national, state and local air quality agency sites from the EPA's $PM_{2.5}$ Web site: *http://www.epa.gov/pm/measures.html.*

[189] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42013.

[190] *Ibid.* at 42012.

[191] *Ibid.* at 42013.

[192] *Ibid.*

[193] *Ibid.*

not proposing a fixed dollar per ton cost threshold for economic feasibility of controls identified as potential BACM and BACT, the EPA proposes that the threshold should be higher for the BACM and BACT analysis than it was for the RACM and RACT analysis for the same nonattainment area. In addition, if a state contends that a source-specific control-level should not be established because the source(s) cannot afford the control measure or technology that is demonstrated to be economically feasible for purposes of BACM for other sources in its source category, the state must support the claim with information regarding the impact of imposing the identified control measure or technology on the following financial indicators, to the extent applicable:

1. Fixed and variable production costs ($/unit);
2. Product supply and demand elasticity;
3. Product prices (cost absorption vs. cost pass-through);
4. Expected costs incurred by competitors;
5. Company profits
6. Employment costs;
7. Other costs (*e.g.,* for BACM implemented by public sector entities).

The EPA seeks comment on the factors described above for states to consider when determining whether a control measure or technology is economically feasible as BACM or BACT.[194]

*Step 6: Determine the earliest date by which a control measure or technology can be implemented in whole or in part.* Section 189(b)(1)(B) requires that Serious area attainment plans provide for the implementation of BACM no later than 4 years after reclassification of the area to Serious. As with the EPA's proposed approach to RACM and RACT, the EPA proposes the term ''implement'' to mean that the control measure or technology has not only been adopted into the SIP for the area but has also been built, installed and/or otherwise physically manifested and the affected sources are required to comply. *See* proposed 40 CFR 51.1000. The EPA thus expects a state with a Serious nonattainment area to take deliberate and timely action to implement BACM and BACT in the area. The EPA proposes that if a state evaluates a potential BACM or BACT measure and determines that it can be implemented only partially within 4 years after reclassification, the state must adopt the partial measure as BACM.

The EPA proposes that a state must identify those technologically and economically feasible control measures and technologies that it can implement fully or partially within 4 years of reclassification of its Serious $PM_{2.5}$ nonattainment area. These measures will be considered BACM and BACT for the area. ''Additional feasible measures'' would be ''best''-level, feasible measures that a state could implement in whole or in part on sources in the area sometime after the fourth year following reclassification and prior to the statutory attainment date for the area.

ii. *Proposed Option 2.* The second proposed approach for evaluating control measures and technologies and determining which qualify as BACM or BACT or additional feasible measures for a Serious $PM_{2.5}$ nonattainment area would directly link the control strategy determination process with the attainment demonstration for the area, allowing a state to eliminate potential measures that are not necessary to demonstrate attainment of the relevant NAAQS in the area and would not collectively advance the attainment date for the area by at least 1 year. For this second proposed approach, the EPA proposes a process similar to the one proposed for Moderate area control strategy determinations. However, the specific potential control measures to be evaluated as BACM and BACT and additional feasible measures would continue to be distinguished by stricter criteria to yield a set of control measures that reflects an overall higher level of stringency in the control strategy for the nonattainment area than that provided by the implementation of reasonable control measures (*i.e.,* RACM and RACT and additional reasonable measures).

Under the EPA's second proposed approach for determining which measures must be part of the control strategy for a Serious $PM_{2.5}$ nonattainment area, a state would follow many of the same steps as described under the EPA's first proposed approach for the such determinations, with two important differences. First, Step 2 as described above would be eliminated from the process. That is, after a state updates the baseline emissions inventory for sources located in the area, the state would be required to identify existing and potential new measures for all sources in the inventory for evaluation as potential BACM and BACT and additional feasible measures without exempting any source categories as *de minimis.* Second, Step 6 as described above would not be the last step in the control strategy determination process, but rather would serve as another interim step in the process prior to making a final determination of what constitutes BACM and BACT and additional feasible measures for the area through modeling for the attainment demonstration. The EPA's proposed requirements for what the state would need to evaluate during this step under this second proposed approach are described in greater detail in the following section.

The EPA emphasizes that proposed Option 2 for determining BACM and BACT and additional feasible measures depends on the state submitting its attainment demonstration earlier than may otherwise be required under the statute so that it can be contemporaneous with the submission of BACM and BACT measures, due 18 months after the date of reclassification of a $PM_{2.5}$ nonattainment area to Serious.

Given all of the above, the EPA is proposing and seeking comment on a second approach for determining BACM and BACT and additional feasible measures for a Serious $PM_{2.5}$ nonattainment area comprised of the following steps. *See* proposed 40 CFR 51.1010(a) for proposed Option 2. Note that Steps 1 through 5 would incorporate the same considerations and requirements as those in the equivalent steps described in the EPA's first proposed approach with the two important exceptions discussed in the preceding section:

*Step 1: Update base year emissions inventory for the area.*

*Step 2: Identify existing and potential control measures for all emissions sources in the emissions inventory for the area.*

*Step 3: Determine whether an available control measure or technology is technologically feasible.*

*Step 4: Determine whether an available control measure or technology is economically feasible.*

*Step 5: Determine the earliest date by which a control measure or technology can be implemented in whole or in part.*

During this step in the process, the state would be required to identify two groups of measures. The first group of measures would be potential BACM and BACT; that is, ''best''-level, feasible measures that the state could implement in whole or in part within 4 years of reclassification. The second group of measures would be additional feasible measures, defined as ''best''-level, feasible measures that a state could implement in whole or in part on sources in the area sometime after the fourth year following reclassification

[194] These long-standing factors were established in EPA guidance in 1992 and are applicable to implementation programs for all NAAQS pollutants. *See* the appendices to the General Preamble, 57 FR 18070 (April 28, 1992).

and prior to the statutory attainment date for the area.

*Step 6: Model to determine the attainment date that is as expeditious as practicable.* As with the proposed Moderate area attainment plan control strategy analysis, the EPA proposes that states would need to model air quality impacts to determine the Serious area attainment date that is as expeditious as practicable for the area. After developing an inventory, identifying potential measures, determining economic and technological feasibility, and determining whether a measure would be able to be implemented in 4 years or between 4 years from reclassification and the statutory attainment date for the area, the state would conduct modeling that shows the combined air quality impact of all BACM and BACT measures and additional feasible measures as applicable. The purpose of this modeling would be to determine the attainment date that is as expeditious as practicable and to identify whether there are certain control measures that a state could eliminate from the Serious area attainment plan because they cannot collectively expedite attainment of the area by 1 year or more. A complete discussion of the EPA's proposed modeling requirements for Serious area attainment demonstration is presented in Section VI.E below.

*Step 6a: If area can demonstrate attainment by the statutory attainment date, then select only those control measures needed for expeditious attainment as BACM or BACT or additional feasible measures.* Under this second proposed approach to BACM and BACT determinations, the EPA proposes that if a Serious area will be able to demonstrate attainment by the statutory Serious area attainment date, then the state must adopt all measures identified as potential BACM and BACT, and additional feasible measures if applicable, that will ensure that the attainment date is as expeditious as practicable. The state may, however, reject those potential BACM and BACT and additional feasible measures that would not collectively contribute to emissions reductions that could advance the attainment date for the area by at least 1 year.

The EPA recognizes that identifying the measures that would not collectively advance the attainment date for a Serious area by at least 1 year will likely be an iterative process that requires additional modeling. As with modeling for Moderate area attainment demonstrations, the EPA believes that such extra effort is reasonable for a state seeking to reject certain potential BACM or BACT or additional feasible measures from implementation in a given Serious nonattainment area.

One notable point of discussion in the Addendum indicates that short-term BACM measures are not preferred by the EPA unless such a measure is the only way to implement BACM within 4 years.[195] This is because the ultimate goal of selection of BACM controls is that those measures will prevent future emissions, rather than a temporary reduction of emissions. Therefore, consistent with this previous guidance, the EPA proposes that those measures that a state must reject first under this proposed approach would be those that offer only short-term emissions reductions.

*Step 6b: If an area cannot demonstrate attainment by the statutory attainment date, then submit request for Serious area attainment date extension including adopting MSM.* Section 189(b)(1)(A) of the CAA requires a state to submit as part of its Serious area attainment plan either a demonstration that the plan will provide for attainment by the statutory Serious area attainment date, or a demonstration that attainment by such date is ''impracticable.'' If the state cannot demonstrate attainment based on the implementation of all BACM and BACT and additional feasible measures by the end of the tenth calendar year following designation of the area, then under sections 189(b)(1)(A)(ii) and 188(e), the state must submit as part of its Serious area attainment plan a complete request to extend the attainment date for the area that meets the statutory provisions of section 188(e) and meets all of the regulatory criteria proposed under Section VII in this preamble, including the evaluation and adoption of MSM.

The EPA acknowledges that this second proposed approach for determining BACM and BACT and additional feasible measures for a Serious area, which would authorize states to link the attainment control strategy to the attainment needs for an area, is different from the approach the agency has historically applied to BACM determinations for $PM_{10}$. The EPA believes that effectively eliminating the step of exempting *de minimis* source categories the beginning of the control strategy determination process and linking the determination of BACM and BACT and additional feasible measures with the attainment analysis for a Serious area would not be a relaxation of the statutory requirement for implementation of ''best'' measures in Serious $PM_{2.5}$ nonattainment areas as Congress required in section 189(b)(1)(B), however. Rather, the agency believes that in order to ensure that a state develops an appropriately stringent control strategy for a Serious $PM_{2.5}$ nonattainment area, it is appropriate to require that state to identify and evaluate potential control measures for all sources of direct $PM_{2.5}$ emissions and emissions of any $PM_{2.5}$ precursors not otherwise found to contribute insignificantly to $PM_{2.5}$ levels in the area. Eliminating the possibility for *de minimis* source category exemptions means that a state's evaluation of potential control measures and technologies will be more thorough and comprehensive and potentially lead to the implementation of controls on a wider variety of source categories. Additionally, the test of whether the potential BACM and BACT and additional feasible measures not needed for an area to attain the NAAQS by the outside statutory attainment date could collectively advance the attainment date for the area by at least 1 year could result in a state implementing such measures on source categories which, if they had each been evaluated separately for purposes of a *de minimis* source category analysis, might have been exempted from control. Furthermore, as noted earlier in this section, in order for the state, the EPA, and the general public to be able to fully evaluate whether the selected control strategy (*i.e.,* BACM and BACT and additional feasible measures) will provide for expeditious attainment of the NAAQS in a Serious $PM_{2.5}$ nonattainment area, the state would be required to submit the attainment demonstration for the area at the same time as it submits provisions to meet the BACM and BACT requirement under section 189(b)(1)(B), 18 months after reclassification of the area to Serious. This date would be stricter than the statutory due date for a Serious area attainment demonstration for areas reclassified to Serious under the EPA's discretionary authority of section 188(b)(1), which is no later than 4 years from the date of reclassification of the area.

By defining a process for determining BACM and BACT and additional feasible measures in a way that is similar to the process for determining RACM and RACT and additional reasonable measures for the same area, the EPA believes that a state with a Serious $PM_{2.5}$ nonattainment area may be able to conserve resources by relying in part on the analytical work performed for the RACM and RACT analysis for the area when it was classified as Moderate. Furthermore, the challenges associated

[195] *Ibid.*

with properly identifying *de minimis* source categories as described earlier in this section may be avoided. Finally, the EPA believes that tying the final selection of BACM and BACT and additional feasible measures to the specific attainment needs of a nonattainment area could help to focus limited air agency resources on control measures that are most needed to bring a Serious area into expeditious attainment for the $PM_{2.5}$ NAAQS.

The EPA seeks comment on all aspects of both proposed approaches and criteria for determining BACM and BACT and additional feasible measures for a Serious nonattainment area. The agency may finalize either of the proposed approaches or various elements of each after analyzing submitted comments.

3. BACM and BACT Submittal Requirements

To ensure that attainment plan submissions contain the necessary supporting information for EPA review and approval of the state's selected BACM and BACT and additional feasible measures as applicable, the EPA proposes to require under the authority of section 301(a) that a state must submit the following information as part of its Serious area attainment plan submission:

- A list of all emissions source categories, sources and activities in the nonattainment area that emit direct $PM_{2.5}$ or any $PM_{2.5}$ precursor (for multi-state nonattainment areas, this would include source categories, sources and activities from all states which make up the area);
- For each source category, source or activity in the nonattainment area, an inventory of direct $PM_{2.5}$ and all $PM_{2.5}$ precursor emissions;
- For each source category, source or activity in the nonattainment area, a comprehensive list of potential control measures considered by the state for the nonattainment area; [196] [197]
- For each potential control measure considered by the state but eliminated from further consideration due to a determination by the state that the control measure or technology was not technologically feasible, a narrative explanation and quantitative or qualitative supporting documentation to justify the state's conclusion;
- For each technologically feasible emission control measure or technology, the state must provide the following information relevant to economic feasibility: (i) The control efficiency by pollutant; (ii) the possible emission reductions by pollutant; (iii) the estimated cost per ton of pollutant reduced; and, (iv) a determination of whether the measure is economically feasible, with narrative explanation and quantitative supporting documentation to justify the state's conclusion;
- For each technologically and economically feasible emission control measure or technology, the date by which the technology or measure could be implemented.

As with a Moderate area attainment plan submission, the EPA recognizes that the base year emissions inventory for the area that the state submits in conjunction with its Serious area attainment plan will likely contain the information proposed to be required under the first two items in this list. However, the EPA believes that it is incumbent on the state to ensure that the information needed for the EPA to evaluate the state's BACM and BACT and additional feasible measures analysis is presented as part of that analysis and in a format that provides transparency, consistency and the ability for another party to evaluate the state's analysis effectively and to duplicate the state's results. For this reason, the EPA is proposing to require the state to include the base year emissions inventory information with the BACM and BACT submittal and as one element of the state's attainment plan due 18 months after reclassification of the area to Serious.

4. Criteria for Effective Regulations To Implement BACM and BACT and Additional Feasible Measures

As with control measures identified as part of a Moderate area's attainment control strategy, after a state has identified its BACM and BACT and additional feasible measures for a particular nonattainment area, it must implement those measures through a legally enforceable mechanism to be included in the SIP. As with Moderate area control measures, the EPA is proposing that in order for the agency to be able to approve any Serious area control measure and approve it as part of the SIP, the state will have to provide information to meet the following four criteria.

First, the base year emissions from the source or group of sources to which the control measure applies and the future year projected emissions from those sources once controlled must be quantifiable so that the projected emissions reductions from the sources can be attributed to the specific measures being implemented. Once again, it is important that the emissions from the source category in question are accurately represented in the base year inventory so that emissions reductions are properly calculated. In particular, it is especially important to ensure that both the filterable and condensable components of $PM_{2.5}$ are accurately represented in the base year.

Second, the control measures must be enforceable, meaning that they must specify clear, unambiguous and measurable requirements. The measurable requirements for larger emitting facilities must include periodic source testing to establish the capability of such facilities to achieve the required emission level. Additionally, to verify the continued performance of the control measure, specific emissions monitoring programs appropriate for the type of control measure employed and the level of emissions must be included to verify the continued performance of the control measure. The control measures and monitoring program must also have been adopted according to proper legal procedures.

Third, the results of application of the control measures must be replicable. This means that where a rule contains procedures for interpreting, changing or determining compliance with the rule, the procedures are sufficiently specific and objective so that two independent entities applying the procedures would obtain the same result.

Fourth, the control measures must be accountable. For example, source-specific emission limits must be permanent and must reflect the assumptions used in the attainment plan for the area, including the modeling conducted in conjunction with the attainment demonstration. The attainment plan must establish requirements to track emissions changes at sources and provide for corrective action if emissions reductions are not achieved according to the plan.

The EPA seeks comment on these criteria for approval of any control measures adopted by a state for a Serious area to assure that such measures are legally enforceable.

[196] The EPA believes that it is not necessary to identify every possible variation of every type of control measure, or all possible combinations of technologies and measures that would apply to a given source or activity, as long as the state has properly characterized the potentially available emissions reductions and their costs. For example, the EPA believes that the state can conduct a thorough analysis of VMT reduction measures without including every possible level or stringency of implementation of certain possible measures or combinations of measures for reducing VMT, so long as those measures would not affect the overall assessment of VMT reduction capabilities and the associated costs.

[197] The Menu of Control Measures document is available at: *http://www.epa.gov/air/criteria.html.*

5. Relevance of Prior BACT, LAER and BART Determinations

The EPA believes that BACT or lowest achievable emission rate (LAER) provisions for new sources (as distinct from BACT for existing sources), or best available retrofit technology (BART) for existing sources, could qualify as BACM or BACT for purposes of meeting the Serious area attainment plan requirements. However, the EPA does not believe it is appropriate for a state to assume that just because a certain control technology was determined to meet BACT, LAER, or BART criteria for a new source, such a control will also automatically meet the criteria for BACM or BACT or additional feasible measures for attainment planning purposes because the regulated pollutant or source applicability may differ and the analyses may be conducted many years apart. Thus, a state may not simply rely on prior BACT, LAER or BART analyses for the purposes of showing that a source has also met BACT for the relevant $PM_{2.5}$ NAAQS. Rather, the EPA expects that in Step 2 of either of the agency's proposed approaches to the BACM and BACT determination process, the state would identify such measures as ''existing measures'' that should be further evaluated as potential BACM or BACT or additional feasible measures.

6. Multi-State Nonattainment Areas

States that share a multi-state Serious $PM_{2.5}$ nonattainment area must consult with one another on BACM and BACT and additional feasible measures that will be required for the nonattainment area in the different states. This requirement would be consistent with the overall requirements for BACM and BACT and additional feasible measures determinations, as all states with Serious areas need to consider implementing BACM and BACT-level measures that have been implemented in other states, even if those measures incur higher costs. The EPA anticipates that states may potentially adopt controls that differ from state to state, based upon each state's determination of what qualifies as ''best'' given the mixture of sources and potential controls in the state portions of relevant nonattainment areas, subject to EPA approval. If the state can adequately demonstrate that its chosen BACM and BACT and additional feasible measures fully meet the EPA's proposed criteria for such measures, then the agency may consider approving individual state plans that differ in implementation of control measures.

7. Environmental Justice Considerations for Developing the Attainment Plan Control Strategy for a Serious $PM_{2.5}$ Nonattainment Area

The EPA strongly urges states to consider the environmental justice aspect of any control measures they have identified as BACM and BACT or additional feasible measures. Because the criteria for determining BACM and BACT will lead in most cases to the selection of an overall more stringent control strategy in a Serious area than what RACM and RACT could provide, an appropriate control strategy for a Serious nonattainment area will likely implicitly include the best measures for ensuring that overburdened populations are appropriately protected. Nonetheless, the EPA encourages states when possible to select BACM and BACT measures that will result in the least possible burden and greatest degree of health protection for overburdened populations in the nonattainment area.

*E. Modeling for Attainment Demonstrations*

Section IV.E. describes the EPA's proposed attainment demonstration and modeling requirements for Moderate area plans, and the EPA is proposing that the same general requirements should apply to Serious area attainment demonstrations. However, Serious area plans have additional statutory requirements, which the EPA proposes to address as described below.

1. Statutory Requirements

Section 189(b) generally requires a state with a designated Serious nonattainment area to submit an attainment plan for such area. As discussed earlier, section 189(b)(1)(A) more specifically requires the state to submit an attainment demonstration including air quality modeling to establish either: (i) That the area will attain the relevant NAAQS by the applicable attainment date, or (ii) if the state is seeking an extension of the attainment date, that it is impracticable for the area to attain the relevant NAAQS by the statutory Serious area attainment date. For Serious nonattainment areas, the attainment date is as expeditiously as practicable, but no later than the end of the tenth calendar year after designation as nonattainment. An attainment demonstration that shows that it is impracticable for the area to attain within this timeframe must also provide for attainment of the NAAQS by the most expeditious alternative date practicable, but no later than 5 years after the maximum statutory Serious area attainment date (based on the criteria specified in section 188(e)).

Attainment demonstrations are due 18 months after reclassification if the EPA reclassifies the area to Serious after failure of the area to attain the applicable Moderate area deadline. Alternatively, section 189(b)(2) requires states with designated Serious nonattainment areas to submit attainment demonstrations no later than 4 years after reclassification of the area to Serious if the reclassification occurs before the Moderate area attainment deadline. However, the EPA is proposing an approach for determining an appropriate attainment plan control strategy for a Serious $PM_{2.5}$ nonattainment area that would require the state to submit the attainment demonstration for the area within 18 months after reclassification regardless of when or the authority under which an area was reclassified to Serious. Sections VI.A and VI.D of this preamble describe more fully the EPA's proposed approach for control strategy analyses and due dates for all elements of a Serious area attainment plan. Section VI.J of this preamble provides a complete discussion of the EPA's proposed criteria for granting a Serious area attainment date extension.

2. Attainment Demonstrations for Serious Areas

As described in Section IV.E of this preamble, an attainment demonstration is a plan that demonstrates how a state will attain the $PM_{2.5}$ NAAQS by the applicable attainment date. The EPA is proposing that the demonstration for Serious areas must consist of: (i) Technical analyses such as base year and future year modeling of emissions which identify sources and quantify emissions that are contributing to violations of the $PM_{2.5}$ NAAQS; and, (ii) analyses of future year projected emissions reductions and air quality improvement resulting from existing (*i.e.* already-adopted or ''on the books'') national, regional and local programs, and potential new local measures needed for attainment, including RACM and RACT and BACM and BACT controls for the area, as well as other measures either inside the nonattainment area or outside the nonattainment area but within the state that could potentially accelerate attainment. Each state with a Serious nonattainment area must submit an attainment plan with an attainment demonstration that includes analyses supporting the state's determination of its proposed attainment date. In all cases, the state must show that the area

will attain the NAAQS as expeditiously as practicable, but not later than the tenth calendar year after designation. In order to establish that the attainment date is as expeditious as practicable, the state must explain why the control measures adopted in the attainment plan provide for the most expeditious attainment and must either: (i) Under proposed Option 1 for the BACM and BACT determination include all BACM and BACT controls in the analysis, or (ii) under proposed Option 2 for BACM and BACT, provide the requisite analysis to show that implementation of additional emissions controls, including any potential BACM and BACT, would not advance the attainment date for the area by at least 1 year if considered collectively.

A state with a Serious nonattainment area can also submit an impracticability demonstration (under section 189(b)(1)(A)(ii)) as part of seeking an extension of the attainment date under section 188(e). The impracticability demonstration for a Serious area would be similar to an impracticability demonstration for Moderate areas because it must include air quality modeling which shows that the area will not be able to attain the $PM_{2.5}$ NAAQS by the outside statutory attainment date, which in this case is by the end of the tenth calendar year following designation. However, in order to support a Serious area impracticability demonstration, the state must also show (through modeling) that attainment cannot be reached by the statutory Serious area attainment date, even if all RACM and RACT and BACM and BACT controls, as well as other measures either inside the nonattainment area or outside the nonattainment area but within the state, were implemented before the attainment date. Moreover, in addition to the Serious area impracticability demonstration, to support an extension of the attainment date, the Serious area plan must demonstrate (again, using air quality modeling) that it provides for attainment by the most expeditious alternative date practicable employing MSM, as specified in section 188(e). As a result, the required plan is both an impracticability demonstration (to justify an extension beyond the statutory attainment date) and an attainment demonstration which serves as the basis for proposing an appropriate alternative attainment date.

3. What modeling is required?

States are required to submit air quality modeling in support of an attainment demonstration for a Serious $PM_{2.5}$ nonattainment area. Unlike the impracticability demonstration for Moderate areas described in section 189(a)(1)(B)(ii), the impracticability demonstration for Serious areas in section 189(b)(1)(A)(ii) also requires air quality modeling establishing the most expeditious alternative attainment date practicable. Therefore, air quality modeling is a required element in all attainment demonstrations for Serious areas.

Other than the timing of plan submissions and additional required elements of a Serious area plan (such as BACM and BACT), the relevant air quality modeling procedures and guidance for Moderate and Serious area plans are the same. *See* Section IV.E. of this preamble for more details on proposed modeling requirements and guidance for all $PM_{2.5}$ nonattainment areas.

4. Will areas reclassified to Serious need to submit two separate attainment demonstrations?

Under section 189(a)(1)(B), a state is required to submit as part of an area's Moderate area attainment plan a demonstration that the area either will attain or cannot practicably attain the NAAQS by the statutory Moderate area attainment date. Regardless of whether the state submits an attainment demonstration or an impracticability demonstration for a Moderate area, if such area is reclassified to Serious prior to or after failing to attain the applicable NAAQS, the state is required under section 189(b)(1)(A) to submit a new attainment demonstration as part of an area's Serious area attainment plan. The separate statutory requirements for Moderate and Serious nonattainment areas anticipate two separate attainment plan submissions, and the EPA's existing guidance in the General Preamble and Addendum further support this expectation. While the state would be required to submit a separate Serious area attainment plan, the EPA anticipates that certain control strategies may build upon those previously adopted and implemented as part of the Moderate area plan. For example, it could be the case that an area dominated by woodsmoke emissions could not attain the standard by the statutory Moderate area attainment date because all necessary woodstove change-outs could not occur in that timeframe, but additional woodstove change-outs could occur by the statutory Serious area attainment date.

5. What future year(s) should be modeled in attainment demonstrations?

A state performing a modeling analysis for an attainment demonstration or a Serious area impracticability analysis must select a future year for the analysis. For an attainment demonstration, a state should select the future modeling year such that all emissions control measures relied on for attainment will have been implemented by the beginning of that year. To demonstrate attainment, the modeling results for the nonattainment area must predict that emissions reductions implemented by the beginning of the last calendar year preceding the attainment date will result in $PM_{2.5}$ concentrations that meet the level of the standard.[198]

While states should choose the future modeling year based on a number of factors, the EPA recommends the last year of the statutory attainment date as a starting point for modeling for two reasons. First, a state with a Serious area for which it submits an attainment date extension request under section 188(e) must show that the area cannot practicably attain the NAAQS by the end of the tenth calendar year following designation of the area. Therefore, the appropriate future modeling year for making such a demonstration would be the tenth year after designations. Even if a state does not submit (or does not intend to submit) a Serious area attainment date extension request, modeling the tenth year is a logical starting point to determine if attainment by year 10 is likely. If attainment-level concentrations of $PM_{2.5}$ are not expected in the tenth calendar year after designations, then the area must also, as a requirement to receive an extension of the Serious area attainment date, submit a demonstration (using air quality modeling) that provides for attainment by the most expeditious alternative date practicable, but no later than the end of the fifteenth year after designation, with the implementation of MSM (*see* Section VI.J of this preamble for details about MSM determinations).

Second, even though attainment of any $PM_{2.5}$ NAAQS is determined based on 3 years of ambient data, states do not have to model 2 years before the attainment date to show modeled attainment. Since the design value is an average of the annual or 98th percentile value for 3 consecutive years, attainment can still be shown even if concentrations exceed the NAAQS in one or more of the 3 years used to determine attainment (as long as the average of the 3 annual values is less

[198] Note that for purposes of the $PM_{2.5}$ NAAQS, a determination of attainment (or failure to attain), which the EPA is required to make after the attainment date has passed, is based on ambient data from the most recent 3 years prior to the attainment date for the area.

than the NAAQS). Therefore, it can be appropriate to model any of the 3 years used to determine attainment. For these reasons, it is acceptable, and may in fact be most efficient, for a state to begin the Serious area attainment demonstration process by modeling the final year of the statutory attainment date to determine future year modeled $PM_{2.5}$ concentrations in the tenth year after designations.

Because an area must attain ''as expeditiously as practicable,'' additional considerations are necessary before an attainment date can be established. For purposes of determining the attainment date that is as expeditious as practicable, the state must conduct future year modeling which takes into account growth and known controls (including any controls that were previously determined to be RACM and RACT for the area). For example, for an area designated nonattainment for the 2012 $PM_{2.5}$ NAAQS during the first round of designations and subsequently reclassified to Serious, a future case scenario for the year 2025 (10 years after the initial nonattainment designation) would be needed to examine whether the the BACM and BACT identified by the state would result in attainment. Under the proposed BACM and BACT determination Option 1 (where BACM and BACT must be determined independent of the attainment demonstration for the area), the future case scenario must include BACM and BACT controls in the analysis plus any additional measures on sources inside and outside of the nonattainment area (but within the state) that the state has identified as feasible to implement by the attainment date. Under proposed Option 2 for determining BACM and BACT (where BACM and BACT is determined according to what is needed to expeditiously attain the NAAQS), the future case scenario must show whether implementation of emissions controls, including all BACM and BACT and additional feasible measures on sources inside and outside of the nonattainment area (but within the state), collectively would advance the attainment date by at least 1 year. Note that similar to RACM and RACT, BACM and BACT controls must be implemented within 4 years after reclassification to Serious nonattainment. In order to justify an extension of the attainment date beyond the end of the tenth year after designation, the state must show that attainment by that date (including the anticipated emissions reductions from RACM and RACT and additional reasonable measures, and BACM and BACT and additional feasible measures) would be impracticable. Any proposed attainment date after the 10 year period must include modeling of BACM and BACT controls plus the most stringent measures that are included in the implementation plan of any state and can be feasibly implemented in the area. The attainment date extension beyond 10 years can be for up to 5 additional years, but the proposed attainment date must also be shown to be as expeditious as practicable. Section VI.J of this preamble provides a complete discussion of the EPA's proposed interpretation of the statutory requirements for a Serious area attainment date extension under section 188(e).

As with Moderate area attainment demonstrations, the EPA believes that it is not necessary or reasonable to require states to model each and every year to determine the appropriate attainment date for a Serious $PM_{2.5}$ nonattainment area given the resource demands associated with modeling.[199] In some cases it may be reasonable to model one additional interim year before the maximum statutory attainment date. However, in most cases, the air quality benefits of an identified set of reasonable control measures, BACM and BACT and additional feasible control measures can be estimated through model sensitivity analyses and the development of transfer factors (factors to relate tons of emissions reductions in the area to $PM_{2.5}$ concentration changes in the area). The EPA strongly recommends that states discuss the selection of the future year(s) to model with their respective EPA Regional Office as part of the modeling protocol development process prior to embarking on the modeling.

6. Attainment Year Motor Vehicle Emissions Budgets

As with Moderate areas, the transportation conformity rule requires that Serious area attainment plans establish motor vehicle emissions budgets for the area's attainment year. Therefore, once a Serious area's attainment date has been established, the state is required to establish motor vehicle emissions budgets for direct $PM_{2.5}$ and any relevant $PM_{2.5}$ precursor for the attainment year.[200] A motor vehicle emissions budget for the purposes of a Serious area $PM_{2.5}$ attainment plan is that portion of the total allowable emissions within the nonattainment area allocated to on-road sources as defined in the submitted attainment plan.[201] Such motor vehicle emissions budgets would be calculated using the latest planning assumptions and the latest approved motor vehicle emissions model available at the time that the attainment plan is developed.[202]

*F. RFP Requirements*

1. Statutory Requirements

As with Moderate area attainment plans, Serious $PM_{2.5}$ nonattainment area plans must provide for RFP as required under CAA section 172(c)(2). Section IV.F of this preamble fully describes the statutory requirements and overall proposed approaches for states to fulfill the RFP requirement in the context of Moderate area attainment plans. The EPA believes that the proposed approaches described for RFP for Moderate area plans can apply to Serious area attainment plans as well. The following section offers additional detail about how the EPA proposes that the approach to RFP should apply specifically to Serious area attainment plans.

2. Proposed Approach

As with a Moderate area attainment plan, the EPA is generally proposing that a state must submit an RFP plan as part of any attainment plan submission for a Serious nonattainment area in order to satisfy the statutory requirements for RFP. The plan must include a schedule and an analysis that collectively demonstrate when and through what control measures emissions from sources in the nonattainment area will decline from the applicable baseline year to the projected attainment year. The EPA is proposing that the applicable baseline year must be the same year as that represented by the latest base year inventory for the Serious area. The projected attainment year may be up to the end of the tenth year following designation of the area for a Serious area

[199] States with Serious areas that request an attainment date extension beyond 10 years must model the tenth year after designation of the area as part of an impracticability demonstration, plus an additional year beyond that which represents the attainment date.

[200] For more information on $PM_{2.5}$ precursor requirements, *see* section 93.102(b)(2)(iv) and (v) of the transportation conformity rule. *See also* the May 6, 2005, final transportation conformity rule that addressed requirements for $PM_{2.5}$ precursors. (70 FR 24280).

[201] A state would also establish motor vehicle emissions budgets for an area's attainment year. Those budgets would be the motor vehicle emissions that the SIP establishes as being necessary to attain the NAAQS.

[202] If an area includes re-entrained road dust in the motor vehicle emissions budget, the latest approved version of AP–42 should be used unless the EPA has approved an alternative model for the area.

that can demonstrate attainment pursuant to section 189(b)(1)(A), or up to the end of the fifteenth year following designation for a Serious area that is seeking an extension to the statutory attainment date pursuant to section 188(e).[203] The RFP analysis must clearly convey how the schedule for implementing BACM and BACT and any additional control measures will provide for generally linear progress towards attainment or, if step-wise progress is more appropriate for the specific nonattainment area in question, the analysis must convey an appropriate implementation schedule and must explain why generally linear progress towards emissions reductions in the area is not appropriate (*e.g.,* due to the nature of the nonattainment problem and the types of sources contributing to $PM_{2.5}$ levels in the area). For a Serious area that cannot demonstrate attainment by the statutory Serious area attainment date, the EPA proposes that the state must include in its RFP analysis the anticipated emissions reductions expected to be achieved through the implementation of BACM and BACT and MSM on sources in the nonattainment area. As with RFP plans for Moderate areas, the EPA proposes that a state must submit one or more projected emissions inventories as part of the RFP plan for any Serious $PM_{2.5}$ nonattainment area following the same guidance that applies to emissions inventories for attainment plans (*see* Section VI.B of this preamble for a complete discussion of emissions inventories for Serious area attainment plans). These projected inventories must correspond with the quantitative milestone date(s) for the area as described in Section VI.H of this preamble. The EPA proposes that motor vehicle emissions budgets must also be established for direct $PM_{2.5}$ and any relevant $PM_{2.5}$ precursor using the latest planning assumptions and the latest approved motor vehicle emissions model available at the time that the Serious area attainment plan is developed.[204]

The EPA seeks comment on all aspects of the agency's proposal for meeting the statutory RFP requirements as they apply to Serious nonattainment areas. Furthermore, the EPA seeks comment on the proposed options described in Section IV.F of this preamble regarding how to prepare an RFP plan, geographic coverage of emission sources for RFP, and RFP requirements for multi-state nonattainment areas, which would also apply to Serious area attainment plans.

*G. Quantitative Milestones*

The attainment plan for any Serious nonattainment area must include quantitative milestones pursuant to section 189(c). These quantitative milestones would be in addition to those identified in the area's Moderate area attainment plan, and would need to continue to be achieved every 3 years until the area attains the NAAQS. Specifically, the Serious area plan for an area that can demonstrate attainment by the statutory Serious area attainment date would have to contain quantitative milestones to be achieved by 7.5 years from the area's date of designation as nonattainment. This date would be 3 years after the first quantitative milestones for the area, to be met 4.5 years from designation of the area and 3 years after the Moderate area attainment plan was due to the EPA. The EPA also proposes and seeks comment on a requirement that a Serious area plan for an area that can demonstrate attainment by the statutory Serious area attainment date must also include quantitative milestones to be reached 10.5 years from designation, to help assess the state's progress toward attaining the $PM_{2.5}$ NAAQS in the event the area fails to attain by the applicable attainment date. For a Serious area that cannot demonstrate attainment by the statutory Serious area attainment date, the EPA proposes that the state must include in the Serious area attainment plan quantitative milestones to be achieved at years 7.5, 10.5 and 13.5 from the area's date of designation.

The Addendum included guidance that recommended milestones ''should be addressed by quantifying and comparing the annual incremental emission reductions which result from implementation of BACM and BACT (required within 4 years after the area is reclassified as serious) and from additional measures included in the final serious area SIP to those reductions which were identified in the SIP as quantitative milestones necessary to achieve the NAAQS by the applicable attainment date.'' [205]

The EPA continues to agree with the fundamental concept conveyed in the existing guidance, but believes that it is impractical to expect that a state will always be able to quantify and compare real and projected emissions reductions, and submit a report to the EPA within 90 days of a given milestone, as required under section 189(c)(2). Therefore, the EPA proposes that the general proposed approach to selecting quantitative milestones, described in Section IV.G, should apply to any attainment plan for a $PM_{2.5}$ nonattainment area, independent of its classification. Specifically, the EPA proposes that states be allowed to select the quantitative milestones that they identify as appropriate and quantifiable and that will provide for objective evaluation of progress toward attainment in their Serious $PM_{2.5}$ nonattainment area, and that the EPA, in its attainment plan approval process, will determine if they satisfy the statutory requirements of section 189(c).

In addition to this general proposed approach for selecting quantitative milestones and similar to an option proposed for Moderate area attainment plans, the EPA proposes to require that, at a minimum, states must include in all attainment plans for Serious $PM_{2.5}$ nonattainment areas a measure to confirm that some specific portion of BACM and BACT for the area has been implemented as appropriate in order to comply with the statutory requirement at section 189(b)(1)(B). The EPA acknowledges that the precise quantifiable metric (*e.g.,* 50 percent of BACM and BACT measures implemented by milestone date 7.5 years from designation) would need to be determined on a case-by-case basis, as it would depend upon the date of reclassification of the area, whether the metric is to be achieved at year 7.5 or year 10.5 from designation, and the anticipated implementation timing and nature of the BACM and BACT controls themselves. Nonetheless, the EPA believes it would be appropriate to include it as a metric that any state with a Serious nonattainment area must adopt as a quantitative milestone to demonstrate RFP (and thus must demonstrate compliance with when they submit their milestone report), as it derives from a statutory provision that applies to all Serious areas and thus represents a milestone that all Serious nonattainment areas must meet.

The EPA seeks comment on these proposed options for interpreting the statutory quantitative milestone requirements for Serious areas.

*H. Contingency Measures*

As noted in Section IV.G of this preamble, all $PM_{2.5}$ nonattainment areas must include in their attainment plans

[203] As noted in Section VI.B of this preamble, depending upon when the area is reclassified from Moderate to Serious, this base year inventory may need to be more recent than the inventory submitted with the Moderate area attainment plan.

[204] If an area includes re-entrained road dust in the motor vehicle emissions budget, the latest approved version of AP–42 should be used unless the EPA has approved an alternative model for the area.

[205] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42016.

contingency measures consistent with section 172(c)(9). Contingency measures are additional control measures to be implemented in the event that an area fails to meet RFP requirements or fails to attain the $PM_{2.5}$ standard by the applicable attainment date. These measures must be fully adopted rules or control measures that are ready to be implemented quickly upon a determination by the EPA that the area failed to meet RFP or failed to meet the standard by the applicable attainment date, and such measures are required to take effect without significant further action by the state or the EPA.

The statutory contingency measure requirement at section 172(c)(9) is not superseded or subsumed by any requirement under subpart 4, nor does it apply only to Moderate area attainment plans. Thus, contingency measures are required for Serious $PM_{2.5}$ nonattainment areas as part of a state's Serious area attainment plan submission. The EPA proposes that the criteria for identifying and selecting contingency measures for a Serious area attainment plan should be the same as those for Moderate area plans. Specifically, the EPA proposes that the following requirements must be met in order for contingency measures to be approvable as part of a state's Serious area attainment plan submission:

1. Contingency measures must be fully adopted rules or control measures that are ready to be implemented quickly upon a determination by the Administrator of the nonattainment area's failure to meet RFP or failure to meet the standard by its attainment date.

2. The SIP must contain trigger mechanisms for the contingency measures, specify a schedule for implementation, and indicate that the measures will be implemented without significant further action by the state or by the EPA.

3. Contingency measures must consist of control measures that are not otherwise included in the control strategy for the SIP, or must require further implementation of partial measures already included in the SIP as BACM or BACT, additional feasible measures, or MSM.

4. Contingency measures must provide for emissions reductions equivalent to 1 year's share of reductions needed to demonstrate attainment (*i.e.,* the overall needed reductions divided by the number of years from the base year to the attainment year), or equivalent to 1 year's worth of air quality improvement or emissions reductions proportional to the overall amount of air quality improvement or emissions reductions to be achieved by the area's attainment plan.

The EPA further proposes that a state may elect to rely on contingency measures that achieve emissions reductions on sources located outside the nonattainment area, but within the state, as well as from within the nonattainment area, provided that the measures on sources outside the designated nonattainment area are demonstrated to produce the appropriate air quality impact within the nonattainment area.

As with contingency measures for Moderate nonattainment areas, the EPA believes it appropriate that a state might rely on additional reductions in the years following a failure to meet RFP requirements or a failure to attain the NAAQS by the applicable attainment date from federal or local measures already scheduled for implementation as part or all of their contingency measures. The EPA could potentially consider such measures as meeting the contingency measure requirement as long as they produce emissions reductions in excess of those required to meet other statutory provisions, such as to meet BACM and BACT requirements, and they can be relied on to achieve a sufficient portion of the actual emissions reductions necessary to reduce emissions in the area while the state develops a new plan to bring the area into attainment.[206] As with contingency measures for Moderate area attainment plans, the EPA proposes that the emissions reductions associated with contingency measures for Serious area plans must be equal to approximately 1 year's worth of emissions reductions necessary to achieve RFP for the area, unless the state adequately demonstrates that some smaller amount of reductions is appropriate while the state is revising its attainment plan for the area. The EPA seeks comment on this requirement.

The Addendum provided guidance related specifically to the selection and implementation of contingency measures for Serious nonattainment areas. First, the EPA guidance indicated that ''for those moderate areas reclassified as serious, if all or part of the moderate area plan contingency measures become part of the required serious area control measures (*i.e.,* BACM), then additional contingency measures must be submitted whether or not the previously submitted contingency measures had already been implemented. Further, the affected states must ensure that serious areas have adequate contingency measures considering, among other things, new information about the potential attainment shortfall for the newly reclassified serious area.'' [207] The EPA continues to believe that this approach to the statutory contingency measure requirement is appropriate and proposes to adopt it for purposes of implementing the $PM_{2.5}$ NAAQS in Serious nonattainment areas.

With regard to the timing for implementing contingency measures, the EPA reiterates that the purpose of contingency measures is to ensure that corrective measures are put in place automatically at the time that the EPA makes a determination that an area has failed to meet RFP or failed to meet the NAAQS by the applicable attainment date. For any nonattainment area, the EPA is required to determine within 90 days after receiving a state's RFP demonstration, and within 6 months after the attainment date for an area, whether the state has met their statutory obligations for demonstrating RFP or attaining the standard, as appropriate. As with Moderate areas, the EPA believes that contingency measures should become effective for Serious areas within 60 days of the EPA making its determination that the area failed to meet RFP or attain the NAAQS and proposes to require this for purposes of $PM_{2.5}$ NAAQS implementation in Serious nonattainment areas.

Finally, while section 172(b) gives discretion to the Administrator to establish a deadline for submitting contingency measures up to 3 years from designation of the area, it does not explicitly address the appropriate submittal date for contingency measures for areas reclassified to Serious. In the Addendum, the EPA indicated that ''states must submit contingency measures for serious areas or otherwise demonstrate that adequate measures are in place within 3 years of reclassification.'' [208] The EPA proposes and seeks comment on applying this guidance to Serious nonattainment areas for current and future $PM_{2.5}$ NAAQS.

In addition, as described in Section VI.A, the EPA proposes an alternative submission deadline for Serious area contingency measures that would align the contingency measure due date with the Serious area attainment demonstration due date. If an area is reclassified under the EPA's discretionary authority, the Serious area

[206] *See LEAN* v. *EPA,* 382 F.3d 575 (5th Cir. 2004).

[207] Addendum to General Preamble, 59 FR 41988 (August 16, 1994), at 42015.

[208] *Id.*

attainment demonstration is due 4 years from the date of reclassification; under this alternative proposed approach, contingency measures would also be due 4 years from the date of reclassification for such areas. If an area is reclassified under the EPA's mandatory duty upon failure of the area to attain the NAAQS by the Moderate area attainment date, then the Serious area attainment demonstration is due 18 months from the date of reclassification; accordingly, under this alternative proposed approach, contingency measures would also be due 18 months from the date of reclassification for such an area. In either case, the BACM and BACT provisions for the Serious area would be due at or before the time contingency measures would be due, which is appropriate given that the EPA expects a state to consider its BACM and BACT measures as it develops its contingency measures. The state may ascertain that measures not otherwise required or necessary for BACM or BACT may nevertheless be suitable for purposes of contingency measures. The EPA seeks comment on this alternative approach to setting Serious area contingency measure due dates.

*I. Attainment Dates*

As explained earlier, section 188 establishes the attainment dates for both Moderate and Serious areas. For a Serious area, section 188(c)(2) provides that ''the attainment date shall be as expeditiously as practicable but no later than the end of the tenth calendar year beginning after the area's designation as nonattainment.'' [209] For example, for an area initially designated as nonattainment effective in April 2015 that is reclassified to Serious at some future date, the Serious area attainment date, absent any approved Serious area attainment date extension, would be no later than December 31, 2025 (the end of the tenth calendar year after designation). As discussed in Section IV.I, the EPA proposes to interpret the references to ''designation'' in CAA section 188(c) as meaning ''effective date of designation,'' consistent with the agency's prior approach for implementing the previous $PM_{2.5}$ NAAQS under subpart 1 and other NAAQS.

The process for a state to determine the most expeditious attainment date practicable for a Serious area will depend upon the final approach selected for determining BACM and BACT for the area. Therefore the EPA is proposing two approaches for determining the appropriate attainment date for a Serious area. Under the first approach, which would correspond to the agency's proposed Option 1 for determining BACM and BACT—independent of the attainment demonstration for the area—the state would simply include the control measures determined to be BACM and BACT for the area in its air quality modeling, and would report the results of the modeling, including the earliest projected attainment date.

Under the second proposed approach, which would correspond to the EPA's proposed Option 2 for determining BACM and BACT—tied to the attainment needs of the particular nonattainment area—the state would be required to follow a two-step process for determining the appropriate attainment date for the area. First, the state would be required to demonstrate through air quality modeling that the area can attain the relevant NAAQS by the latest statutory attainment date and determine which control measures and technologies are needed for the area to attain by that date. Second, the state would be required to determine whether implementing any remaining BACM or BACT controls (*i.e.,* those not needed for attainment by the latest date) or any other additional controls can cumulatively advance the attainment date for the area by at least 1 year. In the event that a state determines that the area can attain the relevant NAAQS earlier through the application of these other measures, the state must propose the earlier date as part of the attainment plan submission for the area. This second approach is similar to the proposed approach for determining the most expeditious attainment date for a Moderate area.

As with Moderate area attainment dates, when the EPA takes action to approve the different elements of the attainment plan for the Serious area, one of the elements that the agency will take action on will be the state's proposed attainment date for the area. If the EPA approves an attainment date for the area that is earlier than the latest date allowed by statute, then the applicable attainment date for the area will be the approved date. If the state demonstrates that the Serious area cannot practicably attain the NAAQS by the end of the tenth calendar year following designation, the state may request a Serious area attainment date extension as long as certain conditions are met, as described next in Section VI.J.

*J. Attainment Date Extensions*

1. Statutory Requirements

As with Moderate areas, the EPA may grant an extension of the attainment date for a Serious $PM_{2.5}$ nonattainment area if certain statutory criteria are met. Specifically, section 188(e) provides that the EPA may allow one attainment date extension of no more than 5 years ''upon application by any state . . . if attainment by the [original Serious area attainment date] would be impracticable, the state has complied with all requirements and commitments pertaining to that area in the implementation plan, and the state demonstrates to the satisfaction of the Administrator that the plan for that area includes the most stringent measures that are included in the implementation plan of any state or are achieved in practice in any state, and can feasibly be implemented in the area.'' In addition to the required preconditions for such an extension, the statute also includes factors which the Administrator may use as she considers whether to grant the extension and the length of the extension, including ''the nature and extent of nonattainment, the types and numbers of sources or other emitting activities in the area (including the influence of uncontrollable natural sources and transboundary emissions from foreign countries), the population exposed to concentrations in excess of the standard, the presence and concentrations of potentially toxic substances in the mix of particulate emissions in the area, and the technological and economic feasibility of various control measures.'' [210]

2. Proposed Approach

In the Addendum, the EPA generally described the statutory requirements listed above and expressed an intent to issue guidance on applying for an extension of the Serious area attainment date, if appropriate. While ultimately the EPA did not deem it necessary to issue such guidance, the EPA has interpreted these statutory requirements through actual exercise of its authority under section 188(e) in past rulemakings for specific $PM_{10}$ nonattainment areas. For example, the EPA interpreted section 188(e) in approving an extension of a Serious area

[209] The EPA believes that there is no real effect on attainment date determinations due to the small difference in statutory language in section 188(c) basing the Moderate area attainment date on the ''sixth calendar year after the area's designation'' and the Serious area attainment date on the ''tenth calendar year *beginning* after the area's designation,'' (emphasis added).

[210] Notably, these statutory criteria do not include specific ambient air quality criteria like the criteria that need to be met in the year prior to a Moderate area attainment date in order for the area to qualify for an attainment date extension under section 188(d).

attainment date for purposes of the $PM_{10}$ NAAQS for the Maricopa area (AZ).[211] The EPA believes that the steps finalized in the Maricopa County $PM_{10}$ Serious area SIP approval notice provide an appropriate starting point for a proposed regulatory approach, with some potential modification, for states to meet the statutory requirements that could apply nationally. The EPA is thus proposing to require that states adhere to the following steps when preparing and submitting a request for a Serious area attainment date extension:

*Step 1: Demonstrate that attainment by the statutory Serious area attainment date is impracticable.* In order to demonstrate impracticability, the state would have to show that the implementation of all BACM and BACT and all additional feasible measures required under section 172(c)(6) will not bring the area into attainment by the statutory Serious area attainment date (*i.e.,* by no later than the end of the tenth calendar year after designation).[212] The statutory provision for demonstrating impracticability requires that the demonstration be based on air quality modeling (*see* section 189(b)(1)(A)). Additional guidance on this demonstration is provided in Section VI.E of this preamble.

*Step 2: Comply with all requirements and commitments in the applicable implementation plan.* Similar to the proposed approach described in Section IV.J of this preamble for Moderate area attainment date extensions, the EPA proposes to interpret the criterion under section 188(e) that requires a state to have ''complied with all requirements and commitments pertaining to that area in the implementation plan'' simply to mean that the state has implemented the control measures in the SIP revisions it has submitted to address the applicable requirements in sections 172 and 189. For a Serious area attainment date extension request being submitted contemporaneously with the ''original'' Serious area attainment plan for the area, the EPA proposes to read section 188(e) not to require the area to have a fully approved attainment plan that meets the CAA's requirements for Moderate areas. The agency proposes to base this reading on the plain language of section 188(e) which requires the state to comply with all requirements and commitments pertaining to that area in the implementation plan but does not require that the state comply with all requirements pertaining to the area in the CAA.[213] For the same reason, the EPA also proposes to read this provision not to bar an extension if all or part of an area's Moderate area plan is disapproved or has been promulgated as a FIP, provided the area has complied with all of the requirements in the applicable FIP, or in the applicable SIP and FIP.

However, for a Serious area attainment date extension request being submitted sometime after submission of an ''original'' Serious area attainment plan that contained an attainment demonstration meeting the requirements of section 189(b)(1)(A)(i), the EPA proposes to read section 188(e) not to require the area to have a fully approved attainment plan that meets the CAA's requirements for Serious areas, but to have a fully approved Moderate area attainment plan. The rationale for this distinction is due to the timing of the Serious area attainment date extension request under these circumstances, which is discussed in greater detail later in this section. The EPA believes that this proposed interpretation of this criterion would apply whether the area was reclassified to Serious under the EPA's discretionary authority (section 188(b)(1)) or by operation of law upon failing to attain by the Moderate area attainment date (section 188(b)(2)).

The EPA also seeks comment on an alternative interpretation of the implementation plan compliance criterion that would require a state to have a Moderate area attainment plan fully approved by the EPA, not just fully implemented by the state, at the time of the Serious area attainment date extension request, regardless of when such a request is submitted to the EPA. The EPA believes that one may reasonably argue that a state seeking an extension of the Serious area attainment date should have fully implemented all elements of an approved Moderate area attainment plan. The EPA believes that while such a condition may be reasonable, generally speaking, there may be circumstances in which a state submits a Moderate area attainment plan that the EPA is unable to approve in a timely way, potentially creating a situation in which the state cannot qualify for a Serious area attainment date extension (due to its unapproved Moderate area plan) even if the area is reclassified to Serious and cannot practicably attain by the statutory attainment date for a Serious area. The EPA seeks comment on this alternate proposed interpretation of the applicable implementation plan compliance criterion under section 188(e). Recognizing that a situation such as that described above may be rare, the agency also seeks comment on what remedy might be available under the statute if such a situation comes to pass if the EPA were to finalize this alternative proposed interpretation of the applicable implementation plan criterion.

*Step 3: Demonstrate the inclusion of MSM.* To qualify for any extension of a Serious area attainment date, section 188(e) requires a state to ''demonstrate to the satisfaction of the Administrator that the plan for the area includes the most stringent measures that are included in the implementation plan of any state, or are achieved in practice in any state, and can feasibly be implemented in the area.'' In its prior guidance in the Addendum, the EPA interpreted the term ''most stringent measure'' (MSM) to mean the maximum degree of emission reduction that has been required or achieved from a source or source category in any other attainment plans or in practice in any other states and that can feasibly be implemented in the area seeking the extension, such as what LAER represents for new or modified sources under the NNSR permit program.[214]

The agency proposes that a state would need to follow a process for determining MSM for a Serious nonattainment area that is generally similar to proposed Option 2 for BACM and BACT described in Section VI.D of this preamble, which would include exemptions from MSM for sources in *de minimis* source categories if such measures did not collectively advance the attainment date for the area by at least 1 year. The EPA is also proposing an alternative approach for determining MSM for a Serious nonattainment area that would provide for *de minimis* source category exemptions for MSM only for those source categories that do not contribute significantly to ambient $PM_{2.5}$ concentrations in the Serious nonattainment area, an approach more closely aligned with proposed Option 1 for determining BACM and BACT.

[211] Maricopa County $PM_{10}$ Serious area attainment date extension, proposal: 65 FR 19964 (April 13, 2000); and final: 67 FR 48718 (July 25, 2002).

[212] This proposed approach parallels the EPA's proposed approach, described earlier in this preamble, for the impracticability option for Moderate areas under CAA section 189(a)(1)(B) in which all measures that qualify as RACM and RACT and all additional reasonable measures are required before a Moderate area plan could show impracticability of attainment by the statutory Moderate area attainment date (the end of the sixth calendar year after designation).

[213] This interpretation as applied to section 188(e) for Serious area attainment date extensions was upheld by the Ninth Circuit Court of Appeals in *Vigil* v. *Leavitt,* 366 F.3d 1025, amended at 381 F.3d 826 (9th Cir. 2004).

[214] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42010.

Under proposed approach #1 for MSM, the EPA would prescribe a five-step process for states to follow when selecting and implementing MSM. This proposed approach is similar to that used in practice for approving the $PM_{10}$ Serious area attainment plan and Serious area attainment date extension request submitted for Maricopa County (AZ) in 2000.[215]

The first step of this proposed approach would be for the state to update as needed the emissions inventory of direct $PM_{2.5}$ and $PM_{2.5}$ precursor sources and source categories in the Serious nonattainment area required under section 172(c)(3) for any attainment plan submission. The EPA expects that the state would meet this inventory requirement as part of its Serious area attainment plan submittal without any additional work if the state submits the Serious area attainment date extension request simultaneously with the plan itself. However, in the event the attainment date extension request is submitted after the ''original'' Serious area attainment plan for the area (*i.e.,* toward the end of the Serious area attainment period), then the EPA proposes to require that the state must submit a more recent, complete and accurate emissions inventory that meets the same emissions inventory requirements for Moderate and Serious $PM_{2.5}$ nonattainment areas pursuant to section 172(c)(3), as well as an attainment projected inventory as part of the new Serious area attainment plan for the area. The inventories submitted to support a Serious area attainment plan must also include point sources meeting the lower major stationary source threshold in 40 CFR part 51, subpart A.

The second step in this proposed MSM determination process would require the state to perform air quality modeling in order to evaluate, for each of the various source categories included in the emissions inventory for the area, the impact on $PM_{2.5}$ concentrations in excess of the applicable NAAQS in order to determine which categories are significant for the purposes of adopting MSM. Those source categories for which such modeling indicates potential control measures collectively would have only a *de minimis* effect on advancing the attainment date for the area could be eliminated from further consideration. In the context of the EPA's action to approve the Maricopa County $PM_{10}$ Serious area attainment plan and attainment date extension request, the agency finalized an approach for judging what constitutes a *de minimis* source category for MSM by applying a test of whether MSM controls on the allegedly *de minimis* sources would result in more expeditious attainment, rather than applying a test of whether or not requiring the application of controls for such sources would make the difference between attainment and nonattainment by the statutory Serious area deadline, as the latter test implicitly would be met through the controls chosen for demonstrating attainment by the alternate attainment date for the area. In the agency's explanation of the proposed approach, the EPA explained that ''Our responsibility under section 188(e) . . . is to grant the shortest practicable extension of the attainment date by assuring the plan provides for attainment as expeditiously as practicable. Thus, one means of determining an appropriate *de minimis* level is to determine if applying MSM to the proposed *de minimis* source categories would meaningfully expedite attainment. If it did, then the *de minimis* level is too high, and if it did not, then the *de minimis* level is appropriate.''[216] The EPA thus proposes to determine whether any source categories should be eliminated from MSM controls through a *de minimis* exemption based on a demonstration that collectively applying MSM controls to such source categories would not advance attainment of the NAAQS in the area by at least 1 year. This test would presumably result in a more stringent threshold for what is considered a *de minimis* source category for MSM as compared to the threshold for *de minimis* source categories for BACM and BACT as described in the EPA's proposed Option 1 for BACM and BACT determination criteria (*see* Section VI.D of this preamble). The EPA proposes and seeks comment on this test for determining whether any source categories could be found to be *de minimis* and thus not subject to MSM controls.

The third step in the EPA's first proposed approach to determining MSM for a Serious nonattainment area would involve identifying the potentially most stringent measures in other implementation plans for $PM_{2.5}$ or other NAAQS, or used in practice in other states for controlling emissions from each of the remaining source categories listed in the emissions inventory that were not determined to be *de minimis.* For each measure, the state would be required to determine its technological and economic feasibility for sources in the area. The EPA proposes generally to apply more stringent criteria for determining the feasibility of potential MSM than that described for BACM and BACT in Section VI.D. In some situations, MSM could involve increasing the coverage of measures that were already adopted and implemented as BACM and BACT (for example, changing out an even greater percentage of woodstoves in an area, or paving even more roads, if such source categories were major contributors to the air quality problem in the nonattainment area).

However, because BACM and BACT represent the ''best'' level of control feasible for an area, it would be possible for the MSM requirement to result in no more controls and no more emissions reductions in an area than result from the implementation of BACM and BACT. Stated another way, there may be sources or categories for which no other feasible controls exist beyond what a state has already adopted as BACM or BACT. Given the strategy in the nonattainment provisions of the CAA to offset longer attainment timeframes with more stringent control requirements, the EPA therefore proposes to interpret the MSM provision in order to increase the potential that it will result in additional controls beyond the set of measures adopted as BACM and BACT by requiring a state to reanalyze any measures that were rejected during the state's BACM and BACT analysis for the area to see if they are now feasible for the area given the potentially longer attainment date (up to 5 years after the statutory Serious area attainment date) or given the changes that have occurred in the interim that improve the feasibility of previously rejected measures.

The fourth step of this first proposed approach would require the state to compare the potential MSM for each non-*de minimis* source category against the measures, if any, already adopted for that source category in the Serious nonattainment area to determine if such MSM would provide any additional reductions.

The fifth step would then require that the plan provide for the adoption and expeditious implementation of any MSM that is more stringent than existing measures or, in lieu of adoption, provide a reasoned justification for rejecting the potential MSM, *i.e.,* provide an explanation as to why such measures cannot be feasibly implemented in the area.

[215] Maricopa County $PM_{10}$ Serious area attainment date extension, 67 FR 48718 (July 25, 2002).

[216] Maricopa County $PM_{10}$ Serious area attainment date extension proposal, 65 FR 19964 (April 13, 2000), at page 19969.

As noted earlier, the EPA expects that this first proposed approach to determining MSM would be most compatible with the agency's proposed Option 2 for determining BACM and BACT, described in Section VI.D. Under proposed Option 2 for BACM and BACT determinations, a state would be required to implement only those ''best'' control measures necessary to bring a Serious nonattainment area into attainment expeditiously. Such an approach to BACM and BACT determinations would not incorporate an explicit step in the process for a state to exempt *de minimis* source categories from consideration for potential control measures. However, it would allow a state to eliminate any potential BACM or BACT or additional feasible measures that are not needed to bring a Serious area into attainment by the statutory attainment date and that cannot, collectively, advance the attainment date for the area by at least 1 year. Proposed Option 2 for determining BACM and BACT for an area is thus similar to the proposed approach to MSM described above, in which a state could eliminate from further consideration those source categories for which potential control measures collectively would have only a *de minimis* effect on advancing the attainment date for the area (*see* proposed step 2).

The EPA's proposed Option 1 for BACM and BACT determinations would include an explicit step in the process for exempting *de minimis* source categories from further consideration for potential control measures. However, under such approach, a state would need to assess whether emissions of a particular pollutant from a given source category contributed significantly to $PM_{2.5}$ concentrations in the nonattainment area. If the state determined that the source category contributed only a *de minimis* amount of emissions, then the state could exempt the source category from further consideration for potential control measures. Thus, while it incorporates a step to identify *de minimis* source categories, the EPA's proposed Option 1 for BACM and BACT determinations is not wholly consistent with the agency's proposed approach #1 for determining MSM.

Therefore, the EPA is also proposing an alternative approach for determining MSM for a Serious nonattainment area that would be more compatible with the EPA's proposed approach #1 for determining BACM and BACT. Under this alternative proposed approach for determining MSM, a state could exempt *de minimis* source categories from further consideration, but *de minimis* source categories would be identified by virtue of their lack of significant contribution to $PM_{2.5}$ levels in the area, not by virtue of whether controlling such sources categories collectively could expedite attainment of the relevant NAAQS. In this way, *de minimis* source categories for MSM would be defined in a similar way, or subject to a similar ''significant contribution'' test, as *de minimis* source categories for BACM and BACT determinations under proposed Option 1. Thus under proposed approach #2 for MSM, the steps described for determining MSM would generally be the same as under proposed approach #1, with the exception of step 2. Rather, the EPA proposes an alternative step 2 in the MSM determination process in which a state could identify *de minimis* source categories to exempt from further control based on an analysis of the particular contribution made by a given source category to ambient $PM_{2.5}$ levels in the nonattainment area. The EPA believes that defining *de minimis* source categories and ''significant contribution'' for determining *de minimis* source categories would be equally challenging in the context of MSM determinations as in the context of BACM and BACT determinations.[217] However, in the event the agency finalizes proposed Option 1 for BACM and BACT determinations, the EPA believes it would be appropriate to finalize proposed approach #2 for MSM, and would require that a state seeking to exempt from MSM sources in a given source category apply more stringent criteria for evaluating whether a certain source category's contributions to the area's $PM_{2.5}$ concentrations are indeed *de minimis.*

The EPA believes that either of these proposed approaches for determining MSM for a Serious nonattainment area would be consistent with the EPA's guidance in the Addendum to define MSM as those measures that can ''feasibly be implemented in the relevant area from among those which are either included in any other SIP or have been achieved in practice by any other state.'' One of the key features of this guidance relates to identifying control measures implemented elsewhere, which is also a key feature of the EPA's proposed process for identifying RACM and RACT and additional reasonable measures (and BACM and BACT and additional feasible measures, if necessary) for a $PM_{2.5}$ nonattainment area. For these processes, the EPA is proposing that a state identify potential measures for consideration as RACM or RACT or additional reasonable measures (or BACM or BACT or additional feasible measures) by looking at measures implemented by other states to meet $PM_{2.5}$ NAAQS or other NAAQS. Thus, a state seeking to identify MSM should be able to start its process using with the work already undertaken for the nonattainment area's RACM and BACM determinations and to make updates to the list of potential control measures accordingly.

The EPA notes that section 188(e) does not identify a deadline for a state to implement MSM, while elsewhere the statute establishes a deadline for implementing RACM and RACT and BACM and BACT (*see* CAA sections 189(a)(1)(C) and 189(b)(1)(A), respectively). However, because the clear intent of section 188(e) is to minimize the length of a Serious area attainment date extension, the EPA proposes that the implementation of MSM must be as expeditious as practicable but no later than 1 year prior to the alternative Serious area attainment date identified by the state in its extension request.

The EPA seeks comment on whether the two proposed approaches to determine MSM are sufficiently consistent with the agency's respective proposed approaches to BACM and BACT determination. The agency also seeks comment on whether considerations regarding its MSM approach should influence the final selection of a BACM and BACT approach.

*Step 4: Demonstrate attainment by the most expeditious alternative date practicable.* Section 189(b)(1)(A) requires that a Serious area plan demonstrate attainment, using air quality modeling, by the most expeditious date practicable after the statutory Serious area attainment date. This demonstration is the final criterion that must be met before the EPA may consider granting an extension. The agency's determination of whether the plan provides for attainment by the most expeditious date practicable would depend on whether the plan provides for implementation of BACM and BACT by the statutory implementation deadline and MSM as expeditiously as practicable. In no case would a state be able to seek an extension of a Serious area attainment date to a date more than 5 years past the statutory attainment date for Serious areas. Section VI.E of this preamble describes the EPA's proposed requirements for attainment

[217] *See* the discussion of *de minimis* source categories in Section VI.D in this preamble.

demonstration modeling for Serious area attainment plans.

*Step 5: Apply for an attainment date extension.* The state would have to apply to the EPA for any extension of a Serious area attainment date. The request would have to accompany an attainment plan submission containing an attainment demonstration showing attainment by the most expeditious alternative date practicable, and the state would need to submit modeling as part of the attainment demonstration in accordance with Section VI.E. Furthermore, the state would have to provide the public reasonable notice and a public hearing on the attainment date extension request before submitting it to the EPA, as the EPA would consider it an integral part of the attainment demonstration and part of the revised SIP submission which is subject to the requirements of the CAA and federal regulations for public notice and hearing on SIP revisions.

3. Timing of Extension Request Submittal

The EPA believes that a state may submit a request for an extension of the Serious area attainment date either at the time the original Serious area attainment plan is submitted following reclassification of the area or at a point in time closer to the Serious area attainment date. In the first case, when taken together with language under section 189(b)(1)(A)(ii) which describes the possibility of including an impracticability demonstration in a Serious area attainment plan that parallels the impracticability demonstration for a Moderate area attainment plan, section 188(e) appears to set an expectation that a state may request an extension of the attainment date for a Serious area when the state initially submits its Serious area plan. Therefore, the EPA would deem such a request as timely and appropriate.

On the other hand, the EPA also recognizes that a state may prepare and fully implement a timely Serious area plan that includes modeling demonstrating attainment no later than the statutory Serious area attainment date (the end of the tenth calendar year following designation), and yet may see as the attainment date nears that the Serious area will in fact fail to attain by its projected attainment date. While the statute provides a remedy to be instituted immediately upon failure of a Serious area to attain the standard (through contingency measures and other measures stipulated in section 189(d)), the EPA also believes that the criteria of section 188(e) could be applied after a state submits a Serious area attainment plan but prior to the area failing to attain, as long as the area had not already been granted a prior Serious area attainment date extension under section 188(e). In such a case, the EPA believes that it would be acceptable for a state to submit a Serious area attainment date extension request similar to that described above (for submissions made simultaneous with initial Serious area attainment plans) together with a new Serious area attainment plan meeting all of the statutory requirements that apply to such plans. In this case, the complete submission would have to be made in a timely way such that the EPA could fully review the new attainment plan for the area and the accompanying attainment date extension request, including the status of compliance with all requirements and commitments in the Moderate area attainment plan for the area, the justification for the selection of the alternate attainment date, and provisions for the implementation of MSM, prior to making its determination of failure of the area to timely attain the relevant NAAQS.

The EPA seeks comment on this option, particularly with respect to whether the criteria proposed above are appropriate in a situation in which a state seeks a Serious area attainment date extension after submitting a Serious area attainment plan that initially demonstrated attainment by the statutory Serious area attainment date. For example, the EPA seeks comment in particular on whether it would be appropriate to interpret the section 188(e) requirement for a state to have ''complied with all requirements and commitments pertaining to that area in the implementation plan'' as referencing those requirements and commitments contained in the area's Moderate area plan (as proposed above for areas seeking a Serious area attainment date extension simultaneous with submittal of their Serious area plan) or whether, for areas that already submitted Serious area plans demonstrating attainment, it is more appropriate that the state must have complied with all requirements and commitments pertaining to the area in the area's original Serious area attainment plan. The EPA believes this second interpretation is the more appropriate interpretation as it pertains to Serious areas seeking an extension of their attainment date as they approach their statutory Serious area attainment date, and therefore the agency is proposing and seeking comment on this approach. The EPA believes that this second interpretation is especially preferable if the EPA finalizes its proposal that interprets the SIP compliance requirement for areas seeking an attainment date extension simultaneous with their Serious area attainment plan submittal to mean that the state need only have implemented the control measures in the SIP revisions it has submitted to the EPA to address the CAA requirements in section 189 (*i.e.,* to mean that the area need not have a fully approved attainment plan that meets the CAA's requirements for Serious areas).

The EPA seeks comment on these proposed options for interpreting and implementing the statutory language at section 188(e) for Serious area attainment date extensions.

## VII. What are the EPA's proposed requirements for attainment plans under CAA section 189(d) for Serious areas that fail to attain the NAAQS by the applicable attainment date?

In the event that a Serious area fails to attain the $PM_{2.5}$ NAAQS by the applicable attainment date, section 189(d) requires that ''the state in which such area is located shall, after notice and opportunity for public comment, submit within 12 months after the applicable attainment date, plan revisions which provide for attainment of the . . . standard and, from the date of such submission until attainment, for an annual reduction in $PM_{10}$ or $PM_{10}$ precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent inventory prepared for such area.''

A state with a Serious nonattainment area subject to section 189(d) must submit to the EPA its plan to meet the requirements of section 189(d) in the form of a complete attainment plan submission that contains the following elements: (i) An attainment demonstration and provisions for the implementation of measures that will achieve annual emissions reductions of not less than 5 percent from the most recent emissions inventory for the area for each year until attainment (section 189(d)); (ii) quantitative milestones that will be used to measure compliance with the RFP requirement (section 189(c)); and, (iii) regulation of $PM_{2.5}$ precursors (in general to meet attainment and control strategy requirements and as specifically required for major stationary sources by section 189(e)). Subpart 1 requirements that apply to Serious $PM_{2.5}$ nonattainment areas also subject to the requirements of section 189(d) include the following: (i) A description of the expected annual incremental reductions

in emissions that will demonstrate RFP (section 172(c)(2)); (ii) emissions inventories (section 172(c)(3)); and, (iii) contingency measures (section 172(c)(9)). A state with a Serious $PM_{2.5}$ nonattainment area that fails to attain the NAAQS by the applicable Serious area attainment date must also address any statutory requirements relevant to Moderate nonattainment areas and Serious nonattainment areas under sections 172 and 189 of the CAA that have not already been satisfied. In addition, the EPA must approve a new attainment date for the area under sections 172(a)(2) and 179(d)(3).

The remainder of this section presents the EPA's proposed requirements for attainment plan submissions under section 189(d).

*A. Plan Due Dates*

Section 189(d) requires a state with a Serious $PM_{10}$ nonattainment area that failed to attain the NAAQS by the applicable Serious area attainment date to submit a new attainment plan submission for the area within 12 months after the missed attainment date. Therefore a state with a nonattainment area subject to section 189(d) must submit a new attainment plan for the area—with all required elements of the attainment plan—within 12 months after the missed attainment date.

*B. Emissions Inventory Requirements*

As with all other attainment plan submissions required for Moderate and Serious $PM_{2.5}$ nonattainment areas, a state must develop its submission to meet section 189(d) based on ''the most recent emissions inventory prepared for such [nonattainment] area.'' This inventory must meet the same requirements that would apply to any other emissions inventory submitted for a $PM_{2.5}$ nonattainment area to meet the requirements of section 172(c)(3), which requires ''a comprehensive, accurate, and current inventory of actual emissions of the relevant pollutants'' in the nonattainment area. Therefore the EPA proposes that the inventory submitted with an attainment plan to meet section 189(d) requirements must also meet the EPA's proposed regulatory requirements for such emissions inventories as described earlier in this preamble under Section IV.B (for Moderate area attainment plans) and Section VI.B (for Serious area attainment plans).

One important aspect of the emissions inventory required to be submitted with an attainment plan under section 189(d) is its role as the basis for calculating the emissions reductions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors necessary to satisfy the 5 percent annual reduction criteria of section 189(d). For this reason, the EPA proposes that the ''most recent inventory'' for the area must not only meet the criteria as that described for a base year inventory submitted pursuant to section 172(c)(3) and in Section VI.B of this preamble, but also must fully account for emissions reductions achieved to date through the implementation of all RACM and RACT, BACM and BACT and additional reasonable and feasible measures submitted with the Moderate and original Serious area attainment plans for the area. In this way, the state will calculate the additional reductions that the nonattainment area will need beyond those already required in order to fulfill the requirements of section 189(d) and bring the area into attainment as expeditiously as practicable.

In order to ensure that the ''most recent inventory'' is representative of the nonattainment problem in the area current at the time of the section 189(d) submission, the EPA proposes that the inventory year must be one of the 3 years from which monitored data was used to determine that the area failed to attain the $PM_{2.5}$ NAAQS by the applicable Serious area attainment date. The EPA believes that associating the inventory with one of these 3 years is reasonable in light of the fact that some BACM and BACT controls and additional feasible controls (required under section 172(c)(6)) for sources in the area may not be implemented until the beginning of the attainment year. Thus, requiring that a state use an emissions inventory for one of those 3 years will help ensure that the inventory adequately captures the emissions reductions already achieved through the prior implementation of BACM and BACT and additional feasible measures.

The EPA recognizes the additional level of effort that may be needed to produce an up-to-date emissions inventory for a nonattainment area, and therefore is proposing and seeking comment on an alternative approach that would allow a state to select an inventory year earlier than one of the 3 years from which monitored data were used to determine that the area failed to attain the NAAQS by the applicable attainment date. Under this alternative proposed approach, another inventory year may be included in the plan under specific circumstances with the submission of a written justification for selecting the earlier year and in consultation with the appropriate EPA Regional Office. At a minimum, the state would need to demonstrate that the inventory for the alternative year adequately incorporates emissions reductions projected to be achieved through the implementation of BACM and BACT and additional feasible control measures submitted with the original Serious area attainment plan for the area. The EPA proposes that modification of an older inventory to incorporate those emissions reductions would be an acceptable way to meet this requirement. In considering use of this option, states could be obligated to achieve a larger annual reduction than 5 percent if the older inventory has higher emissions levels than the ''most recent inventory'' for the area.

The EPA seeks comment on these proposed criteria and options for emissions inventories to be submitted as part of the attainment plan due for a Serious area under section 189(d).

*C. Pollutants To Be Addressed in the Plan*

Section 189(d) requires states to develop a new attainment plan for an area that failed to attain by the applicable Serious area attainment date that provides for ''an annual reduction in $PM_{10}$ or $PM_{10}$ precursor emissions within the area of not less than 5 percent of the amount of such emissions'' reported in the latest emissions inventory for the area. In Section III of this preamble, the EPA is proposing several options on how a state may evaluate which $PM_{2.5}$ precursors to control for purposes of attaining the NAAQS in a particular nonattainment area. The EPA interprets the requirements of the CAA generally to allow an air agency to provide a ''precursor demonstration'' that can support a determination that one or more precursors need not be subject to control requirements in a given nonattainment area, even if the area has failed to attain the relevant NAAQS by the applicable Serious area attainment date.

Section III presents three options describing different proposed approaches to such precursor demonstrations, and requests comment on each. The discussion for each option describes how states and the EPA should address precursors for Moderate areas and for Serious areas, including Serious areas that fail to attain the $PM_{2.5}$ NAAQS by the applicable attainment date. This section describes, for each of the three options, how the given precursor approach would apply to plans required to be submitted where the area has failed to attain by the Serious area attainment date.

- Option 1: Two independent analyses: (a) An attainment planning

analysis demonstrating that control measures for a particular precursor are not needed for expeditious attainment, meaning that the precursor can be excluded from measures needed to attain as expeditiously as practicable for all types of sources; and (b) a section 189(e) technical demonstration showing that major stationary sources of a particular precursor do not contribute significantly to levels that exceed the $PM_{2.5}$ standard, meaning that the precursor can be excluded from control requirements for major sources and from NNSR permitting. Consistent with this approach, for an area subject to the requirements of section 189(d), the state would need to evaluate control measures to identify those needed to achieve a minimum 5 percent reduction in emissions of direct $PM_{2.5}$ or precursors on an annual basis, and identify those control measures for direct $PM_{2.5}$ and all precursors that would bring the area into attainment as expeditiously as practicable.

- Option 2: Single analysis demonstrating that all emissions of a particular precursor from within the area do not significantly contribute to $PM_{2.5}$ levels that exceed the standard, meaning that control requirements for emissions of the precursor from major stationary and area sources, as well as mobile sources, would not be required for expeditious attainment, control requirements for major sources, or for NNSR permitting. For an area subject to section 189(d) requirements for which a precursor had previously been demonstrated not to significantly contribute to $PM_{2.5}$ levels that exceed the standard, the air agency would be required to update the precursor demonstration taking into account any relevant information or technical tools that had been developed since the demonstration was approved. Consistent with this approach, if, upon failure to attain, the state continued to demonstrate that the precursor did not contribute significantly to $PM_{2.5}$ concentrations in the area, then the state would not need to identify or implement any measures to control that precursor's emissions.
- Option 3: An attainment planning analysis demonstrating that control measures for all types of sources of a particular precursor are not needed for expeditious attainment also would be deemed to meet the section 189(e) technical demonstration requirement, meaning that the state would not need to regulate emissions of the particular precursor from major stationary sources under the NNSR permitting program or other control requirements for major stationary sources. Consistent with this approach, for an area subject to the requirements of section 189(d), the state would need to evaluate control measures to identify those needed to achieve a minimum 5 percent reduction in emissions of direct $PM_{2.5}$ or precursors on an annual basis, and identify those control measures for direct $PM_{2.5}$ and all precursors that would bring the area into attainment as expeditiously as practicable.

The EPA will finalize its approach to $PM_{2.5}$ precursors and clarify the implications for states conducting analyses to identify measures to satisfy the requirements of section 189(d) after considering public comment received on this proposal.

*D. Attainment Plan Control Strategy*

The control strategy to be developed for the attainment plan submission for a Serious area subject to section 189(d) should place particular emphasis on control measures that can be implemented quickly, in order to ensure that the area attains the $PM_{2.5}$ NAAQS as expeditiously as practicable. The control strategy would need to include any additional measures that are beyond those already adopted for the area as RACM and RACT and additional reasonable measures, or BACM and BACT and additional feasible measures, and that are necessary to achieve annual reductions in emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors from sources in the area of at least 5 percent of the amount of such emissions reported in the most recent emissions inventory for the area. The EPA is proposing to interpret section 189(d) in this way to address the ambiguity of how the statutory language should apply to the $PM_{2.5}$ NAAQS, as section 189(d) requires ''an annual reduction in $PM_{10}$ or $PM_{10}$ precursor emissions . . . as reported in the most recent inventory prepared for such area.''

1. Proposed Approach

The EPA believes that in light of the important role that $PM_{2.5}$ precursors play in the formation of $PM_{2.5}$, it is appropriate to require a state to implement control measures for all types of sources in a Serious nonattainment area subject to section 189(d) to achieve the requisite 5 percent annual reduction in emissions of both direct $PM_{2.5}$ and $PM_{2.5}$ precursors from sources in that area. Accordingly, the EPA is proposing that, for direct $PM_{2.5}$ and for $PM_{2.5}$ precursors that the state and the EPA have determined are necessary to be controlled for purposes of attainment in the area, the attainment plan required by section 189(d) would have to include control measures that will achieve at least 5 percent reductions from the latest emissions inventory of each such pollutant on an annual basis until the area attains the relevant $PM_{2.5}$ NAAQS. The EPA believes this is an appropriate interpretation of the 5 percent requirement of section 189(d) and seeks comment on this proposed approach.

The EPA also proposes and seeks comment on an alternative reading of the statute that would require a state to achieve 5 percent reductions of inventoried emissions of either direct $PM_{2.5}$ *or* of any relevant $PM_{2.5}$ precursors. This approach, while consistent with past guidance on how to interpret section 189(d) requirements for $PM_{10}$ NAAQS implementation, could potentially allow a state to delay the implementation of measures to control the relevant pollutants. However, paired with the requirement for the area to reach attainment of the NAAQS as expeditiously as practicable, the EPA believes that such an interpretation may be reasonable and seeks comment on this approach.

It is important to note that under implementation of either of the options presented above, and as described more fully in Section III of this preamble, the EPA is proposing that in the event that a state has demonstrated and can continue to demonstrate that emissions of a given precursor from all sources in a nonattainment area do not contribute significantly to $PM_{2.5}$ concentrations in the area, then the state would not need to achieve 5 percent reductions in emissions of that precursor even if the nonattainment area becomes subject to the requirements of section 189(d).

The statute requires that the requisite minimum 5 percent emissions reductions must be calculated from the total emissions for each precursor and for direct $PM_{2.5}$ contained in the most recent inventory for the area, as described earlier in this section. In addition, the EPA proposes that these required reductions must then be achieved every year between the section 189(d) plan submission date and the new projected attainment date for the area. For example, assume it is 2025, and a Serious area has failed to attain the 2012 $PM_{2.5}$ NAAQS within 10 years of designation. Assume also that the most recent inventory available for an area subject to section 189(d) is for the year 2023. This inventory would serve as the base inventory for determining the emissions reduction requirement under section 189(d). If the most recent inventory indicates that emissions of direct $PM_{2.5}$ from all sources in the area are 100 tons/day, then the area would need to reduce emissions of direct $PM_{2.5}$

by 5 percent of the base inventory (in this example, 5 percent of the 2023 base inventory, or 5 tons/day) each year until the area attains the NAAQS. Thus, in the first year following submission of the section 189(d) plan for the area, emissions of direct $PM_{2.5}$ could not exceed 95 tons/day; in the second year, emissions could not exceed 90 tons/day; and so forth.

Although section 189(d) requires that a state develop measures that will obtain annual emissions reductions of ''not less than 5 percent'' from the most recent inventory, the EPA interprets this language to authorize states to elect to front-load emissions reductions in earlier years and still meet the 5 percent per year requirement. The EPA notes that interpreting the statute in this way will encourage states to implement measures earlier, where possible, rather than delay implementation of measures merely to assure that the 5 percent requirement can be met in later years. Thus, using the example described above, the annual reduction requirement for the area would be 5 tons/day from a base year emissions level of 100 tons/day. The required level after year 1 would be 95 tons/day, after year 2 the level would be 90 tons/day, and so on. If the area reached a level of 81 tons/day by the end of year 3, then by the end of year 4 it would only need to reduce emissions by 1 ton/day to yield an emissions level of 80 tons/day. Consistent with its past action to approve a Serious area attainment plan for the San Joaquin Valley (CA) $PM_{10}$ nonattainment area under section 189(d), the EPA therefore proposes and seeks comment on an approach to allow states to carry forward any emissions reductions beyond the required minimum 5 percent in a given year to the next year as a means to encourage states to achieve emissions reductions as quickly as possible.[218]

The EPA also proposes to clarify its interpretation of the statutory language under section 189(d) that requires a state to submit a new attainment plan to achieve annual reductions ''from the date of such submission until attainment,'' to mean annual reductions beginning from the due date of such submission until the new projected attainment date for the area based on the new or additional control measures identified to achieve at least 5 percent emissions reductions annually. This proposed clarification is intended to make clear that even if a state is late in submitting its section 189(d) plan, the area must still achieve its annual 5 percent emissions reductions beginning from the past due date for the section 189(d) plan submission. Because attainment dates for $PM_{2.5}$ nonattainment areas established under subpart 4 occur at the end of the calendar year, any section 189(d) plan, which is required within 12 months of the missed attainment date for the area, would also be due by the end of the calendar year.

2. Additional Guidance on Section 189(d) Control Measures

The EPA believes that an appropriate starting point for a state to identify measures to achieve the requisite minimum 5 percent annual emissions reductions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors is the list of potential control measures initially required as part of the RACM and RACT determination for the area, then updated as part of the required BACM and BACT determination for the area. The EPA anticipates that a state should be able to rely on much of the work it previously undertook to develop this list of potential control measures and analyze their technological and economic feasibility, and the time required to implement them. However, for purposes of meeting the requirements of section 189(d), the EPA recommends that the state first identify any additional potential measures not previously identified for the area, and then analyze any new or additional measures that the state has not already adopted in a previous attainment plan for the area. The EPA expects that such an analysis to identify new control measures would necessarily take into account recent technological advances in control technologies, the possibility of a greater availability of funding to expand implementation of control measures for area sources, and the additional time the area will have to attain the $PM_{2.5}$ NAAQS under sections 189(d) and 179(d)(3).

In addition, a state may include in the section 189(d) plan control strategy for the area any control measures triggered as contingency measures upon the EPA's determination that area failed to attain the $PM_{2.5}$ NAAQS by the applicable attainment date. In order to be included as control measures that will help the area meet its requisite minimum 5 percent reductions in direct $PM_{2.5}$ and $PM_{2.5}$ precursor emissions, such measures would have to meet the same requirements as all other approvable control measures for being quantifiable, enforceable, replicable and accountable. The EPA believes that reliance on such measures is appropriate given the short timeline provided for in the statute for states to revise and submit their SIP revisions (12 months from the missed attainment date) and the fact that the contingency measures included in the prior attainment plan for the area under section 172(c)(9) must be activated once the EPA publishes its finding of the area's failure to attain the NAAQS by the applicable attainment date. If contingency measures from the Serious area attainment plan are relied on in the new attainment demonstration as part of the control strategy, the state will need to submit additional contingency measures for the section 189(d) attainment plan submission.

3. Control Strategy Submission Requirements

To ensure that attainment plan submissions contain the necessary supporting information for the EPA to review and approve the state's new control strategy to achieve at least 5 percent reductions in emissions of direct $PM_{2.5}$ and significant $PM_{2.5}$ precursors, the EPA proposes to require under the authority of section 301(a) that a state must submit the following information as part of its section 189(d) plan submission:

- A list of all emissions source categories, sources and activities in the nonattainment area (for multi-state nonattainment areas, this would include source categories, sources and activities from all states which make up the area);
- For each source category, source or activity in the nonattainment area, an inventory of direct $PM_{2.5}$ and all $PM_{2.5}$ precursor emissions;
- For each source category, source or activity in the nonattainment area, a comprehensive list of potential control measures considered by the state for those sources in the nonattainment area;[219]
- For each potential control measure considered by the state but eliminated from further consideration due to a determination by the state that the control measure or technology was not technologically feasible, a narrative explanation and quantitative or qualitative supporting documentation to justify the state's conclusion;
- For each technologically feasible emission control measure or technology, the state must provide the following information relevant to economic feasibility: (i) the control efficiency by pollutant; (ii) the possible emission reductions by pollutant; (iii) the estimated cost per ton of pollutant reduced; and, (iv) a determination of whether the measure is economically

[218] 69 FR 30006 (May 26, 2004).

[219] Menu of Control Measures document available at *http://www.epa.gov/air/criteria.html.*

feasible, with narrative explanation and quantitative supporting documentation to justify the state's conclusion;

• For each technologically and economically feasible emission control measure or technology, the date by which the technology or measure could be implemented.

As with other $PM_{2.5}$ attainment plan submissions, the EPA believes that it is incumbent on the state to ensure that the information needed for the EPA to evaluate the state's analysis of new control measures needed to achieve annual 5 percent reductions is presented separately as part of the control strategy analysis and in a format that provides transparency, consistency and the ability for another party to evaluate the state's analysis effectively and to duplicate the state's results. For this reason, the EPA is including the section 189(d) plan base year emissions inventory information as a necessary part of the control strategy submittal and as one element of the state's section 189(d) plan due 12 months after the missed attainment date for the area. In addition, the EPA proposes that the state must provide information as part of any attainment plan submitted to meet the requirements of section 189(d) consistent with the criteria described in Section VI.D.5 of this preamble to ensure that a state adopts effective regulations to implement the control measures identified as being needed to meet those requirements. Specifically, all control measures must be quantifiable, enforceable, replicable and accountable.

The section 189(d) requirement to reduce emissions by 5 percent per year is in effect a fixed level of RFP to be achieved annually. Accordingly, just as quantitative milestones are used to track progress with RFP requirements, the EPA proposes that the state would be required to submit quantitative milestone reports to describe the area's progress in meeting the 5 percent annual emissions reduction requirement under section 189(d). *See* Section VII.G of this preamble for more details.

*E. Modeling for Attainment Demonstrations*

Section 189(d) requires a state with a Serious nonattainment area that failed to attain the relevant NAAQS by the applicable Serious area attainment date to submit a new attainment plan for such area within 12 months after the missed attainment date. The EPA is proposing that the same general requirements for attainment demonstrations and modeling that apply to Moderate area plans and Serious area plans due under sections 189(a) and 189(b) should also apply to section 189(d) attainment plans. However, the EPA is proposing additional requirements specific to plans states submitted pursuant to section 189(d) as described below.

1. Attainment Demonstrations for Serious Areas That Fail To Attain the NAAQS by the Applicable Attainment Date

The EPA is proposing that the attainment demonstration for Serious areas subject to section 189(d) requirements must consist of: (i) technical analyses such as base year and future year modeling of emissions which identify sources and quantify their emissions that are contributing to violations of the $PM_{2.5}$ NAAQS; and, (ii) analyses of future year projected emissions reductions and air quality improvement resulting from national, regional and local programs already implemented as part of previous Moderate and/or Serious area attainment plans for the area (including reasonable control measures, BACM and BACT and additional feasible measures), and additional measures needed for expeditious attainment, including measures needed to achieve 5 percent emissions reductions on an annual basis. Each state with a nonattainment area subject to the requirements of section 189(d) must submit an attainment plan with an attainment demonstration that includes analyses supporting the state's determination of its proposed new attainment date. In all cases, the state must show that the area will attain the NAAQS as expeditiously as practicable.

2. What modeling is required?

The EPA proposes that states are required to submit air quality modeling in support of an attainment demonstration for a nonattainment area subject to the requirements of section 189(d). The modeling demonstration must show how and when the area will attain the NAAQS. Other than the timing of plan submissions and requirement to achieve 5 percent emissions reductions in direct $PM_{2.5}$ and $PM_{2.5}$ precursors, the relevant air quality modeling procedures and guidance for all $PM_{2.5}$ nonattainment area plans are the same. *See* Sections IV.E. and VI.E of this preamble for more details on proposed modeling requirements and guidance for Moderate and Serious $PM_{2.5}$ nonattainment areas, respectively.

3. What future year(s) should be modeled in attainment demonstrations?

As discussed more fully in Section VII.I of this preamble, the EPA must establish a new attainment date for a $PM_{2.5}$ nonattainment area subject to section 189(d) and must do so according to the provisions of sections 179(d)(3) and 172(a)(2), which require that the new attainment date must be as expeditious as practicable, but no later than 5 years from the date of publication in the **Federal Register** of the EPA's determination that the area failed to attain the relevant NAAQS. The EPA may extend the attainment date by up to 5 additional years (thus to 10 years from the date of publication of the notice of finding of failure to attain by the applicable attainment date for the area) if the agency deems it appropriate ''considering the severity of nonattainment and the availability and feasibility of pollution control measures.''

For purposes of determining the attainment date that is as expeditious as practicable, the state must conduct future year modeling which takes into account emissions growth, known controls (including any controls that were previously determined to be RACM or RACT or additional reasonable measures, or BACM or BACT or additional feasible measures for the area), the 5 percent per year emissions reductions required by section 189(d), plus any other emissions controls that are needed for expeditious attainment of the NAAQS. A state performing a modeling analysis for a plan submitted under section 189(d) must select a future modeling year such that all emissions control measures relied on for attainment will have been implemented by the beginning of that year. To demonstrate attainment, the modeling results for the nonattainment area must predict that emissions reductions implemented by the beginning of the last calendar year preceding the attainment date will result in $PM_{2.5}$ concentrations that meet the level of the standard.[220]

For a $PM_{2.5}$ nonattainment area subject to section 189(d), the EPA expects that the state will adopt any control measures necessary to demonstrate expeditious attainment within 5 years of the area failing to attain the NAAQS by the applicable Serious area attainment date.

4. Attainment Year Motor Vehicle Emissions Budgets

As with all other $PM_{2.5}$ NAAQS attainment plans, the transportation

[220] Note that for purposes of the $PM_{2.5}$ NAAQS, a determination of attainment (or failure to attain), which the EPA is required to make after the attainment date has passed, is based on an average of the most recent 3 years of ambient data prior to the area's attainment date.

conformity rule requires that attainment plans for areas subject to section 189(d) establish motor vehicle emissions budgets for the area's attainment year. Therefore, for such an area, the state would first determine the new attainment date as described in Section VII.I of this preamble. Once an area's attainment date has been established, the state would establish motor vehicle emissions budgets for direct $PM_{2.5}$ and any relevant $PM_{2.5}$ precursor for the attainment year.[221] A motor vehicle emissions budget for the purposes of a $PM_{2.5}$ attainment plan is that portion of the total allowable emissions within the nonattainment area allocated to on-road sources as defined in the submitted attainment plan.[222] Such motor vehicle emissions budgets would be calculated using the latest planning assumptions and the latest approved motor vehicle emissions model available at the time that the attainment plan is developed.[223]

The EPA seeks comment on these proposed attainment demonstration and modeling requirements for new attainment plans due for Serious areas subject to section 189(d).

*F. RFP Requirements*

As with other $PM_{2.5}$ attainment plans, a plan submitted to meet the requirements of section 189(d) must provide for RFP as required under sections 172(c)(2) and 189(c)(1). Section 171(1) defines RFP as ''such annual incremental reductions in emissions of the relevant air pollution 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 attainment date.'' The purpose of RFP requirements is to assure that a state is making progress towards attainment on an annual basis through the attainment plan, rather than deferring emissions reductions until just before the attainment date for the area. This requirement is similar to, though less prescriptive than, the requirement under section 189(d) for 5 percent emissions reductions of direct $PM_{2.5}$ or $PM_{2.5}$ precursors from the most recent emissions inventory on an annual basis until the area attains. Therefore, the EPA proposes to determine that a state has satisfied the RFP requirement if the state submits an approvable control strategy under section 189(d) that demonstrates that the state will achieve at least 5 percent reductions in direct $PM_{2.5}$ and $PM_{2.5}$ precursor emissions from sources in the area annually until attainment.

The EPA proposes that motor vehicle emissions budgets must also be established as part of any RFP plan for direct $PM_{2.5}$ and for any relevant $PM_{2.5}$ precursor using the latest planning assumptions and the latest approved motor vehicle emissions model available at the time that the plan is developed for a Serious area subject to 189(d).[224]

The EPA seeks comment on this proposed approach related to RFP requirements for new attainment plans due under section 189(d).

*G. Quantitative Milestones*

The revised attainment plan for any Serious nonattainment area that fails to attain the relevant $PM_{2.5}$ NAAQS by the applicable attainment date must include quantitative milestones pursuant to section 189(c). These quantitative milestones would be additional to those previously identified in the Moderate area and original Serious area attainment plans, and would need to reflect the projected emissions reductions or air quality improvements expected through the implementation of specific control measures identified to achieve the minimum 5 percent annual reductions required under section 189(d). Such milestones would need to be achieved every 3 years until the area attains the relevant NAAQS, such that the EPA proposes that, at a minimum, quantitative milestones selected for an attainment plan submitted under section 189(d) would need to demonstrate a reduction of at least 15 percent in emissions of direct $PM_{2.5}$ and significant precursors below those emissions reported in the most recent inventory for the area.

The section 189(d) plan for an area that failed to attain the standard by the applicable Serious area attainment date would have to contain quantitative milestones to be achieved by 13.5 years from the area's date of designation and every 3 years thereafter until the area's new projected attainment date. In the event a state is developing a revised attainment plan pursuant to section 189(d) that will be due sometime after 13.5 years following designation of the area, the EPA proposes to allow the state to submit quantitative milestones beginning for the year 16.5 from designation and every 3 years thereafter until the area's projected attainment date.

The EPA believes that its proposed requirements for quantitative milestones, described in Sections IV.G and VI.G of this preamble, should also apply to quantitative milestones submitted with any revised attainment plan pursuant to section 189(d), and thus proposes and seeks comment on the agency's proposed milestone requirements for application to attainment plans due under section 189(d).

*H. Contingency Measures*

All $PM_{2.5}$ attainment plans, including plans for areas subject to section 189(d), must contain contingency measures that are consistent with section 172(c)(9). Section VI.H of this preamble describes the EPA's proposed criteria for contingency measures for a Serious area attainment plan, and the agency proposes that contingency measures for a section 189(d) plan must meet the same criteria. The EPA proposes that the emissions reductions associated with contingency measures for section 189(d) plans must be at least 5 percent of direct $PM_{2.5}$ and significant $PM_{2.5}$ precursor emissions as reported in the most recent inventory for the area. The EPA believes this requirement would appropriately align the proposed requirement for selecting contingency measures with the agency's proposed approach to RFP for these areas. In other words, if RFP for an area is equivalent to about 1 year's worth of emissions reductions, or 5 percent emissions reductions in direct $PM_{2.5}$ and $PM_{2.5}$ precursors, then the adopted contingency measures should likewise achieve about 1 year's worth of emissions reductions, or 5 percent emissions reductions in direct $PM_{2.5}$ and $PM_{2.5}$ precursors.

The EPA recognizes that identifying contingency measures for a Serious $PM_{2.5}$ nonattainment area that failed to attain the relevant NAAQS by the applicable attainment date may be challenging for a state that should already have fully implemented all control measures identified as ''reasonable'' and ''best,'' and potentially ''most stringent,'' in addition to identifying new control measures to achieve the requisite minimum 5 percent reductions in direct $PM_{2.5}$ and significant $PM_{2.5}$ precursor emissions

[221] For more information on $PM_{2.5}$ precursor requirements, *see* section 93.102(b)(2)(iv) and (v) of the transportation conformity rule. *See* also the May 6, 2005, final transportation conformity rule that addressed requirements for $PM_{2.5}$ precursors. (70 FR 24280).

[222] A state would also establish motor vehicle emissions budgets for an area's attainment year. Those budgets would be the motor vehicle emissions that the SIP establishes as being necessary to attain the NAAQS.

[223] If an area includes re-entrained road dust in the motor vehicle emissions budget, the latest approved version of AP–42 should be used unless the EPA has approved an alternative model for the area.

[224] If an area includes re-entrained road dust in the motor vehicle emissions budget, the latest approved version of AP–42 should be used unless the EPA has approved an alternative model for the area.

necessary for expeditious attainment. Nonetheless, given the statutory language of section 172(c)(9), the EPA seeks comment on applying the same proposed requirements for contingency measures for section 189(d) plans, and on the agency's proposed approach for calculating the emissions reductions that such measures must be able to achieve.

*I. Attainment Dates*

As previously discussed, section 189(d) requires a minimum 5 percent annual reduction in emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors until the area attains the relevant NAAQS. However, neither section 189(d) nor other sections in subpart 4 explicitly establish or provide the authority to establish a new attainment date for the area; other subpart 4 attainment date provisions for Moderate or Serious areas are likewise not applicable to areas in this situation. Therefore, once an area is beyond the attainment dates that Congress specified in subpart 4 for the $PM_{10}$ NAAQS, the EPA must look to the existing provisions of the CAA to provide authority for a new attainment date. Sections 179(d)(3) and 172(a)(2) provide generally applicable attainment dates that fill the gap in the statute left for areas subject to the requirements of section 189(d). Thus, for a $PM_{2.5}$ nonattainment area subject to section 189(d) requirements, the EPA must establish a new attainment date, and must do so according to the provisions of section 179(d)(3) and 172(a)(2). The EPA has followed this same approach in the past for $PM_{10}$ nonattainment areas governed by subpart 4 nonattainment requirements.[225]

The new attainment date must be as expeditious as practicable, but no later than 5 years from the date of publication in the **Federal Register** of the EPA's determination that the area failed to attain the relevant NAAQS. The EPA may extend the attainment date by up to 5 additional years (thus to 10 years from the date of publication of the notice of finding of failure to attain by the applicable attainment date for the area) if the agency deems it appropriate ''considering the severity of nonattainment and the availability and feasibility of pollution control measures.'' For a $PM_{2.5}$ nonattainment area subject to section 189(d), the EPA expects that the state will adopt any control measures necessary to demonstrate expeditious attainment within 5 years of the area failing to attain the NAAQS by the applicable Serious area attainment date.

As discussed earlier in this section, the EPA will consider the state's attainment demonstration and proposed attainment date for the area, in addition to the state's revised control strategy and the relevant facts and circumstances, in order to identify the most expeditious attainment date practicable for the area.

The EPA seeks comment on this proposal for interpreting the statutory requirements under section 189(d) for a Serious area that fails to attain the $PM_{2.5}$ NAAQS by the applicable attainment date.

## VIII. What are the EPA's proposed NNSR permitting requirements?

*A. Statutory Requirements for NSR*

Section 110(a)(2)(C) of the CAA requires states to include in their SIPs a preconstruction review permitting program that regulates the construction and modification of stationary sources as necessary to ensure that NAAQS are achieved. To address the regulation of the larger pollutant-emitting sources (defined as major stationary sources), Congress provided specific permitting requirements in the CAA in parts C and D of title I. The requirements for preconstruction permits under parts C and D of the CAA are commonly known collectively as the major NSR program because they apply specifically to the preconstruction review and permitting of new major stationary sources, and major modifications at existing sources. As explained in Sections VIII.A.1 and 2 of this preamble, the preconstruction review of each new and modified major stationary source generally is carried out on a pollutant-specific basis and the requirements with regard to each pollutant apply based on whether the area in which the proposed major source or major modification would locate is designated attainment (or unclassifiable) or nonattainment for that pollutant at the time the permit is issued.

1. PSD

Part C of title I of the CAA (hereafter referred to simply as part C) contains implementation plan requirements that apply to new major stationary sources and major modifications in areas designated attainment or unclassifiable for any NAAQS. These requirements constitute the PSD program. Pursuant to part C, the EPA has adopted PSD regulations at 40 CFR 51.166 (minimum requirements for an approvable state PSD program in the SIP) and 40 CFR 52.21 (the federal PSD program, applicable in areas where the state does not have an EPA-approved PSD program in its SIP). The EPA last amended the PSD regulations for $PM_{2.5}$ on January 15, 2013, in the final rule revising the $PM_{2.5}$ NAAQS.[226] This proposal does not relate to the PSD program, nor does it propose further changes to the PSD regulations. Any future revisions to the PSD regulations for $PM_{2.5}$ would be done through a separate notice-and-comment rulemaking.

2. NNSR

Part D of title I of the CAA (hereafter referred to as part D) contains implementation plan requirements for nonattainment areas, which include the requirements for permitting new major stationary sources and major modifications in designated nonattainment areas, referred to as the NNSR program. As noted earlier, part D contains several subparts that include various requirements for addressing nonattainment areas. Subpart 1 addresses plan requirements for nonattainment areas generally, including section 172(c)(5) which requires preconstruction and operating permits for new major stationary sources and major modifications in nonattainment areas. Section 173 outlines the minimum statutory requirements for a state's NNSR permit program and serves as the basis for the EPA's NNSR regulations for $PM_{2.5}$ as promulgated in the 2008 $PM_{2.5}$ NSR Rule. Subpart 4 was added to part D as part of the 1990 CAA Amendments and includes additional plan provisions for designated $PM_{10}$ nonattainment areas. Relevant here, section 189(a)(1)(A) of subpart 4 requires states to include in their implementation plan a permit program addressing major stationary sources of $PM_{10}$ that meets the requirements under section 173 of subpart 1. Subpart 4 also includes some additional preconstruction review requirements for which, to date, the EPA has promulgated NSR regulations applying only to major stationary sources of $PM_{10}$ in $PM_{10}$ nonattainment areas. The specific NNSR requirements contained in both subparts 1 and 4 are described below including the changes to the NNSR regulations needed to address $PM_{2.5}$ specifically that the EPA is proposing in this notice.

[225] For example, *see* the **Federal Register** notice from June 6, 2007 (72 FR 31183) in which the EPA found that the Phoenix $PM_{10}$ Serious nonattainment area failed to attain the standard by the 2006 attainment date.

[226] More information on the PSD requirements for $PM_{2.5}$ as well as the public comments and the EPA's responses to those comments and the related issues for which comments were received is contained in the January 15, 2013 **Federal Register** document (78 FR 3086, beginning at page 3251).

*B. Federal NNSR Regulations*

Federal regulations pertaining to the preconstruction permitting of new major stationary sources and major modifications in areas designated nonattainment are contained at 40 CFR 51.165; part 51, appendix S; and, § 52.24. An approved NNSR program in a state's implementation plan must, at a minimum, meet the program requirements set forth in the federal NNSR requirements at 40 CFR 51.165, which for $PM_{2.5}$ are currently based on changes made under the 2008 $PM_{2.5}$ NSR Rule. States are required to adopt regulations consistent with those plan requirements and submit them to the EPA for approval as part of their SIP within a period of time consistent with the schedule prescribed by the CAA.

The EPA interprets the requirement established under section 110(a)(2)(C) of the CAA for states to regulate the construction and modification of sources to apply in nonattainment areas as of the effective date of a new nonattainment area designation.[227] Although section 110(a)(2)(C) does not contain specific requirements a state must follow for issuing major source permits during the interim period between effective date of designation and the date when a state has an EPA-approved NNSR program, the EPA regulation at 40 CFR 52.24(k) authorizes states to apply 40 CFR part 51, Appendix S, known as the Emission Offset Interpretative Ruling, during the interim period. [228] [229]

Accordingly, states with newly designated nonattainment areas for the revised primary $PM_{2.5}$ NAAQS have two possible means by which they can implement NNSR requirements for $PM_{2.5}$ following the effective date of designations and until the EPA approves a SIP submission meeting the NNSR requirements for $PM_{2.5}$ promulgated in this rule under subpart 4. First, any state that has an approved NNSR program for $PM_{2.5}$ can continue to apply those permitting requirements in the interim. Second, states that lack any approved NNSR program for $PM_{2.5}$ may rely upon the NNSR provisions in Appendix S until the EPA approves a SIP submission from the state to address $PM_{2.5}$ in order to ensure that proposed new major stationary sources and major modifications for $PM_{2.5}$ in newly designated $PM_{2.5}$ nonattainment areas undergo the appropriate type of preconstruction review in the interim.

1. General Applicability

New major stationary sources are subject to the NNSR requirements when they are major for the pollutant for which an area is designated nonattainment. *See* 40 CFR 51.165(a)(2)(i). With regard to major modifications, NNSR applies to proposed physical changes or changes in the method of operation of an existing stationary source that (1) is major for the nonattainment pollutant (or a precursor for that pollutant) and (2) results in both a significant emissions increase and a significant net emissions increase of that nonattainment pollutant (or a precursor for that pollutant).[230]

For each proposed major new source and major modification, the general NNSR requirements that are required to be included in a state's SIP include: (i) the installation and continuous operation of pollution control technology that complies with the LAER; (ii) the acquisition of creditable emissions reductions to adequately offset the proposed emissions increase of the nonattainment pollutant; and, (iii) a demonstration of compliance with other analyses as required under section 173 of the CAA.[231] These NNSR requirements must be satisfied by a major new source or major modification as a prerequisite for receipt of a construction permit and apply as of the effective date of designation of an area as nonattainment for the pollutant.

2. Historical Overview of NNSR for $PM_{10}$ and $PM_{2.5}$ NAAQS

Following the adoption of new PM NAAQS based on the $PM_{10}$ indicator in 1987 (replacing the original Total Suspended Particulate indicator), the EPA announced that it did not intend to designate areas as nonattainment for $PM_{10}$. As a result, the EPA initially determined that part D, which at that point consisted only of generally applicable requirements, did not apply to the $PM_{10}$ NAAQS.[232] Thus, nonattainment area requirements, including the NNSR program, did not initially apply with respect to $PM_{10}$. Consequently, all new major stationary sources and major modifications of $PM_{10}$ were required to undergo PSD review as a prerequisite for construction or modification.

The approach for implementing the NNSR program for PM changed when in 1990 Congress established a new subpart 4 specifically to address implementation plan requirements for $PM_{10}$ nonattainment areas, including new preconstruction permit requirements for major stationary sources and major modifications with respect to $PM_{10}$ and $PM_{10}$ precursors. Moreover, Congress created new $PM_{10}$ nonattainment areas through designations that became effective upon enactment of the 1990 Amendments on November 15, 1990.[233] In section 189(a)(2)(A), Congress also required states to submit the necessary NNSR permit program SIP revisions for these areas to the EPA by June 30, 1992.

In a letter to its Regional Offices dated March 11, 1991,[234] the EPA initially indicated that states should implement such new requirements by operation of law, without the need for formal rulemaking by the EPA to establish the necessary requirements for states to adopt. In the General Preamble, the EPA offered states additional guidance and described the EPA's preliminary views on how the states and the EPA should interpret various provisions of the 1990

[227] *See* the **Federal Register** published on November 29, 2005 (70 FR 71612, 71677 and 71678).

[228] States with designated $PM_{2.5}$ nonattainment areas were required to submit SIPs satisfying the requirements of the 2008 $PM_{2.5}$ NSR Implementation Rule by May 16, 2011, 3 years from the date of publication of that rule. *See* 73 FR 28321 (May 16, 2008), at page 28342. Such approved state programs can continue to be implemented to issue permits to new major stationary sources and major modifications until the state's revised program containing the subpart 4 NNSR provisions promulgated in this rulemaking is approved under the applicable SIP.

[229] 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)). When Congress added the part D provisions in the 1977 CAA Amendments, it also added the requirement that SIPs contain NNSR provisions as set forth in Part D. Additionally, Congress provided that Appendix S would govern preconstruction permitting in nonattainment areas lacking approved part D SIPs before a construction ban went into effect. When Congress removed the construction ban via the 1990 CAA Amendments (except as provided for in section 110(n)(3)) it left in place the use of the interim NNSR program under Appendix S.

[230] As will be explained in ensuing discussions, the nonattainment pollutant and any applicable precursors for that pollutant are considered separately for NNSR applicability purposes. *See* 40 CFR 51.165(a)(1)(v)(A), (a)(2)(ii)A).

[231] The basic NNSR requirements are set forth in section 173 of subpart 1. Subpart 4 adds a more stringent definition of ''major source'' for $PM_{10}$ sources in $PM_{10}$ nonattainment areas classified as Serious and sets forth provisions for the regulation and potential exemption of major sources of $PM_{10}$ precursors in $PM_{10}$ nonattainment areas. Until the decision in *NRDC* v. *EPA* was issued, the additional subpart 4 requirements had not been directly applied with regard to $PM_{2.5}$.

[232] At the time the EPA promulgated the new $PM_{10}$ NAAQS, part D of the CAA did not include subpart 4. *See* 52 FR 24672 (July 1, 1987).

[233] *See* section 107(d)(4)(B) of the CAA. The EPA subsequently published a list of the statutorily created $PM_{10}$ areas in a **Federal Register** document at 55 FR 45799 (October 31, 1990).

[234] The EPA memorandum titled ''New Source Review (NSR) Program Transition Guidance,'' signed by John S. Seitz, Director, Office of Air Quality Planning & Standards.

Amendments, primarily those provisions concerning planning and control measure requirements for the attainment of the NAAQS in nonattainment areas. In a 2005 final rule, the EPA formally amended the NNSR regulations to incorporate the requirements contained in subpart 4 of part D of the 1990 CAA Amendments concerning $PM_{10}$ nonattainment areas. [235]

The EPA revised the PM NAAQS in 1997, establishing new annual and 24-hour NAAQS using $PM_{2.5}$ particles as a new indicator, while retaining the NAAQS for $PM_{10}$.[236] In 2006, the EPA again revised the suite of PM NAAQS by tightening the 24-hour $PM_{2.5}$ standards and retaining the level of the annual $PM_{2.5}$ standards.[237] In 2008, the EPA issued the $PM_{2.5}$ NSR Rule that established various provisions ensuring that proposed new major stationary sources or major modifications of sources of direct $PM_{2.5}$ emissions or emissions of applicable $PM_{2.5}$ precursors would be required to undergo preconstruction review.[238] The EPA included specific provisions in the 2008 $PM_{2.5}$ NSR Rule to apply when such sources are located in a designated $PM_{2.5}$ nonattainment area. Unlike the NNSR requirements for $PM_{10}$ developed under subpart 4, the EPA determined that the applicable implementation requirements for the $PM_{2.5}$ NAAQS were contained in the general nonattainment provisions under subpart 1.

With regard to NSR applicability for $PM_{2.5}$ precursors in the 2008 $PM_{2.5}$ NSR Rule, the EPA recognized $NO_X$, $SO_2$, VOC and ammonia as precursors of $PM_{2.5}$ in the scientific sense (because those pollutants under the appropriate conditions can contribute to the formation of $PM_{2.5}$ in the ambient air) but did not require that states subject all of these precursors to control as part of the attainment plan or NSR permitting requirements applicable to a given nonattainment area.[239] Instead, based on the authority in section 302(g) of the CAA, the EPA established the initial presumptions for nonattainment areas that $SO_2$ and $NO_X$ should be regulated precursors for $PM_{2.5}$, but VOC and ammonia need not be regulated precursors. The EPA or the states could rebut the initial presumptions regarding $NO_X$, VOC or ammonia on an area-by-area basis with a demonstration approved by the Administrator and thus reverse any of those presumptions in the state's implementation plan for that area.[240]

As described above in Section II.C of this preamble, in January 2013 the court in *NRDC* v. *EPA* held that the EPA erred in implementing the $PM_{2.5}$ NAAQS pursuant only to the general implementation requirements in subpart 1, rather than also to the implementation requirements specific to particulate matter in subpart 4. Accordingly, the court directed the EPA to comply with the requirements of subpart 4 when developing implementing regulations for $PM_{2.5}$ nonattainment areas.

The court decision, requiring that the EPA implement the $PM_{2.5}$ NAAQS consistent with the requirements of subpart 4, clearly has specific implications for implementing the NNSR program for $PM_{2.5}$. Two provisions of subpart 4 impose additional requirements on the existing NNSR program requirements for $PM_{2.5}$. The first relates to the definition of ''major stationary source.'' Section 188(b) provides that some areas initially designated as Moderate areas for $PM_{10}$ subsequently may be reclassified as Serious areas. For any $PM_{10}$ nonattainment area reclassified as a Serious area, section 189(b)(3) provides that a major stationary source of $PM_{10}$ be defined to include any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit at least 70 tpy of $PM_{10}$. In accordance with the statute, the EPA is proposing to establish a major source emissions threshold for stationary sources of $PM_{2.5}$ that satisfies the intent of section 189(b)(3).

The second relevant subpart 4 provision governs the treatment of major sources of $PM_{10}$ precursors. As previously explained in Section III.A of this preamble, the court specifically criticized the EPA's prior establishment of the rebuttable presumptions for addressing $PM_{2.5}$ precursors, specifically citing the requirement of section 189(e). Section 189(e) requires that the control requirements in the plan applicable to major stationary sources of $PM_{10}$ must also apply to major stationary sources of $PM_{10}$ precursors. Section 189(e) also provides that states may elect not to impose control requirements on major stationary sources of $PM_{10}$ precursor emissions if such emissions do not contribute significantly to ambient $PM_{10}$ concentrations that exceed the standard in the $PM_{10}$ nonattainment area. Section 189(e) requires that the EPA must make this determination, and thus the EPA must approve the decisions of a state that elects to use this provision to exempt any major stationary sources of $PM_{2.5}$ precursors from controls in its attainment plan or NNSR program.

The court's observation that the EPA's prior presumptions regarding precursors were inconsistent with the explicit requirements of section 189(e) that major sources of all $PM_{2.5}$ precursors are subject to control requirements thus necessitates that the agency revise the NNSR regulations governing precursors for $PM_{2.5}$. As explained in greater detail later in this section, the EPA is proposing different potential options to make the necessary changes to the NNSR regulations in order to address the precursor requirements contained in subpart 4.

### *C. What are the changes the EPA is proposing for NNSR for $PM_{2.5}$ nonattainment areas?*

In this section, the EPA presents for comment certain proposed revisions to the NNSR regulations as well as alternative approaches for incorporating the subpart 4 requirements into the NNSR regulations for $PM_{2.5}$. The proposed changes would affect the existing regulations at 40 CFR 51.165 and part 51 Appendix S. The agency does not intend to propose any changes to the regulations at 40 CFR 52.24, which provide the authorization for states to issue NNSR permits to major new sources and major modifications ''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.''

#### 1. What are the changes the EPA is proposing for the NNSR requirements for $PM_{2.5}$ at 40 CFR 51.165?

As explained above, the existing NNSR regulations applicable to $PM_{2.5}$ are based solely on the permit requirements contained in section 173 of subpart 1. In subpart 4, section 189(a)(1)(A) requires states to include in their SIPs for $PM_{10}$ nonattainment areas a permit program meeting the requirements of section 173; however, other provisions in subpart 4 add additional requirements for the NNSR permit program. Those additional provisions concern (i) the definition of ''major stationary source'' in nonattainment areas classified as Serious areas, and (ii) control

[235] *See* ''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.'' 70 FR 71611 (November 29, 2005).

[236] *See* 62 FR 38652 (July 18, 1997).

[237] *See* 71 FR 61144 (October 17, 2006).

[238] *See* 73 FR 28321 (May 16, 2008).

[239] *See* 72 FR 20589.

[240] In the 2008 $PM_{2.5}$ NSR Rule, the EPA concluded that $SO_2$ should be regulated as a precursor for $PM_{2.5}$ in all areas. *See* 73 FR 28327.

requirements for applicable major stationary sources of $PM_{10}$ precursors. While those particular requirements in subpart 4 refer specifically to $PM_{10}$, the EPA is proposing to add similar requirements for $PM_{2.5}$ in accordance with the court's holding in *NRDC* v. *EPA* that subpart 4 also governs implementation of the $PM_{2.5}$ NAAQS.

a. *Definition of ''major stationary source'' in Serious $PM_{2.5}$ nonattainment areas.* In Section III.A of this preamble, the EPA indicated its intention to propose new provisions based on the requirements in subpart 4 for reclassifying certain $PM_{2.5}$ nonattainment areas as Serious areas. Because the NNSR regulations for $PM_{2.5}$ set forth in the 2008 $PM_{2.5}$ NSR Rule were developed pursuant to subpart 1, which does not provide for the classification of designated nonattainment areas, the EPA has not yet developed regulations to address subpart 4 requirements concerning nonattainment areas classified as Serious. With respect to NNSR, section 189(b)(3) provides that, for any $PM_{10}$ nonattainment area classified as Serious, the major source threshold with regard to the terms ''major source'' and ''major stationary source'' shall be 70 tpy of $PM_{10}$. Accordingly, the EPA is proposing to amend the NNSR regulations at 40 CFR 51.165 consistent with this provision to establish a major source threshold for new major stationary sources and major modifications in $PM_{2.5}$ nonattainment areas classified as Serious consistent with subpart 4. The EPA is proposing to set the major source threshold for direct $PM_{2.5}$ emissions at 70 tpy. *See* proposed 40 CFR 51.165(a)(1)(iv)(A)(*1*)(*vii*).

While the court decision did not mandate that the EPA define ''major source'' and ''major stationary source'' for $PM_{2.5}$ at a threshold of 70 tpy of $PM_{2.5}$ emissions for areas reclassified as Serious, the most straightforward and consistent application of section 189(b)(3) to $PM_{2.5}$ nonattainment areas is to establish the same numerical threshold for Serious $PM_{2.5}$ nonattainment areas as that which applies to Serious $PM_{10}$ nonattainment areas. Moderate nonattainment areas for both $PM_{10}$ and $PM_{2.5}$ are already subject to the same major source thresholds by statute, so the EPA believes that it is also reasonable to establish the threshold for $PM_{2.5}$ in Serious areas at the same level as the threshold that applies to $PM_{10}$ in Serious areas. For the reasons explained below, the EPA believes that potential alternative approaches to setting the major source threshold for Serious $PM_{2.5}$ nonattainment areas could have significant drawbacks. Nevertheless, the EPA is proposing and requesting comments on other possible thresholds for Serious areas.

A possible alternative approach would be to promulgate a $PM_{2.5}$ major source threshold lower than 70 tpy of $PM_{2.5}$ emissions, recognizing that $PM_{2.5}$ is a subset of $PM_{10}$. Generally, any source's $PM_{2.5}$ emissions will be a fraction of that source's $PM_{10}$ emissions. However, determining the appropriate major source emissions threshold for $PM_{2.5}$ that would be equivalent to 70 tpy of $PM_{10}$ on a national basis is problematic because, while $PM_{2.5}$ is generally a subset of $PM_{10}$, there is not a consistent ratio of $PM_{2.5}$ to $PM_{10}$ emissions for all stationary sources. Combustion sources, such as industrial and commercial boilers that burn fossil fuels, and selected industrial processes emit primarily finer particles within the $PM_{2.5}$ size range, while other industrial processes—typically involving crushing and grinding operations—tend to emit more coarse particles in the $PM_{10}$ size range. While the $PM_{10}$: $PM_{2.5}$ ratio for most sources decreases when the overall emissions of PM are controlled, the quantitative difference between $PM_{2.5}$ emissions and $PM_{10}$ emissions from specific sources can still be significant, thus making a national $PM_{2.5}$ major source threshold based on a single ratio difficult to define. The EPA seeks comments on possible ways in which a $PM_{2.5}$ emissions rate different from the statutory 70 tpy rate for $PM_{10}$ emissions can be established, taking into account variations in the $PM_{10}$: $PM_{2.5}$ ratio for different source categories and activities.

Accordingly, while the EPA seeks comment on this alternative approach, because of the associated limitations just described, the first option (*i.e.,* a major source threshold of 70 tpy of $PM_{2.5}$ emissions for stationary sources proposing to construct or modify in $PM_{2.5}$ nonattainment areas reclassified as Serious) represents the agency's preferred approach.

b. *Control requirements for new major stationary sources and major modifications of $PM_{2.5}$ precursors.* The second key provision contained in subpart 4 that is not contained in subpart 1 relates to the control of major stationary sources and major modifications of precursor pollutants. Section 189(e) provides that, with respect to NNSR, the control requirements applicable to major stationary sources of $PM_{10}$ also apply to major stationary sources of $PM_{10}$ precursors, except that major stationary sources of a particular precursor may be exempt from the control requirements that apply to major stationary sources of $PM_{10}$ if the state can demonstrate (based on guidance provided by the EPA) that the precursor emissions from those sources do not contribute significantly to ambient $PM_{10}$ concentrations that exceed the standard in the nonattainment area.

The specific ''control requirements'' for new or modified major stationary sources of $PM_{2.5}$ are contained in section 173 of the CAA (outlining requirements for the state permit program required to be submitted in a state plan under section 189(a)(1)(A)) and 189(b)(3) (establishing a major source threshold for sources in Serious areas). Consistent with these requirements, the EPA is proposing a series of revisions to address $PM_{2.5}$ precursors in the NNSR regulations at 40 CFR 51.165, including: Revision of the definition of ''regulated NSR pollutant'' to require regulation under the permitting program of all $PM_{2.5}$ precursors; the establishment of major stationary source thresholds (for both Moderate areas and Serious areas) for all $PM_{2.5}$ precursors; and, a provision for an exemption from the NNSR requirements, pursuant to section 189(e) of the CAA, for major stationary sources of any $PM_{2.5}$ precursor where such sources do not contribute significantly to ambient concentrations of $PM_{2.5}$ that exceed the standard in a particular nonattainment area. As described in greater detail below, the EPA is not at this time proposing any new significant emissions rates for the $PM_{2.5}$ precursors.

As described in Section VIII.A.2.b of this preamble, the NNSR regulations at 40 CFR 51.165 currently require states to regulate new major stationary sources and major modifications of $SO_2$ and $NO_X$ as precursors under the NNSR requirements for $PM_{2.5}$.[241] Optionally, a state may avoid regulating new major stationary sources and major modifications of $NO_X$ under the NNSR requirements for $PM_{2.5}$ if that state demonstrates to the satisfaction of the EPA that $NO_X$ is not a significant contributor to $PM_{2.5}$ concentrations in a particular $PM_{2.5}$ nonattainment area. Similarly, the existing regulations provide that a state may opt to regulate new major stationary sources and major modifications of VOC or ammonia under the NNSR requirements for $PM_{2.5}$ if that state demonstrates to the satisfaction of the EPA that VOC or ammonia are precursors for $PM_{2.5}$ that need to be controlled in a particular

[241] *See* the definition of ''regulated NSR pollutant'' at existing 40 CFR 51.165(a)(1)(xxxvii)(C)(*2*) and (*3*).

$PM_{2.5}$ nonattainment area.[242] In accordance with the court's statement that section 189(e) requires all $PM_{2.5}$ precursors to be addressed, the EPA is proposing to revise the NNSR regulations to require that new major stationary sources and major modifications of $SO_2$, $NO_X$, VOC and ammonia meet the NNSR requirements for $PM_{2.5}$ in $PM_{2.5}$ nonattainment areas. In doing so, the EPA believes that it is necessary to propose several revisions to 40 CFR 51.165 to ensure that the NNSR requirements for $PM_{2.5}$ adequately address the regulated precursors consistent with the requirements of subpart 4.

First, the EPA is proposing to revise the regulations at 40 CFR 51.165 to ensure that new major stationary sources and major modifications of the four scientific precursors for $PM_{2.5}$ are subject to the same requirements under the NNSR regulations that apply to new major stationary sources and major modifications of direct $PM_{2.5}$ emissions. As explained earlier in this preamble, the court decision in *NRDC vs. EPA* concluded that section 189(e) ''expressly governs precursor presumptions'' and thus necessitates that the EPA revise its existing provisions in the NNSR rules that indicate that VOC and ammonia are not regulated $PM_{2.5}$ precursors. The EPA is thus proposing to revise the NNSR definition of ''regulated NSR pollutant'' to ensure that the NNSR regulations are consistent in establishing that $SO_2$, $NO_X$, VOC and ammonia are all regulated $PM_{2.5}$ precursors for purposes of NNSR requirements, except under certain conditions explained below. *See* proposed 40 CFR 51.165(a)(1)(xxxvii)(C)(*2*).

While section 189(e) generally requires that major stationary sources of $PM_{2.5}$ precursors must apply the control requirements (including those for NNSR) for major stationary sources of direct $PM_{2.5}$ emissions, the section also provides for an exemption from such requirements for any precursor for which ''the Administrator determines that such sources do not contribute significantly'' to the levels of $PM_{2.5}$ that exceed the standard in the nonattainment area. Section 189(e) further authorizes the EPA to issue guidelines concerning the application of the exemption process.

In Section III of this preamble, the EPA described the agency's proposed approaches for interpreting requirements for states to control $PM_{2.5}$ precursors in their attainment plans for the $PM_{2.5}$ NAAQS, which includes several proposed options to enable states to exempt a precursor from the attainment plan control requirements (including NNSR) for a particular $PM_{2.5}$ nonattainment area with the appropriate factual and analytical basis. In summary, the options included: (i) Separate analyses to determine which precursors are subject to the control requirements for attainment plans and which precursors are subject to the control requirements for NNSR for $PM_{2.5}$; (ii) a technical demonstration showing that all sources of a particular precursor do not significantly contribute to the $PM_{2.5}$ levels that exceed the standard in an area, thus exempting the precursor from control under both the attainment plan and NNSR programs; and, (iii) one analysis to determine whether control measures for a precursor are not needed for expeditious attainment for purposes of the attainment plan, which would also define the precursors that should be addressed for NNSR for $PM_{2.5}$. Accompanying the description of each of the above options, Section III.C of this preamble discusses the potential analytical requirements for any proposed demonstration that any particular precursor should be exempted from the control requirements for $PM_{2.5}$ in a given nonattainment area. The EPA is requesting comments on the three precursor options and the technical approaches for requesting a precursor exemption. Any comments received will be considered in developing the agency's final policy for addressing $PM_{2.5}$ precursors under the NNSR program for $PM_{2.5}$.

The second proposed change with regard to the nonattainment area control requirements for $PM_{2.5}$ precursors involves the definition of ''major stationary source'' as it relates specifically to precursors. The EPA is proposing to revise the definition of ''major stationary source'' contained in the NNSR regulations to ensure that new sources that emit major amounts of any $PM_{2.5}$ precursor that the state is regulating in the attainment plan for the area are appropriately considered major stationary sources subject to the NNSR requirements for $PM_{2.5}$. *See* proposed 40 CFR 51.165(a)(1)(iv)(A)(*1*). The proposed change concerning the regulation of precursors for $PM_{2.5}$ is being accomplished by adding to the term ''regulated NSR pollutant'' the phrase ''(as defined in paragraph (a)(1)(xxxvii) of this section).'' It should be noted that the definition of ''major modification'' already contains this phrase. As described above, the EPA is also proposing to revise the definition of ''regulated NSR pollutant'' to clarify that four precursors are being regulated for $PM_{2.5}$ in nonattainment areas for $PM_{2.5}$. The EPA is proposing to set the major source threshold for each $PM_{2.5}$ precursor ($SO_2$, $NO_X$, VOC and ammonia) at 100 tpy of each precursor for sources locating in Moderate areas, and 70 tpy of any precursor for sources locating in Serious areas. *See* proposed 40 CFR 51.165(a)(1)(iv)(A)(*1*) and (a)(*1*)(*viii*), respectively. For example, in order to be a major source for purposes of the $PM_{2.5}$ NAAQS, the source would need to emit at least 100 tpy of $PM_{2.5}$ emissions or at least 100 tpy of any individual $PM_{2.5}$ precursor that is a regulated precursor in a Moderate $PM_{2.5}$ nonattainment area. The individual treatment of pollutants and precursors for applicability purposes is consistent with the EPA's policy as explained in previous rulemakings.[243]

In proposing to set the major source threshold for each $PM_{2.5}$ precursor at 100 tpy for Moderate areas, the EPA is following the precedent established in the 2008 $PM_{2.5}$ NSR Rule in which the agency set the same 100 tpy major source threshold for $PM_{2.5}$ and each of its precursors (at that time $SO_2$ and $NO_X$).[244] As the EPA stated in that 2008 notice, sections 169 and 302(j) of the CAA contain definitions of ''major emitting facility'' and ''major stationary source'' that apply to programs implemented under subpart 1, which contain the PSD and NNSR program requirements, respectively.[245] Those definitions also apply to programs implemented under subpart 4 to the extent that they regulate areas classified as Moderate $PM_{2.5}$ nonattainment areas, as subpart 4 does not establish a different threshold for such areas. This proposal to set the same 100 tpy major source thresholds for sources of $PM_{2.5}$ emissions and applicable $PM_{2.5}$ precursor emissions is also consistent with the requirements of section 189(e), which make the control requirements applicable to major stationary sources of $PM_{10}$ also applicable to major stationary sources of applicable $PM_{10}$ precursors.[246]

As noted above, section 189(b)(3) sets a lower major source threshold of 70 tpy of $PM_{10}$ emissions for sources locating in $PM_{10}$ nonattainment areas reclassified as Serious. Because subpart 4 NNSR requirements must be applied to $PM_{2.5}$, the EPA must set a lower major source

[242] *Ibid* at (a)(1)(xxxvii)(C)(*3*) and (*4*).

[243] ''Different pollutants, including precursors, are not summed to determine applicability.'' *See* 73 FR 28231 (May 16, 2008), at page 28331.

[244] *Ibid.*

[245] *Ibid.*

[246] *See* 57 FR 13498 (April 16, 1992), at page 13538.

threshold for $PM_{2.5}$, pursuant to section 189(b)(3), in $PM_{2.5}$ nonattainment areas that are reclassified as Serious areas. Thus, the EPA's preferred approach proposed above is to set a major source threshold of 70 tpy of $PM_{2.5}$ emissions for sources in $PM_{2.5}$ nonattainment areas reclassified as Serious.

Consistent with this proposal, the EPA is also proposing to set the major source threshold for Serious areas for each precursor at 70 tpy of that particular precursor. As noted above, section 189(e) makes the control requirements for major stationary sources of $PM_{10}$ also applicable to major stationary sources of $PM_{10}$ precursors; thus, in accordance with the provision of the statute, the control requirements applicable to major stationary sources of $PM_{2.5}$ emissions are also applicable to major stationary sources of $PM_{2.5}$ precursors. Accordingly, the EPA must develop a major source threshold for $PM_{2.5}$ precursors that is consistent with the threshold for direct $PM_{2.5}$ that will apply in $PM_{2.5}$ nonattainment areas reclassified as Serious. *See* proposed 40 CFR 51.165(a)(1)(iv)(*1*)(*viii).*

The EPA's proposal to set a major source threshold of 70 tpy for Serious areas for each $PM_{2.5}$ precursor is also consistent with the approach the EPA has taken for establishing a major source threshold for each $PM_{10}$ precursor under subpart 4. In the Addendum to the General Preamble offering guidance as to how to apply the new subpart 4 requirements in Serious areas, the EPA indicated that it interpreted the statute as applying the 70 tpy threshold to sources of $PM_{10}$ precursors.[247]

The EPA also solicits comments on the appropriateness of setting the precursor major source thresholds at a different rate, particularly if, as alternatively proposed above, the agency defines ''major stationary source'' for sources of direct $PM_{2.5}$ in Serious $PM_{2.5}$ nonattainment areas at a rate lower than 70 tpy of $PM_{2.5}$ emissions. For example, if the agency sets the major source threshold at 60 tpy of $PM_{2.5}$ emissions in Serious $PM_{2.5}$ nonattainment areas, the agency would also consider setting the major source threshold for each $PM_{2.5}$ precursor at 60 tpy of that particular precursor.

Moreover, the EPA believes that a reasonable argument can be made that whatever threshold is set for $PM_{2.5}$ emissions, the same level would be too low to be regarded as ''major'' for each precursor when considering the effects that such precursor sources could have on ambient $PM_{2.5}$ concentrations. The EPA previously analyzed the relationship between emissions of $SO_2$ and $NO_X$ and the formation of secondary $PM_{2.5}$ in the ambient air expressly for purposes of determining an appropriate ratio for allowing interprecursor offsets for $PM_{2.5}$. Those studies resulted in the EPA providing in the 2008 $PM_{2.5}$ NSR Rule ''preferred'' ratios for both $SO_2$ and $NO_X$, whereby a source could obtain reductions of a $PM_{2.5}$ precursor to offset an increase of direct $PM_{2.5}$ emissions or another $PM_{2.5}$ precursor based on the ''preferred'' offset ratios.[248] In brief, the preferred ratios were as follows: For $NO_X$-to-primary $PM_{2.5}$: 200 to 1 ($NO_X$ tons to $PM_{2.5}$ tons) for areas in the eastern U.S, and 100 to 1 for areas in the western U.S.; and for $SO_2$-to-primary $PM_{2.5}$: 40 to 1 ($SO_2$ tons for $PM_{2.5}$ tons). In each case, the ratio illustrates that it requires considerably more precursor emissions than direct $PM_{2.5}$ emissions to result in a particular ambient concentration of $PM_{2.5}$. It should be noted that at that time the EPA did not consider using the preferred ratios for the purpose of adjusting the major source thresholds or significant emissions rates for $SO_2$ and $NO_X$ when regulating them as $PM_{2.5}$ precursors.

The preferred ratios as presented in the 2008 notice were later challenged in a petition for reconsideration and the EPA withdrew them via an EPA memorandum issued in 2011.[249] In withdrawing the preferred ratios, the EPA cited several concerns. First, it was determined that the preferred ratios were not sufficiently conservative to be representative of conditions in all areas of the country. Second, the EPA determined that the preferred ratios were not adequate for addressing the precursor relationship to ambient $PM_{2.5}$ concentrations for the short-term (daily) averaging period.[250] In addition, the EPA believes that the overall analysis conducted for the 2008 notice generally illustrates that the threshold for defining ''major'' for either $SO_2$ or $NO_X$ as precursors for $PM_{2.5}$ could reasonably be set at an emissions rate considerably higher than 70 tpy of that particular precursor and be equally protective of air quality as the 70 tpy threshold applied to $PM_{2.5}$ emissions.

Although the statutory definition at section 189(b)(3) applicable to $PM_{10}$ does not explicitly apply to other pollutants, the EPA is considering the possibility that it may not have the legal authority to set a higher major source threshold for $PM_{2.5}$ precursors, even if it were technically justified. As previously noted, section 189(e), as interpreted in light of the court decision in *NRDC* v. *EPA,* requires that the same control requirements applicable to major stationary sources of $PM_{2.5}$ also apply to major stationary sources of $PM_{2.5}$ precursors. Courts have determined in other contexts that the term ''controls'' under the CAA includes NSR requirements, and in particular includes major source thresholds as specified in the statute.[251] Thus, if the holding of *South Coast* directs the EPA's actions, section 189(e) must be read to require the same major source threshold be applied to $PM_{2.5}$ precursors as applies to direct emissions of $PM_{2.5}$.

This conclusion is also consistent with the limited legislative history on this issue. A House (of Representatives) Report accompanying the 1990 amendments to the CAA described the effects of adding section 189(b)(3) to include the requirement that ''new or modified sources emitting 70 tons or more per year of VOC will be subject to new source review requirements.'' [252] Thus, Congress seems to have contemplated that the same major source threshold would apply to sources of $PM_{2.5}$ emissions and $PM_{2.5}$ precursors in Serious areas.

The EPA does not believe that a sufficient technical basis exists at this time to enable the agency to propose specific higher major source thresholds for any of the four $PM_{2.5}$ precursors presumptively regulated in $PM_{2.5}$ nonattainment areas. The EPA intends to continue its analysis of the relationship between each precursor and ambient $PM_{2.5}$ concentrations with the possibility that higher major source thresholds for specific precursors could be established in the future. In the meantime, the agency solicits comments

[247] *See* Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42012 (defining major point sources in Serious areas as ''sources with the potential to emit at least 70 tons per year of $PM_{10}$ (or $PM_{10}$ precursors) as required in sections 189(b)(3) and 189(e) of the Act'').

[248] The technical assessment, with details on data and modeling inputs, was fully described in a technical memo titled ''Details on Technical Assessment to Develop Interpollutant Trading Ratios for $PM_{2.5}$ Offsets,'' which was placed in the docket to the 2008 final rule. *See also* 73 FR 28321 (May 16, 2008), at page 28339.

[249] Memorandum from Gina McCarthy, then EPA Assistant Administrator, dated July 21, 2011, titled ''Revised Policy to Address Reconsideration of Interpollutant Trading Provisions for Fine Particles ($PM_{2.5}$)'' and sent to Regional Air Division Directors.

[250] Nevertheless, while the ratios are no longer considered appropriate to use presumptively to meet the NNSR requirements for emissions offsets, a state may still conduct its own analysis and propose area-specific ratios for EPA approval on a case-by-case basis for interpollutant offset trading.

[251] *See South Coast Air Quality Management District* v. *EPA,* 472 F.3d 882, 900–902 (D.C. Cir. 2006) (holding that ''controls'' in section 172(e) anti-backsliding provision include NSR requirements such as LAER, offset ratios, and major source thresholds).

[252] H.R. Rep. 101–490.

on the general appropriateness of setting higher major source thresholds for one or more $PM_{2.5}$ precursors in $PM_{2.5}$ nonattainment areas, as well as legal and technical considerations that should be made as part the EPA's future analysis of NNSR requirements with respect to $PM_{2.5}$ precursors.

c. *Significant emissions rates for $PM_{2.5}$ precursors.* As explained above, a modification to an existing major stationary source of a nonattainment pollutant such as $PM_{2.5}$ is a major modification and subject to the NNSR requirements for that pollutant when the source proposes to make a physical or operational change that results in both a significant emissions increase and a significant net emissions increase of that nonattainment pollutant. With regard to $PM_{2.5}$ precursors, a modification to a major stationary source of any such precursor is likewise a major modification subject to the NNSR requirements for $PM_{2.5}$ when the source proposes a physical or operational change resulting in a significant net emissions increase of that precursor. The EPA defined ''significant'' for $SO_2$ and $NO_X$ as $PM_{2.5}$ precursors in the 2008 $PM_{2.5}$ NSR Rule. For both precursors, the EPA set the significant emissions rate for each pollutant when it is regulated as a precursor to $PM_{2.5}$ at 40 tpy, the same level as the existing significant emissions rate for the pollutant as independently regulated as a criteria pollutant for purposes of the $SO_2$ and $NO_2$ NAAQS.[253] Also, in the preamble to the 2008 $PM_{2.5}$ NSR Rule, the EPA indicated that it would consider 40 tpy for VOC as a $PM_{2.5}$ precursor; however, that rate was not codified in any of the NSR regulations because the regulations provided that VOC was generally presumed not to be a precursor to $PM_{2.5}$. Instead, the agency explained that any state making a demonstration that VOC should be treated as a $PM_{2.5}$ precursor in a particular nonattainment area ''would be required to adopt the 40-tpy significant emissions rate unless it demonstrated that a more stringent significant emissions rate (lower rate) is more appropriate.'' [254]

The 2008 $PM_{2.5}$ NSR Rule codified the presumption that ammonia, like VOC, need not be regulated as a $PM_{2.5}$ precursor and the EPA did not set a significant emissions rate for ammonia. Instead, the agency indicated that it was allowing states that determine that ammonia significantly contributes to $PM_{2.5}$ concentrations in a given $PM_{2.5}$ nonattainment area to set the significant emissions rate for ammonia based on information developed for each individual attainment plan.[255]

As explained in the 2008 $PM_{2.5}$ NSR Rule, the EPA set the significant emissions rates for the presumed $PM_{2.5}$ precursors at the levels for those pollutants already included in NSR programs. The EPA explained that the use of the existing rates where the $PM_{2.5}$ precursor is also regulated as a separate criteria pollutant harmonizes the NSR program for $PM_{2.5}$ with the NSR programs for those other criteria pollutants. The agency further explained that this approach for setting the significant emissions rates for $PM_{2.5}$ precursors follows the precedent for setting the significant emissions rate for $NO_X$ as a precursor to ozone, where the same 40 tpy threshold was used for $NO_X$ emissions as both a criteria pollutant ($NO_2$) and a precursor for ozone.[256]

Nevertheless, the EPA gave some consideration in the development of the 2008 $PM_{2.5}$ NSR Rule to setting the significant emissions rates for the individual $PM_{2.5}$ precursors at different levels based on the effect of each precursor on ambient $PM_{2.5}$ concentrations. The EPA concluded that it did not have adequate data on the impacts of precursor emissions from individual sources to override the administrative advantages of setting the significant emissions rates for $SO_2$, $NO_X$ and VOC for purposes of the $PM_{2.5}$ NSR program at the same levels that are already used for other purposes in the major NSR program for other NAAQS. The EPA continues to believe, however, that when more data are available, these data could provide a reasonable basis for considering subsequent changes to the significant emissions rates for each $PM_{2.5}$ precursor for purposes of implementing the $PM_{2.5}$ NAAQS, whereby the significant emissions rates for the individual $PM_{2.5}$ precursors could more realistically reflect the effect that each precursor has on ambient $PM_{2.5}$ concentrations.

The EPA is currently undertaking a separate rulemaking for both NNSR and PSD in which it intends to include a technical analysis of each $PM_{2.5}$ precursor to better understand the relationship of emissions of each precursor to ambient $PM_{2.5}$ concentrations. The agency intends to consider the results of that analysis and other factors and may propose new significant emissions rates accordingly for $SO_2$ and $NO_X$ as $PM_{2.5}$ precursors. The EPA also intends to propose individual significant emissions rates for VOC and ammonia as $PM_{2.5}$ precursors at that time. Thus, the EPA is not proposing any changes to the existing significant emissions rates for $SO_2$ and $NO_X$ as $PM_{2.5}$ precursors in this document.

It is the EPA's expectation that any new or revised significant emissions rates for the individual $PM_{2.5}$ precursors will become effective in that separate rulemaking not long after the date of that final rule, allowing states to adopt and use them in their own NNSR regulations once the EPA approves their individual SIPs. However, in the event that the timing of that rule does not allow ample time for states to rely on it to adopt any new or revised significant emissions rates in their rules, it was explained earlier that individual significant emissions rates already exist for $SO_2$ and $NO_X$ at 40 tpy. Additionally, the significant emissions rate for VOC was identified as 40 tpy in the 2008 $PM_{2.5}$ NSR Rule notice (though not in the final regulations), but the EPA is proposing to add that precursor and emissions rate to the list of $PM_{2.5}$ precursors. *See* proposed 40 CFR 51.165(a)(1)(x)(A). Hence, only the ammonia significant emissions rate would remain to be defined by each state that needs to control major stationary sources of ammonia as part of their NNSR program.

d. *Transition provisions for $PM_{2.5}$.* The CAA requires proposed major stationary sources and major modifications to meet major NSR permitting requirements that apply on the basis of the area's attainment designation.[257] Accordingly, the EPA's longstanding interpretation of the CAA is that a proposed new major stationary source or major modification must satisfy the appropriate major NSR requirements (PSD vs. NNSR) for a particular pollutant that are in effect on the date that a permit is issued to the source, rather than the requirements that may have been applicable when the permit application was submitted.[258]

In the final 2012 PM NAAQS rule, the EPA established a grandfathering provision that would enable some proposed new and modified sources

[253] *See* the **Federal Register** published on May 16, 2008 (73 FR 28321, 28333 and 28334); and existing 40 CFR 51.165(a)(1)(x)(A).

[254] *See* the **Federal Register** published on May 16, 2008 (73 FR 28321 and 28333).

[255] *Ibid.*

[256] *See* 73 FR 28321 (May 16, 2008), at page 28334.

[257] *Compare* CAA section 165(a) (permitting requirements for sources locating in attainment and unclassifiable areas) with sections 172(c)(5) and 173 (permitting requirements for sources locating in nonattainment areas).

[258] *See* Memorandum from John S. Seitz, Director, EPA Office of Air Quality Planning and Standards, on March 11, 1991, titled ''New Source Review (NSR) Transitional Guidance,'' Attachment p. 6, sent to Regional Air Division Directors.

that had already submitted a PSD application prior to the effective date of the revised primary annual $PM_{2.5}$ NAAQS to continue being reviewed under the pre-existing PSD requirements for $PM_{2.5}$. This provision applies where the PSD program continues to be the applicable set of major NSR requirements for the area of concern. In response to the EPA's proposal to add this grandfathering provision for certain PSD permit applications pending upon the effective date of the new NAAQS, the EPA received comments concerning the need for a transition period for implementing the NNSR requirements in newly designated $PM_{2.5}$ nonattainment areas as a result of the tightening of the primary annual $PM_{2.5}$ NAAQS.[259] The commenters recommended that the EPA establish a grandfathering provision to enable pending permit applications to continue under review for the pre-existing requirements. A subset of the commenters recommended that grandfathering be accomplished by establishing an effective date for designations 1 year after initial publication in the **Federal Register**. Presumably, these commenters believed that by delaying the effective date of any new nonattainment designations for the primary annual $PM_{2.5}$ NAAQS, sources with pending PSD permit applications could continue to be reviewed under the PSD permitting requirements rather than the NNSR requirements for $PM_{2.5}$.

In the final 2012 PM NAAQS rule, the EPA expressed its disagreement with those commenters, explaining that the obligation to adopt new provisions under a state's NNSR program will not apply with regard to the revised NAAQS until such time as an area is designated nonattainment, and beginning on the effective date of the new area designations for $PM_{2.5}$ proposed new and modified major sources would be required to meet the applicable NNSR requirements for $PM_{2.5}$.[260] However, the EPA further indicated that it would continue to consider the need to establish a grandfathering provision under the NNSR program for $PM_{2.5}$, and would propose such provision, if appropriate, as part of a subsequent NSR implementation rulemaking with additional opportunity for public comment.[261]

After further considering the issue during the development of this proposal, the EPA has decided not to propose a grandfathering provision that would apply to pending PSD permit applications that were submitted but not approved prior to the effective date of the new nonattainment designations for the 2012 primary annual $PM_{2.5}$ NAAQS. The EPA does not believe it would be acceptable for the EPA or a state to issue a PSD permit, instead of a NNSR permit, with regard to a particular pollutant for which an area is designated nonattainment on the date the permit is to be issued. Instead, if the PSD permit has not been issued by the effective date of the new nonattainment designation, then the applicant should be required to withdraw that part of the permit application that addresses the nonattainment pollutant and submit an application that satisfies the applicable NNSR or minor NSR requirements in effect in the implementation plan on the date the permit will be issued. Given adverse conditions that already exist in a nonattainment area and the congressional directive to reach attainment as expeditiously as practicable, construction at a major stationary source that significantly increases emissions in such an area should be expected to address NNSR requirements, even if this could cause delay to the permit applicant.

As explained in Section VIII.D of this preamble, states will have 18 months from the date of the new nonattainment designations to revise their existing NNSR programs or establish new programs in accordance with the applicable requirements under subpart 4. Where the area was already designated nonattainment for any prior $PM_{2.5}$ NAAQS before the effective date of designations for the 2012 NAAQS, the state should continue to apply the NNSR requirements contained in the approved SIP to issue the final permit addressing all $PM_{2.5}$ NAAQS until the new SIP revisions required by this rule are approved. In areas already designated nonattainment for any $PM_{2.5}$ NAAQS but lacking an approved NNSR program that applies to $PM_{2.5}$, the requirements of Appendix S may continue to be applied for issuing permits in that area. However, any changes to the Appendix S requirements that the EPA may make via this rulemaking must be implemented in any area that applies Appendix S once these revisions become effective. Section VIII.C.2 that follows discusses the possible changes to the NNSR requirements in Appendix S that the agency is proposing in this action.

The EPA is not proposing to add any grandfathering provisions that would apply to changes in NNSR permitting requirements in areas that the EPA may already have designated nonattainment for $PM_{2.5}$ at the time the source submitted a permit application. For reasons similar to those identified above in cases where an area designation changes, the EPA generally believes that major sources that would contribute to the air quality in an area that is not meeting the NAAQS for a particular pollutant should be expected to address the most current requirements that apply in the nonattainment area. The agency acknowledges it is possible that a proposed new or modified source may need to address additional precursor control requirements that did not apply when a permit application was submitted once the EPA's final rule is promulgated and the appropriate revisions are approved into a state's NNSR SIP. However, based on the terms of section 189(e) of the CAA, the EPA generally believes that those requirements should be addressed in pending permit applications unless the air agency has determined, and the EPA has approved such demonstration, that major stationary sources of that precursor do not contribute significantly to $PM_{2.5}$ levels in the nonattainment area. Nevertheless, the agency recognizes that there may be certain circumstances where proposed construction might be delayed and an applicant may feel fundamental fairness would support exempting a particular pending permit from newly established requirements; therefore, the EPA seeks comment on what circumstances, if any, would justify a grandfathering provision for pending nonattainment NSR permits similar to the grandfathering provision promulgated in the final 2012 PM NAAQS Rule for PSD permitting purposes. *See* 40 CFR 51.166(i)(10) 52.21(i)(11). In addition, the EPA requests comment on how such a grandfathering provision would be consistent with the relevant provisions of the CAA. The EPA does not believe the statutory deadline in section 165(c) that forms part of the EPA's basis for grandfathering in the PSD context is applicable to NNSR permit decisions.

2. What are the changes the EPA is proposing in Appendix S?

As described above, 40 CFR 52.24(k) provides that the Emission Offset

[259] *See* 78 FR 3086 (January 15, 2013), at page 3263.

[260] The applicable NNSR requirements would be either the NNSR requirements for $PM_{2.5}$ in the state's existing SIP or the requirements found at 40 CFR part 51 Appendix S, where a state's SIP does not currently include NNSR requirements for $PM_{2.5}$. States will be required to submit to the EPA for approval SIP revisions containing the amended NNSR program requirements for $PM_{2.5}$ contained in the final $PM_{2.5}$ NAAQS implementation rule being proposed in this notice, but those additional requirements will not apply in states with SIPs that include NNSR requirements for $PM_{2.5}$ until the EPA approves the SIP revision. *See ibid.*

[261] *Ibid.*

Interpretative Ruling, 50 CFR part 51, Appendix S, shall govern permits to construct and operate for which a NNSR permit application is submitted between the effective date of designation as nonattainment and the date a state's NSR permit program meeting the requirements of part D is approved and effective. The EPA is considering a range of options concerning how and whether to address the proposed subpart 4 requirements in the interim NNSR program requirements contained in Appendix S.

Permitting requirements for new major stationary sources and major modifications in $PM_{2.5}$ nonattainment areas were originally added to Appendix S in the 2008 $PM_{2.5}$ NSR Rule. The amendments generally followed the NNSR requirement contained in subpart 1 of part D. However, in the 2008 $PM_{2.5}$ NSR Rule, the EPA determined that, in light of the transitional function of Appendix S, it would be appropriate to regulate $PM_{2.5}$ precursors under Appendix S in a manner that differed slightly from the regulatory approach taken in 40 CFR 51.165.

As explained in Section VIII.B.2 of this preamble, under the existing requirements for NNSR plans at 40 CFR 51.165, $SO_2$ is regulated as a $PM_{2.5}$ precursor, $NO_X$ is presumed to be a regulated $PM_{2.5}$ precursor, and VOC and ammonia are presumed not to be regulated precursors (with either states or the EPA having authority to rebut any such presumption for a particular nonattainment area). However, in developing Appendix S, the EPA determined that it would be premature to presume that $NO_X$ is a regulated $PM_{2.5}$ precursor in all $PM_{2.5}$ nonattainment areas that proposed new major sources and major modifications in those areas should be required to address as a prerequisite to obtaining a NNSR permit, while at the same time the states were in the process of determining whether in fact $NO_X$ emissions contribute significantly to ambient $PM_{2.5}$ concentrations in those areas. Accordingly, the EPA decided to delay implementing any control requirements for $NO_X$ as a $PM_{2.5}$ precursor until the states completed the necessary analyses to determine the need for $NO_X$ controls as part of their SIP revisions addressing the revised $PM_{2.5}$ NAAQS. Thus, the existing NNSR requirements for $PM_{2.5}$ under Appendix S do not contain a requirement for proposed sources to consider the control of $NO_X$ emissions as a $PM_{2.5}$ precursor. Moreover, as states presumptively did not need to regulate VOC and ammonia in accordance with the 2008 $PM_{2.5}$ NSR Rule in 40 CFR 51.165, the EPA similarly did not require sources seeking permits pursuant to the Appendix S requirements to address those precursors.

As an interim measure to facilitate permitting while states develop NNSR rules for $PM_{2.5}$, the EPA believes that the NNSR requirements under Appendix S need not be identical to those governing states' development of approvable programs pursuant to subpart 4, which requires regulation of all $PM_{2.5}$ precursors unless a state provides, and the EPA approves, a demonstration that such control is not necessary for major stationary sources in the area under section 189(e). This is reasonable because the EPA anticipates that many states may be able to demonstrate to the EPA that there is not a need to regulate one or more $PM_{2.5}$ precursors from major stationary sources in a given nonattainment area, as described in Section III of this preamble.

Accordingly, the EPA is proposing to revise the definition of regulated NSR pollutant as contained in Appendix S to provide for the regulation of some precursors during the transition period, but not others. Specifically, for reasons explained below, the EPA is proposing to require that both $SO_2$ and $NO_X$ be considered regulated $PM_{2.5}$ precursors in Appendix S and is proposing a significant emissions rate of 40 tpy for $NO_X$ as a $PM_{2.5}$ precursor. *See* proposed Sections II.A.31(iii)(*b*) and II.A.10(i) of Appendix S, respectively. However, this proposal would not provide states the option of submitting a demonstration that could relieve them of the obligation to regulate $SO_2$ and $NO_X$ as $PM_{2.5}$ precursors during the transition period. The EPA believes that it is not necessary or efficient to expend effort on such a demonstration for the transitional program, when states are developing the demonstration for submittal with the NNSR SIP submission that, when approved, would replace the Appendix S transitional program for that area.

The EPA is proposing to include $SO_2$ and $NO_X$ in Appendix S based on the principle that the national application of a transition program should correspond to the general expectation of what the prevailing regulation of precursors will ultimately be when SIPs are submitted. Although such expectations are uncertain at this time, it is nonetheless appropriate to base the transition program on them. The EPA believes it is likely in many cases that states will determine that emissions of VOC and/or ammonia do not contribute significantly to $PM_{2.5}$ concentrations in the affected $PM_{2.5}$ nonattainment area, although such determinations should be made on a case-by-case basis for individual $PM_{2.5}$ nonattainment areas.

On the other hand, the EPA expects that the cases where $NO_X$ does not contribute significantly to $PM_{2.5}$ concentrations in the affected $PM_{2.5}$ nonattainment area will be few in number. Accordingly, given this likelihood, the EPA believes that it is reasonable to require the regulation of $SO_2$ and $NO_X$ as $PM_{2.5}$ precursors during the interim period when states are developing their $PM_{2.5}$ attainment plans for newly designated areas (including the necessary revisions to the NNSR programs based on subpart 4). An added benefit of this proposed approach is that it will also ensure that states using the permitting requirements contained in Appendix S will regulate the same precursors that are required to be regulated in states that have already adopted NNSR for $PM_{2.5}$ based on the 2008 $PM_{2.5}$ NSR Rule. The EPA seeks comment on this approach as part of this proposal.

As one alternative approach that the EPA is presenting for public comment, the agency is proposing to amend Appendix S to regulate not only $SO_2$ and $NO_X$, but also VOC and ammonia, as $PM_{2.5}$ precursors that must be controlled during this interim period. This alternative would more closely match the basic NNSR program requirements of subpart 4, which indicate that states should regulate precursors from major stationary sources in the nonattainment area unless the EPA has determined that such emissions do not significantly contribute to violations of the NAAQS in the area. However, it would require states to control new major stationary sources and major modifications of each $PM_{2.5}$ precursor during the interim period prior to submission of the required SIP revisions without the benefit of first allowing states to determine whether the control of each precursor is warranted. The EPA does not prefer this option for amending Appendix S as an interim NNSR program; however, the EPA is seeking comment on the approach to address the policy and legal implications associated with it. This alternative, while being proposed for comment, is not shown in the proposed regulatory text.

Another alternative that the agency is proposing for comment is for the EPA to establish a phased-in process for regulating $PM_{2.5}$ precursors in the NNSR program whereby states would initially require sources issued a permit to control only $SO_2$ and $NO_X$ as $PM_{2.5}$ precursors (as under the preferred option), with a second requirement to later require sources issued a permit

after the prescribed date (*e.g.,* the date on which SIP revisions based on subpart 4 requirements are due) to control emissions of VOC and ammonia as well. For each precursor, the requirement to control would apply to major stationary sources of that particular precursor. The EPA believes that by phasing in the requirement to address all precursors, states that are ultimately able to demonstrate to the EPA's satisfaction that VOC and/or ammonia do not need to be subject to control under the NNSR requirements for $PM_{2.5}$, but that have not yet submitted such demonstration, will have ample time to make the necessary demonstration and will not have to control such precursors even temporarily. At the same time, the phase-in provision could address concerns about delays in SIP submittal or approval in states with $PM_{2.5}$ nonattainment areas in which VOC and ammonia need to be regulated. Such delays could result in prolonged exclusion of these precursors from control requirements beyond the time when an EPA-approved state NNSR program is expected to be in place. This alternative, while being proposed for comment, is not shown in the proposed regulatory text.

Separately, the EPA is proposing to amend Appendix S by revising the definition of ''major stationary source'' to include a separate $PM_{2.5}$ major source threshold applicable to new major stationary sources and major modifications in $PM_{2.5}$ nonattainment areas reclassified as Serious areas. *See* proposed section II.A.4(i)(a)(*7*). Inclusion of the new definition is not an immediate concern for the revised 2012 primary annual $PM_{2.5}$ NAAQS or any future revision to the $PM_{2.5}$ NAAQS because the possible reclassification of any Moderate area to a Serious area will not occur for several years and states are required to submit their SIP revisions addressing NNSR requirements prior to such time. There is a possibility, however, that existing $PM_{2.5}$ nonattainment areas (for the 1997 and/or 2006 $PM_{2.5}$ NAAQS) could be reclassified as Serious areas sooner. States that still do not have approved NNSR programs addressing $PM_{2.5}$ would be without the appropriate NNSR provisions to address new major stationary sources and major modifications in those Serious areas until they submit revisions to their existing programs and the EPA approves those revisions. The EPA solicits comments on this proposal to incorporate a definition of ''major stationary source'' for $PM_{2.5}$ nonattainment areas reclassified as Serious.

The EPA is not proposing any Appendix S provisions for grandfathering proposed new and modified sources from newly established permit requirements applicable to $PM_{2.5}$ nonattainment areas. The EPA generally believes that it would not be appropriate to grandfather sources from requirements that apply in areas that are not meeting the NAAQS. Nevertheless, the EPA seeks comment on possible circumstances where grandfathering, similar to the grandfathering provision established for pending PSD permits under the final 2012 p.m. NAAQS Rule, may be appropriate with respect to changes made to Appendix S.

*D. Plan Due Dates*

For Moderate areas, section 189(a)(2)(B) requires that states make an attainment plan submission satisfying the requirements contained therein, including applicable NNSR programs for $PM_{10}$ (and $PM_{2.5}$), to the EPA for approval within 18 months of an area being designated nonattainment. The agency recognizes that this submittal date represents a considerably earlier date than anticipated when it issued the final 2012 p.m. NAAQS rule.[262] However as the CAA requires, the EPA will apply the 18 month deadline from the effective date of designation of a Moderate $PM_{2.5}$ nonattainment area for the submission of any applicable NNSR program revisions for $PM_{2.5}$ as included in any final implementation rule.

In the event a Moderate area is reclassified as a Serious $PM_{2.5}$ nonattainment area, it will be required to implement the NNSR program with a ''major stationary source'' threshold of 70 tons per year (per CAA section 189(b)(3)). However, the CAA does not specify a deadline for the state's submittal of any NNSR program revisions (*e.g.,* to lower the major stationary source threshold from 100 tpy to 70 tpy) that would be needed to implement the program in a Serious area. Pursuant to the EPA's gap-filling authority in CAA section 301(a), and to effectuate the statutory control requirements in section 189 of the CAA, the EPA proposes to require the state to submit these NNSR SIP revisions no later than 18 months from the effective date of final reclassification of the area as a Serious nonattainment area. This timeframe is consistent with the 18 month timeframe required for submittal of certain Serious area plan elements, and it is consistent with the 18 month time for submittal of Moderate area plan revisions. We also request comment on a 12-month timeframe for submittal of the NNSR revisions for Serious areas. An approach that requires the NNSR revisions to be submitted on the same 18-month schedule as other Serious area plan elements is expected to be more administratively efficient than one that would require the NNSR revisions on a different schedule. On the other hand, this type of revision to the NNSR regulations may be relatively straightforward and potentially could be completed within 12 months of the reclassification date, thereby assuring that new major sources or modified major sources in the area will be subject to the lower statutory major source thresholds expeditiously. The EPA requests comment on both the proposed 18-month timeframe for submission of the NNSR SIP revisions for Serious areas and the alternative 12-month option.

*E. Avoidance of Dual Review for PSD and NNSR for $PM_{2.5}$*

Because the EPA designates nonattainment areas for the primary annual and 24-hour $PM_{2.5}$ NAAQS independently, some areas ultimately may be designated nonattainment for one of these standards and unclassifiable/attainment or attainment for another. This may raise concerns that the sources locating in such an area may be subject to both PSD and NSSR for the same pollutant. In the preamble to the final 2012 p.m. NAAQS rule, the EPA explained that the existing PSD regulations resolved this issue.[263] Specifically, the PSD regulations at 40 CFR 51.166(i)(2) and 52.21(i)(2) provide that the PSD requirements do not apply to a major stationary source or major modification with respect to a pollutant when ''*as to that pollutant,* the source or modification is located in an area designated as nonattainment . . . .'' [264] [emphasis added]. This policy was explained in the preamble to the final rule promulgating the revised primary annual $PM_{2.5}$ NAAQS.[265] The EPA is simply reiterating in this action the agency's policy for addressing NSR applicability for areas that may be designated nonattainment for one averaging period and attainment or unclassifiable for another averaging

[262] *Ibid.*

[263] *See ibid.*

[264] The policy for applying the PSD exemption is clear with regard to the federal PSD program at 40 CFR 52.21; however, the requirements for a SIP-approved PSD program state that ''[t]he plan may provide . . .'' Accordingly, a state may choose to apply a different applicability strategy if it so wishes.

[265] *Ibid.*

period. Thus, for $PM_{2.5}$ only the NNSR requirements would apply with regard to major stationary sources of $PM_{2.5}$ locating in that nonattainment area.

## IX. What other proposed requirements would apply in $PM_{2.5}$ nonattainment areas?

### *A. Waivers Under Section 188(f)*

#### 1. Statutory Requirements and Existing Guidance

Section 188(f) of the CAA provides a means for the EPA to waive a specific date for attainment and certain control and planning requirements for $PM_{2.5}$ nonattainment areas if certain conditions are met in the nonattainment area. Specifically, the statute provides that: ''The Administrator may, on a case-by-case basis, waive any requirement applicable to any Serious Area . . . where the Administrator determines that anthropogenic sources of $PM_{10}$ do not contribute significantly to the violation of the $PM_{10}$ standard in the area.'' In addition, ''the Administrator may also waive a specific date for attainment of the [$PM_{10}$] standard where the Administrator determines that nonanthropogenic sources of $PM_{10}$ contribute significantly to the violation of the $PM_{10}$ standard in the area.'' In the Addendum, the EPA provided extensive guidance on how the agency interpreted section 188(f) and how it intended to apply the statutory waiver provisions for purposes of implementing the $PM_{10}$ NAAQS.[266] At this time, the EPA is not proposing to revise the guidance presented in the Addendum with respect to section 188(f), but the agency requests comment on whether the existing guidance in the Addendum is appropriate when implementing the current and any future $PM_{2.5}$ NAAQS.

#### 2. Relationship Between the CAA Section 188(f) Waiver Provisions and the EPA's Exceptional Events Rule

On March 22, 2007, the EPA promulgated the ''Treatment of Data Influenced by Exceptional Events; Final Rule'' (72 FR 13560), known as the Exceptional Events Rule, pursuant to the 2005 amendment of CAA section 319.[267] The Exceptional Events Rule provides a mechanism by which the EPA can concur with an air agency's request to exclude from regulatory decisions air quality monitoring data determined by the EPA to have been affected by exceptional events.[268] The Exceptional Events Rule applies to all NAAQS pollutants, including $PM_{2.5}$. Section 188(f) and the Exceptional Events Rule provide separate mechanisms by which states and/or other air agencies can seek to have event-influenced monitoring data excluded from certain regulatory requirements or decisions associated with the PM NAAQS implementation process, under appropriate circumstances. This section explains the EPA's views on how these two mechanisms can operate.

The Exceptional Events Rule addresses elevated emissions from specific events that influence monitored air quality concentrations. The EPA's regulations at 40 CFR 50.1(j) define an ''exceptional event'' as one that ''affects air quality, is not reasonably controllable or preventable, is an event caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by the Administrator in accordance with 40 CFR 50.14 to be an exceptional event.'' Further, 40 CFR 50.1(j) explicitly provides that exceptional events do ''. . . not include stagnation of air masses or meteorological inversions, a meteorological event involving high temperatures or lack of precipitation, or air pollution relating to source noncompliance.'' At 40 CFR 50.1(k), the EPA's regulations define a ''natural event'' as an event in which human activity plays little or no direct causal role to the event in question.[269] The Exceptional Events Rule allows the EPA to exclude from regulatory decisions air quality monitoring data that it determines to have been influenced by emissions that result from exceptional events. Air quality monitoring data that the EPA determines to have been influenced by an exceptional event under the procedural steps, substantive criteria, and schedule specified in the Exceptional Events Rule may be excluded from regulatory decisions such as initial area designations decisions and decisions associated with implementing the $PM_{2.5}$ NAAQS such as clean data determinations, evaluation of attainment demonstrations, and discretionary or mandatory reclassifications of nonattainment areas from Moderate to Serious. While the EPA may agree with an air agency's request to exclude event-influenced air quality monitoring data from regulatory decisions, these regulatory actions require the EPA to provide an opportunity for public comment on the claimed exceptional event and all supporting data prior to the EPA taking final agency action.

If wildfire is a potential contributor to exceedances of the NAAQS and exceptional events, the EPA urges state and local agencies to coordinate with the land management agencies, as appropriate, in developing plans and appropriate public communications regarding public safety and reducing exposure. This action can directly help states meet their Exceptional Events Rule obligation whereby ''states must provide public notice, public education, and must provide for implementation of reasonable measures to protect public health when an event occurs.'' When wildfire impacts are significant in a particular area, air agencies and communities may be able to lessen the impacts of wildfires by working collaboratively with land managers and land owners to employ various mitigation measures including taking steps to minimize fuel loading in areas vulnerable to fire.[270]

The EPA notes that there could be some potential overlap between the application of the Exceptional Events Rule and section 188(f). The EPA believes that this potential for overlap can best be addressed by considering the applicability of the Exceptional Events Rule and section 188(f) in sequence. Thus, the EPA recommends

[266] 59 FR 41998 (August 16, 1994), at page 42004.

[267] Section 319 of the CAA, as amended by section 6013 of the Safe Accountable Flexible Efficient-Transportation Equity Act: A Legacy for Users (SAFE–TEA–LU) of 2005, required the EPA to propose and promulgate regulations governing the review and handling of air quality monitoring data influenced by exceptional events.

[268] References to ''air agencies'' are meant to include state, local and tribal air agencies responsible for implementing the Exceptional Events Rule.

[269] The EPA will generally consider human activity to have played little or no *direct* role in causing emissions of the dust generated by high wind for purposes of the regulatory definition of ''natural event'' if contributing anthropogenic sources of the dust are reasonably controlled at the time of the event, regardless of the amount of dust coming from these reasonably controlled anthropogenic sources, and thus the event could be considered a natural event. In such cases, the EPA believes that it would generally be a reasonable interpretation of its regulations to find that the anthropogenic source had ''little'' direct causal role. If anthropogenic sources of windblown dust that are reasonably controllable but that did not have those reasonable controls applied at the time of the high wind event have contributed significantly to a measured concentration, then the event would not be considered a natural event. *See* preamble to the Exceptional Events Rule at 72 FR 13560 (March 22, 2007), footnote 11 on page 13566.

[270] Because of previously expressed stakeholder feedback regarding implementation of the Exceptional Events Rule and specific stakeholder concerns regarding the analyses that can be used to support wildfire-related exceptional event demonstrations, the EPA intends to propose revisions to the Exceptional Events Rule in a future notice-and-comment rulemaking and will solicit public comment at that time. Depending on the nature and scope of any interstate emissions events affecting downwind air quality, the EPA may be able to assist states in developing approvable exceptional events demonstrations.

that air agencies first consider whether the monitored air quality data on specific days were influenced by an exceptional event. If the air agency requests and the EPA agrees with this request and determines that the monitored air quality data should be excluded from consideration in regulatory decisions, then using the provisions in the Exceptional Events Rule could address the situation adequately. Thereafter, if the air agency determines that the waiver provisions of section 188(f) may also be applicable, then the EPA can evaluate that question based on the remaining data that are representative for the area in question.

*B. Conformity Requirements*

1. What requirements apply to both transportation and general conformity?

*a. What are transportation and general conformity?* Conformity is required under CAA section 176(c) to ensure that federal actions are consistent with (''conform to'') the purpose of the SIP. Conformity to the purpose of the SIP means that federal activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or interim reductions and milestones. Conformity applies to areas that are designated nonattainment, and those nonattainment areas redesignated to attainment with a CAA section 175A maintenance plan after 1990 (''maintenance areas'').

The EPA's Transportation Conformity Rule (40 CFR 51.390 and part 93, subpart A) establishes the criteria and procedures for determining whether transportation activities conform to the SIP. These activities include adopting, funding or approving transportation plans, transportation improvement programs (TIPs) and federally supported highway and transit projects. The EPA first promulgated the Transportation Conformity Rule on November 24, 1993 (58 FR 62188), and subsequently published several amendments. For example, the EPA published a final rule on July 1, 2004 (69 FR 40004) that provided conformity procedures for state and local agencies under the 1997 $PM_{2.5}$ NAAQS, among other things. On May 6, 2005 (70 FR 24280) the EPA published a final rule that addressed transportation conformity requirements for $PM_{2.5}$ precursors.[271] The EPA published another final rule on March 24, 2010 (75 FR 14260) that addressed additional requirements for the 2006 $PM_{2.5}$ NAAQS. Finally, the EPA published a final rule on March 14, 2012 (77 FR 14979) that restructured portions of the transportation conformity rule so that they would clearly apply to nonattainment and maintenance areas for new and revised NAAQS, including the 2012 $PM_{2.5}$ NAAQS. All of these rules apply to the current $PM_{2.5}$ NAAQS including the 1997 $PM_{2.5}$ NAAQS, the 2006 24-hour $PM_{2.5}$ NAAQS and the 2012 primary annual $PM_{2.5}$ NAAQS and will apply to future $PM_{2.5}$ NAAQS. For further information on conformity rulemakings, policy guidance and outreach materials, *see* the EPA's Web site at *http://www.epa.gov/otaq/stateresources/transconf/index.htm*. The EPA may issue future transportation conformity guidance as needed to implement the 2012 primary annual $PM_{2.5}$ NAAQS.

With regard to general conformity, the EPA first promulgated general conformity regulations in November 1993 (40 CFR part 51, subpart W, 40 CFR part 93, subpart B). Subsequently the EPA finalized revisions to the general conformity regulations on April 5, 2010 (75 FR 17254). Besides ensuring that federal actions not covered by the transportation conformity rule will not interfere with the SIP, the general conformity program also fosters communications between federal agencies and state/local air quality agencies, provides for public notification of and access to federal agency conformity determinations and allows for air quality review of individual federal actions. More information on the general conformity program is available at *http://www.epa.gov/air/genconform/*.

b. *Why is the EPA discussing transportation and general conformity in this proposed rulemaking?* The EPA is discussing transportation and general conformity in this proposed rulemaking in order to provide affected parties with information on when conformity must be implemented after nonattainment areas are designated for a new or revised $PM_{2.5}$ NAAQS. At this time the EPA is using the 2012 $PM_{2.5}$ NAAQS as an example. The agency is also discussing how it plans to make the transition from demonstrating conformity for the 1997 annual $PM_{2.5}$ NAAQS to the 2012 primary annual $PM_{2.5}$ NAAQS because this transition is unique in that the 1997 annual $PM_{2.5}$ NAAQS was retained as a secondary NAAQS. The information presented here is consistent with existing conformity regulations and statutory provisions that are not addressed by this $PM_{2.5}$ implementation rulemaking. Affected parties would include state and local transportation and air quality agencies, metropolitan planning organizations (MPOs), and federal agencies including the U.S. Department of Transportation (DOT), the U.S. Department of Defense, the U.S. Department of Interior and the U.S. Department of Agriculture.

c. *When would transportation and general conformity apply to areas designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS?* Transportation and general conformity apply 1 year after the effective date of nonattainment designations for a new or revised $PM_{2.5}$ NAAQS including the 2012 primary annual $PM_{2.5}$ NAAQS. This is because CAA section 176(c)(6) provides a 1-year grace period from the effective date of initial designations for any new NAAQS before transportation and general conformity apply in areas newly designated nonattainment for a specific pollutant and NAAQS. With regard to general conformity, the EPA's April 2010 revisions to its general conformity regulations (*see* 75 FR 17277; April 5, 2010) apply the same 1-year grace period for purposes of general conformity.

With regard to transportation conformity, the conformity grace period applies to all areas designated nonattainment for a new or revised $PM_{2.5}$ NAAQS including the 2012 primary annual $PM_{2.5}$ NAAQS. The requirements differ depending on whether the nonattainment area is within or adjacent to a MPO designated under 23 U.S.C. 134. Within 1 year after the effective date of the initial nonattainment designation for a given pollutant and NAAQS, the MPOs and DOT must make a conformity determination with regard to that pollutant and standard for all of the transportation plans and TIPs in the nonattainment area. The conformity requirements for surrounding ''donut areas,'' including the application of the 1-year conformity grace period, are generally the same as those for metropolitan areas.[272] For the purposes of the implementation of the 2012 $PM_{2.5}$ NAAQS, MPOs and any adjacent donut areas in a 2012 $PM_{2.5}$ NAAQS nonattainment area must continue to meet conformity requirements during the grace period for any other applicable NAAQS, including the 1997 annual $PM_{2.5}$ NAAQS and the 2006 24-hour $PM_{2.5}$ NAAQS. If, at the end of the grace period for the 2012 annual $PM_{2.5}$ NAAQS, the MPO and DOT have not made a transportation plan and TIP

[271] This final rule was not challenged or affected in any way by the January 2013 D.C. Circuit Court decision requiring the EPA to implement the $PM_{2.5}$ NAAQS pursuant to subpart 4 of the CAA.

[272] For the purposes of transportation conformity, a ''donut'' area is the geographic area outside a metropolitan planning area boundary, but inside a designated nonattainment or maintenance area boundary that includes an MPO (40 CFR 93.101).

conformity determination for that NAAQS, the area would be in a conformity ''lapse.'' During a conformity lapse, only certain projects can receive additional federal funding or approvals to proceed. The practical impact of a conformity lapse will vary from area to area. Finally, the 1-year conformity grace period also applies to project level conformity determinations.

Isolated rural nonattainment and maintenance areas are areas that do not contain or are not part of an MPO (40 CFR 93.101). Conformity requirements for isolated rural nonattainment and maintenance areas can be found at 40 CFR 93.109(g). One year after the effective date of the initial nonattainment designation for a given pollutant and NAAQS, conformity requirements with regard to that pollutant and standard would apply in any nonattainment areas that are isolated rural areas. Per the transportation conformity rule, an isolated rural area would be required to make a transportation conformity determination only at the point when a transportation project needs funding or approval. This project level conformity determination may occur significantly after the 1-year grace period has ended. *See* the EPA's July 1, 2004 final rule for further background on how the EPA has implemented this conformity grace period in metropolitan, donut and isolated rural areas (69 FR 40008; July 1, 2014; see also 69 FR 40009, 40010, 40011, 40012, 40013 and 40014).

d. *How will transportation and general conformity apply with regard to the 1997 annual $PM_{2.5}$ NAAQS, which was retained as a secondary NAAQS?* In the final 2012 p.m. NAAQS rule the EPA established a new health-based primary annual $PM_{2.5}$ NAAQS of 12.0 μg/m³. In that same action the EPA retained the 1997 annual $PM_{2.5}$ NAAQS of 15.0 μg/m³ as a secondary NAAQS to protect against certain welfare effects. In the 1997 $PM_{2.5}$ designations rule (70 FR 944; January 5, 2005), the EPA designated areas nonattainment for both the 1997 primary and secondary annual $PM_{2.5}$ NAAQS (which have identical levels of 15.0 μg/m³). Designations for the 2012 primary annual $PM_{2.5}$ NAAQS were made in January 2015 (80 FR 2205; January 15, 2015). This action did not make any changes to the designations that apply for the 1997 secondary annual $PM_{2.5}$ standard. Therefore, at this time, all areas designated nonattainment in 2005 for the 1997 annual $PM_{2.5}$ standard are considered as having been designated nonattainment for both the 1997 primary annual $PM_{2.5}$ NAAQS and for the 1997 secondary annual $PM_{2.5}$ NAAQS where such distinctions are made below. Similarly, for any 1997 $PM_{2.5}$ nonattainment areas that have approved redesignation requests for attainment of the 1997 $PM_{2.5}$ NAAQS, the redesignation applies to both the primary and secondary standards of the 1997 $PM_{2.5}$ NAAQS. A discussion of how transportation and general conformity apply in this situation follows.

CAA section 176(c)(5) establishes that conformity applies to: a nonattainment area and each pollutant for which the area is designated as a nonattainment area; and an area that was designated as a nonattainment area but that was later redesignated by the Administrator as an attainment area and that is required to develop a maintenance plan under CAA section 7505a with respect to the specific pollutant for which the area was designated nonattainment. Section 176(c)(5) is clear that transportation and general conformity apply in nonattainment areas and in areas that have been redesignated to attainment and are required to develop a maintenance plan under section 175A.

Section 175A(a) establishes the requirements for areas that are required to submit a maintenance plan as one of the requirements that must be fulfilled in order for an area to be redesignated to attainment.

Section 175A(a) requires nonattainment areas for primary NAAQS to submit maintenance plans in order to be redesignated, and such plans must ensure maintenance of the standard for at least 10 years after redesignation. Section 175A(a) does not require nonattainment areas for secondary NAAQS to submit maintenance plans in order to be designated to attainment. Therefore, the EPA concludes that transportation and general conformity do not apply in areas that have been redesignated for any secondary NAAQS, such as the 1997 secondary annual $PM_{2.5}$ NAAQS, since conformity does not apply in areas that have been redesignated without maintenance plans.

Elsewhere in this notice, the EPA is proposing options for revoking the 1997 primary annual $PM_{2.5}$ NAAQS, which has been replaced by the more health protective 2012 primary annual $PM_{2.5}$ NAAQS. If the EPA finalizes an option that results in the revocation of the 1997 primary annual $PM_{2.5}$ NAAQS, nonattainment and maintenance areas would not be required to make transportation or general conformity determinations for the 1997 primary annual $PM_{2.5}$ NAAQS after the effective date of the revocation of the 1997 primary annual NAAQS. The revocation would leave designations in place for the 1997 secondary annual NAAQS. Any area that is designated as nonattainment for the 1997 secondary annual NAAQS would have to continue to make transportation and general conformity determinations for that NAAQS as conformity applies in nonattainment areas for secondary NAAQS.

However, for any area that has been redesignated to attainment for the 1997 secondary NAAQS and is not designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS, the relevant planning organization will not have to make conformity determinations for any annual $PM_{2.5}$ NAAQS after the effective date of the revocation of the 1997 primary annual $PM_{2.5}$ NAAQS because, as discussed above, the CAA does not require maintenance areas for secondary NAAQS to make conformity determinations. This means that if the EPA finalizes any of the options for revoking the 1997 primary annual $PM_{2.5}$ NAAQS, after the effective date of the revocation, areas redesignated to attainment for the 1997 secondary annual $PM_{2.5}$ NAAQS will no longer be required to make transportation plan, TIP, or project-level transportation conformity determinations for that NAAQS. In addition, federal agencies will no longer be required to make general conformity determinations for that NAAQS. Areas that remain designated nonattainment for the 1997 secondary annual $PM_{2.5}$ NAAQS will continue to make transportation plan, TIP, and project-level conformity determinations for that NAAQS and federal agencies will be required to continue to make general conformity determinations for that NAAQS in these areas until such time as they attain that NAAQS and are redesignated to attainment.

e. *What impact will the implementation of a new or revised $PM_{2.5}$ NAAQS such as the 2012 $PM_{2.5}$ NAAQS have on a state's transportation and/or general conformity SIP?* As long as the EPA does not make specific changes to its transportation or general conformity regulations states should not need to revise their transportation and/or general conformity SIPs. The EPA is not proposing any changes to its transportation conformity regulations. The EPA is proposing to change the *de minimis* levels in its general conformity regulations as discussed in Section IX.B.2.b. of this preamble. States with a general conformity SIP should evaluate the need to revise those SIPs if this change is finalized. States with new nonattainment areas may also need to revise conformity SIPs in order to

ensure the state regulations apply in any newly designated areas.

However, if this is the first time that transportation conformity will apply in a state, such a state is required by the statute and EPA regulations to submit a SIP revision that addresses three specific transportation conformity requirements that address consultation procedures and written commitments to control or mitigation measures associated with conformity determinations for transportation plans, TIPs or projects (40 CFR 51.390). Additional information and guidance can be found in the EPA's ''Guidance for Developing Transportation Conformity State Implementation Plans'' (*http://www.epa.gov/otaq/stateresources/transconf/policy/420b09001.pdf*).

2. What additional requirements apply to general conformity?

*a. What* de minimis *emissions levels will apply for direct $PM_{2.5}$ and its precursors?*

Federal actions estimated to have an annual net emissions increase less than the *de minimis* levels established in the general conformity regulations are not required to demonstrate conformity under those regulations. For direct $PM_{2.5}$ and its precursors ($SO_2$, $NO_X$, VOC and ammonia), the existing *de minimis* emissions levels are set forth in the EPA's general conformity regulations at 40 CFR 93.153(b)(1). Those levels were based on the definition of a major stationary source for nonattainment NSR programs as established by sections 182, 183 and 302 of the CAA. The EPA believes it is appropriate to continue this practice for implementing the current and any future $PM_{2.5}$ NAAQS.

However, because the definition of precursors currently in the general conformity regulations at 40 CFR 93.152(b)(1) does not reflect the elimination of rebuttable presumptions for certain $PM_{2.5}$ precursors, the EPA is proposing changes to these conformity provisions to make them consistent with the agency's revised precursor requirements. Specifically, the current definition of precursors for $PM_{2.5}$ in the general conformity regulations reflects the rebuttable presumptions for VOC and ammonia finalized in the 2007 $PM_{2.5}$ Implementation Rule (72 FR 20583; April 25, 2007). It also does not reflect the subpart 4 definitions for ''major source'' and ''major stationary source'' that apply for Serious $PM_{2.5}$ nonattainment areas. Therefore, through this proposal the EPA proposes to change the $PM_{2.5}$ precursor *de minimis* levels currently in 40 CFR 93.153(b)(1) to be consistent with the statutory requirements for major stationary source thresholds under subpart 4 and any relevant changes being proposed in Section III of this preamble. The EPA proposes to set the *de minimis* levels that apply to direct $PM_{2.5}$ and $PM_{2.5}$ precursors for $PM_{2.5}$ nonattainment areas for purposes of general conformity as identified in Table 3 below.

TABLE 3—GENERAL CONFORMITY *De Minimis* EMISSION LEVELS FOR $PM_{2.5}$ PRECURSORS

| Type of emission | Tons/year in moderate $PM_{2.5}$ nonattainment areas and all maintenance areas | Tons/year in Serious $PM_{2.5}$ nonattainment areas |
|---|---|---|
| Direct emissions | 100 | 70 |
| $SO_2$ | 100 | 70 |
| $NO_X$ | 100 | 70 |
| VOC | 100 | 70 |
| Ammonia | 100 | 70 |

b. *Are there any other impacts related to general conformity based on implementation of the 2012 $PM_{2.5}$ NAAQS?* The EPA is not proposing any other revisions to the general conformity regulations at this time. However, as states develop SIP revisions for the 2012 and future $PM_{2.5}$ NAAQS, the agency recommends that state and local air quality agencies work with federal agencies with large facilities (*e.g.,* commercial airports, ports and large military bases) that are subject to the general conformity regulations to establish an emissions budget for those facilities in order to facilitate future conformity determinations under the conformity regulations. Such a budget could be used by federal agencies in determining conformity or identifying mitigation measures if the budget level is included and identified in the SIP.

Significant tracts of land under federal management may also be included in nonattainment area boundaries. The role of fire in these areas should be assessed and emissions budgets developed in concert with those federal land management agencies. In such areas the EPA encourages states to consider in any baseline, modeling and SIP attainment inventory used and/or submitted to include emissions expected from projects subject to general conformity, including emissions from wildland fire that may be reasonably expected in the area. Where appropriate, states may consider developing plans for addressing wildland fuels in collaboration with land managers and owners. Information is available from DOI and USDA Forest Service on the ecological role of fire and on smoke management programs and basic smoke management practices.[273]

*C. Clean Data Policy*

This section describes the ongoing status of the EPA's Clean Data Policy and proposes provisions applicable to any determinations of attainment under current and future $PM_{2.5}$ NAAQS. This section also sets forth the regulatory consequences of an EPA determination, made after notice and comment rulemaking, that an area designated nonattainment for a $PM_{2.5}$ standard has air quality attaining that standard. Upon such a determination by the EPA, the state's requirement for the area to submit the separate required elements of an attainment plan (including an attainment demonstration, but not the emissions inventory requirement), shall be suspended until such time as the area is redesignated to attainment, at which time the requirements no longer apply. If the EPA determines that the area, after reaching attainment, has again violated that $PM_{2.5}$ NAAQS, the requirements are again applicable. The following discussion of this interpretation, known as the EPA's Clean Data Policy, explains the basis for the EPA's interpretation and is relevant to all $PM_{2.5}$ NAAQS under subpart 4.

1. What is a clean data determination?

The EPA's interpretation of the CAA applies when the agency, after notice-and-comment rulemaking, issues a ''clean data determination'' (CDD), in

[273] USDA Forest Service and Natural Resources Conservation Service, Basic Smoke Management Practices Tech Note, October 2011, *http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046311.pdf.*

which it determines that a specific nonattainment area has attained the relevant standard. For such areas, the EPA interprets the CAA as suspending the state requirements to submit to the EPA the planning elements of an attainment plan related to attaining the NAAQS for as long as the area continues to attain the standard.[274] These planning elements generally include reasonable further progress (RFP) requirements, attainment demonstrations, RACM and RACT, nonattainment area contingency measures, and other state planning requirements related to the attainment of the NAAQS.[275] The suspension of the obligation to submit applies regardless of when the plan submissions are due. The CDD does not suspend CAA requirements that are independent of helping the area achieve attainment, such as the requirements to submit an emissions inventory and nonattainment new source review requirements.

The emissions inventory is a basic compilation of information used to characterize the sources of emissions of the nonattainment area. Section 172(c)(3), the statutory provision requiring submission of an emissions inventory, is not tied to attainment of the NAAQS, unlike the attainment planning provisions which are suspended by a CDD. A base year inventory continues to be relevant to a nonattainment area that is attaining the NAAQS and has obtained a CDD because, for example, the inventory is a necessary component to an approvable redesignation request. In addition, in the event the air quality in the area exceeds the standard in a subsequent year, the state would be obligated to submit an attainment demonstration and other planning elements for the area, and a base year inventory would need to be available immediately in order for the state to submit an approvable attainment plan expeditiously. Similarly, the new source review requirement is not suspended because section 172(c)(5) is not tied to attainment of the NAAQS, and an area with a CDD is still designated nonattainment. NNSR permitting is required in each nonattainment area until the area is redesignated to attainment.'' For the past two decades, and for many NAAQS, the EPA has consistently applied its Clean Data Policy interpretation to attainment-related provisions of subparts 1, 2 and 4 of Part D, Title I of the CAA. The Clean Data Policy is the subject of several EPA memoranda and regulations and numerous individual rulemakings published in the **Federal Register**. These rulemakings have applied the interpretation to a broad spectrum of NAAQS, including the 1-hour and 1997 ozone standards, $PM_{10}$, 1997 and 2006 $PM_{2.5}$ standards and the carbon monoxide (CO) and lead standards. The D.C. Circuit has upheld the Clean Data Policy interpretation as embodied in the EPA's 8-hour ozone Implementation Rule, 40 CFR 51.918.[276] *NRDC* v. *EPA,* 571 F. 3d 1245 (D.C. Cir. 2009). Other U.S. Circuit Courts of Appeals that have considered and reviewed the EPA's Clean Data Policy interpretation have upheld it and the rulemakings applying the EPA's interpretation. *Sierra Club* v. *EPA,* 99 F.3d 1551 (10th Cir. 1996); *Sierra Club* v. *EPA,* 375 F. 3d 537 (7th Cir. 2004); *Our Children's Earth Foundation* v. *EPA,* N. 04–73032 (9th Cir. June 28, 2005) (memorandum opinion); *Latino Issues Forum,* v. *EPA,* Nos. 06–75831 and 08–71238 (9th Cir. March 2, 2009) (memorandum opinion). The EPA incorporated its Clean Data Policy interpretation in both its 1997 8-hour ozone implementation rule and in its remanded 2007 $PM_{2.5}$ Implementation Rule in 40 CFR 51.1004(c). *See* the **Federal Register** published on April 25, 2007 (72 FR 20583, 20585 and 20665. The D.C. Circuit, in its January 4, 2013 decision remanding the $PM_{2.5}$ implementation rule, did not address the merits of that regulation or the EPA's existing interpretation of the statutory provisions as they pertained to the EPA's Clean Data Policy.

The EPA has previously articulated its Clean Data Policy interpretation under subpart 4 in implementing the $PM_{10}$ standard. *See, e.g.,* 75 FR 27944 (May 19, 2010) (determination of attainment of the $PM_{10}$ standard in Coso Junction, California); 71 FR 13021 (March 14, 2006) (Yuma, Arizona area); 71 FR 40023 (July 14, 2006) (Weirton, West Virginia area); 71 FR 44920 (August 8, 2006) (Rillito, Arizona area); 71 FR 63642 (October 30, 2006) (San Joaquin Valley, California area) 72 FR 14422 (March 28, 2007) (Miami, Arizona area). In the EPA's proposed and final rulemakings determining that the San Joaquin Valley nonattainment area attained the $PM_{10}$ standard, the EPA set forth at length its rationale for applying the Clean Data Policy to $PM_{10}$ under subpart 4. 71 FR at 63643–45. The Ninth Circuit upheld the EPA's final rulemaking, and specifically the EPA's Clean Data Policy, in the context of subpart 4. *Latino Issues Forum* v. *EPA,* supra. Nos. 06–75831 and 08–71238 (9th Cir. March 2, 2009) (memorandum opinion). In rejecting the petitioner's challenge to the Clean Data Policy under subpart 4 for $PM_{10}$, the Ninth Circuit stated, ''As the EPA explained, if an area is in compliance with $PM_{10}$ standards, then further progress for the purpose of ensuring attainment is not necessary.'' Thus the EPA has previously established its interpretation that, under subpart 4, a clean data determination suspends the obligations to submit an attainment demonstration, RACM/RACT, RFP and quantitative milestones, contingency measures, and other measures related to attainment. The EPA is proposing to codify this interpretation in this implementation rule for the $PM_{2.5}$ NAAQS.

As with its Clean Data Policy interpretation for 8-hour ozone, which the EPA embodied in a regulation that was upheld by the D.C. Circuit in *NRDC* v. *EPA,* 571 F. 3d 1245 (D.C. Cir. 2009), the EPA intends to embody its interpretation for the Clean Data Policy for current and future $PM_{2.5}$ NAAQS in a regulation as part of this proposed rulemaking. This interpretation complies with the D.C. Circuit's ruling (*NRDC* v. *EPA,* 706 F.3d 428 (D.C. Cir. 2013)) that both subparts 1 and subpart 4 apply to implementation, and reflects the interpretation upheld by the *Latino Issues Forum* Court. *Latino Issues Forum* v. *EPA,* supra. Nos. 06–75831 and 08–71238 (9th Cir. March 2, 2009) (memorandum opinion). Under this proposed regulation, if the EPA determines, after notice-and-comment rulemaking, that an area has attained the applicable $PM_{2.5}$ NAAQS based on the most recent 3 years of complete, quality-assured data meeting the requirements of 40 CFR part 50, Appendix N, the area's obligation to submit the following Moderate or Serious area attainment-related planning requirements is suspended for so long as the area continues to attain the $PM_{2.5}$ standard: (i) the part D, subpart 4 and subpart 1

[274] In the context of CDDs, the EPA distinguishes between attainment planning requirements of the CAA, which relate to the attainment demonstration for an area and related control measures for bringing an area into attainment for a given NAAQS as expeditiously as practicable, and other types of requirements, such as permitting requirements under the NNSR program, and any specific control requirements independent of those strictly needed to ensure timely attainment of a given NAAQS.

[275] *See* December 14, 2004 memorandum from Stephen D. Page, Director, EPA Office of Air Quality Planning and Standards, to Air Division Directors, EPA Regions I–X, entitled ''Clean Data Policy for the Fine Particle National Ambient Air Quality Standards.'' Available at: *http://www.epa.gov/airquality/urbanair/sipstatus/docs/pm25_clean_data_policy_14dec2004.pdf.*

[276] ''The EPA's Final Rule to implement the 8-hour Ozone National Ambient Air Quality Standard—Phase 2 (Phase 2 Final Rule).'' *See* the **Federal Register** published on November 29, 2005 (70 FR 71612, 71645 and 71646).

obligation to provide an attainment demonstration pursuant to section 189(a)(1)(B); (ii) the RACM and RACT provisions of section 189(a)(1)(C); (iii) the RFP and quantitative milestones provisions of section 189(c); and, (iv) related attainment demonstration, RACM and RACT, RFP and contingency measure provisions requirements of subpart 1, section 172.

A final determination of attainment, also known as a clean data determination, would not constitute a redesignation to attainment under CAA section 107(d)(3). The state would still have to meet the statutory requirements for redesignation in order to be redesignated to attainment. A determination of attainment for purposes of the Clean Data Policy is also not linked to any particular attainment deadline, and is not necessarily equivalent to a determination that an area has attained the standard by its applicable attainment deadline, *e.g.,* under section 189(c).

2. Planning Requirements Suspended With a CDD

a. *Control measure requirements for Moderate areas.* Both sections 172(c)(1) and 189(a)(1)(C) require ''provisions to assure that reasonably available control measures'' (*i.e.,* RACM) are implemented in a nonattainment area. Reasonably available control technology (*i.e.,* RACT) is a subset of RACM. The General Preamble states that the EPA interprets section 172(c)(1) so that RACM requirements are a ''component'' of an area's attainment demonstration.[277] Thus, for the same reason the obligation to submit an attainment demonstration is suspended, the requirement for a state to submit RACM is suspended if the nonattainment area reaches attainment. For $PM_{2.5}$, the EPA has consistently interpreted this provision to require only implementation of potential RACM that could contribute to RFP or to timely attainment (General Preamble, 57 FR 13498). Thus, where an area is already attaining the standard, no additional RACM are required, but all measures adopted into the SIP prior to attainment would remain.[278] The EPA is interpreting section 189(a)(1)(C) consistent with its interpretation of section 172(c)(1).

b. *RFP and quantitative milestones.* The EPA has long interpreted the provisions of part D, subpart 1 of the CAA (sections 171 and 172) as not requiring the submission of RFP for an area already attaining the $PM_{10}$ NAAQS. For an area that is attaining, showing that the state will make RFP towards attainment ''will, therefore, have no meaning at that point.'' [279] Section 189(c)(1) states that: ''Plan revisions demonstrating attainment submitted to the Administrator for approval under this subpart shall contain quantitative milestones which are to be achieved every 3 years until the area is redesignated attainment and which demonstrate reasonable further progress, as defined in section [171(1)] of this title, toward attainment by the applicable date.''

With respect to RFP, section 171(1) states that, for purposes of part D, 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.'' 42 U.S.C. 7501(1). Thus, whether dealing with the general RFP requirement of section 172(c)(2), the ozone-specific RFP requirements of sections 182(b) and (c), or the specific RFP requirements for $PM_{10}$ areas of part D, subpart 4, section 189(c)(1), the stated purpose of RFP is to ensure attainment by the applicable attainment date. Although section 189(c) states that revisions shall contain milestones which are to be achieved until the area is redesignated to attainment, such milestones are designed to show reasonable further progress ''toward attainment by the applicable attainment date,'' as defined by section 171. Thus, it is clear that once the area has attained the standard, no further milestones are necessary or meaningful. This interpretation is supported by language in section 189(c)(3), which mandates that a state that fails to achieve a milestone must submit a plan that assures that the state will achieve the next milestone or attain the NAAQS if there is no next milestone. Thus, section 189(c)(3) itself assumes that the requirement to submit and achieve milestones does not continue after attainment of the NAAQS.

In the General Preamble, the EPA noted with respect to section 189(c) that the purpose of the milestone requirement is ''to provide for emission reductions adequate to achieve the standards by the applicable attainment date (H.R. Rep. No. 490 101st Cong., 2d Sess. 267 (1990)).'' 57 FR 13498 (April 16, 1992), at page 13539. If an area has in fact attained the standard, the stated purpose of the RFP requirement will have already been fulfilled.[280] Similarly, the requirements of section 189(c)(2) with respect to milestones no longer apply so long as an area has attained the standard. Section 189(c)(2) provides in relevant part that: Not later than 90 days after the date on which a milestone applicable to the area occurs, each State in which all or part of such area is located shall submit to the Administrator a demonstration . . . that the milestone has been met.

Where the area has attained the standard and there are no further milestones, there is no further requirement to make a submission showing that such milestones have been met. This is consistent with the position that the EPA took with respect to the general RFP requirement of section 172(c)(2) in the General Preamble and in the May 10, 1995 Seitz memorandum [281] with respect to the requirements of sections 182(b) and (c). In the Seitz memorandum, the EPA also noted that section 182(g), the milestone requirement of subpart 2, which is analogous to provisions in section 189(c), is suspended upon a determination that an area has attained. The memorandum, citing additional provisions related to attainment

[277] 57 FR 13498 (April 16, 1992), at page 13560.

[278] The EPA's interpretation that the statute requires implementation only of RACM that would advance attainment was upheld by the Fifth Circuit Court (*Sierra Club* v. *EPA,* 314 F.3d 735, 743–745 (5th Cir. 2002), and by the D.C. Circuit Court (*Sierra Club* v. *EPA,* 294 F.3d 155, 162–163 (D.C. Cir. 2002)).

[279] 57 FR 13498 (April 16, 1992), at page 13564. *See* 71 FR 40952 (July 19, 2006) and 71 FR 63642 (October 30, 2006) (proposed and final determination of attainment for San Joaquin Valley); 75 FR 13710 (March 23, 2010) and 75 FR 27944 (May 19, 2010) (proposed and final determination of attainment for Coso Junction).

[280] Thus, the EPA believes that it is a distinction without a difference that section 189(c)(1) speaks of the RFP requirement as one to be achieved until an area is ''redesignated attainment,'' as opposed to section 172(c)(2), which is silent on the period to which the requirement pertains, or the ozone nonattainment area RFP requirements in sections 182(b)(1) or 182(c)(2), which refer to the RFP requirements as applying until the ''attainment date,'' since section 189(c)(1) defines RFP by reference to section 171(1) of the CAA. Reference to section 171(1) clarifies that, as with the general RFP requirements in section 172(c)(2) and the ozone-specific requirements of section 182(b)(1) and 182(c)(2), the PM-specific requirements may only be required ''for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.'' 42 U.S.C. 7501(1). As discussed in the text of this proposed rulemaking, the EPA interprets the subpart 4 RFP requirements, in light of the definition of RFP in section 171(1), and its incorporation into section 189(c)(1), to no longer apply once the EPA makes a determination that the standard has been attained.

[281] Memorandum from John S. Seitz, titled ''Reasonable Further Progress, Attainment Demonstration, and Related Requirements for Ozone Nonattainment Areas Meeting the Ozone National Ambient Air Quality Standard,'' (Seitz Memo). May 10, 1995.

demonstration and RFP requirements, stated:

> Inasmuch as each of these requirements is linked with the attainment demonstration or RFP requirements of section 182(b)(1) or 182(c)(2), if an area is not subject to the requirement to submit the underlying attainment demonstration or RFP plan, it need not submit the related SIP submission either. (Seitz memo, page 4).

c. *Contingency measures.* Other SIP submission requirements are linked with these attainment demonstration and RFP requirements, and similar reasoning applies to them. These requirements include the contingency measure requirements of sections 172(c)(9). The EPA has interpreted the obligation to submit contingency measure requirements of sections 172(c)(9) as suspended when an area has attained the standard because those ''contingency measures are directed at ensuring RFP and attainment by the applicable date.'' 57 FR at 13564; *see* also Seitz memo at pgs. 5–6.

Section 172(c)(9) provides that: ''SIPs in nonattainment areas shall provide for the implementation of specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the [NAAQS] by the attainment date applicable under this part. Such measures shall be included in the plan revision as contingency measures to take effect in any such case without further action by the state or the EPA.''

The contingency measure requirement is inextricably tied to the RFP and attainment demonstration requirements. Contingency measures are implemented if RFP targets are not achieved, or if attainment is not realized by the attainment date. Where an area has already achieved attainment and continues to do so it has no need to rely on contingency measures to come into attainment or to make further progress to attainment. As the EPA stated in the General Preamble: ''The section 172(c)(9) requirements for contingency measures are directed at ensuring RFP and attainment by the applicable date.'' *See* 57 FR 13564.

d. *Attainment demonstrations.* With respect to the attainment demonstration requirements of section 172(c) and section 189(a)(1)(B), the EPA proposes to find that, as with the RFP requirements, if an area is already monitoring attainment of the standard, there is no need for an area to make a further submission containing additional measures to achieve attainment. The plain language of section 189(a)(1)(B) requires that the attainment plan provide for ''a demonstration (including air quality modeling) that the [SIP] will provide for attainment by the applicable attainment date . . . .'' Where the area has attained the standard, such a demonstration no longer serves a purpose. This interpretation is consistent with the interpretation of the section 172(c) requirements provided by the EPA in the General Preamble, the Page memo, and the section 182(b) and (c) requirements set forth in the Seitz memo.[282] As the EPA stated in the General Preamble, no other measures to provide for attainment would be needed by areas seeking redesignation to attainment since ''attainment will have been reached'' (57 FR at 13564). *See* also *Latino Issues Forum,* v. *EPA,* Nos. 06–75831 and 08–71238 (9th Cir.), Memorandum Opinion, March 2, 2009.

e. *Control measure requirements for Serious areas.* Under proposed Option 1 for BACM and BACT determinations, described in Section VI.D of this preamble, BACM and BACT for sources in the nonattainment area would be determined independent of the attainment needs of the area, and thus the requirement for BACM and BACT would not be considered an attainment planning requirement. Therefore, under such an approach, a determination of attainment (*i.e.,* a clean data determination) would not suspend the obligation to submit any applicable outstanding BACM and BACT requirements. Under proposed Option 2 for BACM and BACT determinations, BACM and BACT would be identified based on the specific attainment needs of the area, thus tying the BACM and BACT requirement directly to attainment planning for the area. Consistent with this second proposed approach for determining BACM and BACT, issuance of a CDD would therefore also suspend BACM and BACT requirements.

In addition, for a Serious area that failed to attain the relevant $PM_{2.5}$ NAAQS by the applicable attainment date and that is therefore subject to the annual 5 percent emissions reduction requirement under section 189(d), but is nevertheless now attaining the relevant NAAQS, the EPA believes that the Clean Data Policy may apply to the obligations of the state to make an attainment plan submission to meet the requirements of section 189(d). Once such an area is attaining the relevant NAAQS, a clean data determination would suspend the section 189(d) submission requirement.

[282] Memorandum from Stephen D. Page titled ''Clean Data Policy for the Fine Particle National Ambient Air Quality Standards'' are equally pertinent to all NAAQS. December 14, 2004.

3. Planning Requirements Not Suspended With a CDD

For Moderate nonattainment areas, the planning elements that are not suspended with a clean data determination are: Emissions inventories, nonattainment new source review including 189(e) control requirements for major stationary source precursors, and conformity. For Serious nonattainment areas, the planning elements not suspended with a clean data determination are: Emissions inventories, nonattainment NSR including section 189(e) control requirements for major stationary sources of $PM_{2.5}$ precursors, the Most Stringent Measures (MSM) requirements (if the area has elected to seek an extension of the attainment date under section 188(e)), and conformity. In addition, for a Serious $PM_{2.5}$ nonattainment area, if the EPA finalizes proposed Option 1 for BACM and BACT determinations, in which BACM and BACT would be determined independent of the attainment needs for the area, then the requirement for implementation of BACM and BACT would not be considered an attainment planning requirement and would thus not be suspended with a clean data determination for the area.

4. Violations of the NAAQS After a CDD

The suspension of the state's obligations to submit attainment plan elements such as provisions for RACM and RACT, RFP and quantitative milestones, contingency measures, an attainment demonstration and other related attainment planning requirements exists only for as long as the area continues to monitor attainment of the relevant NAAQS prior to redesignation. If the EPA determines, after notice-and-comment rulemaking but prior to redesignation, that the area has monitored a violation of the relevant NAAQS, the basis for the suspension of the requirements no longer exists. In that case, the area would again be subject to the requirement to submit the pertinent attainment plan elements or SIP revisions and would need to address those requirements. Thus, a final determination that the area need not currently submit one of the required attainment plan elements amounts to no more than a suspension of the obligation to make the submission for so long as the area continues to attain the standard. Only if and when the EPA redesignates the area to attainment under section 107(d)(3) would the area be permanently relieved of these attainment plan submission obligations.

Upon the EPA's determination that an area is currently attaining the applicable $PM_{2.5}$ standard, the EPA proposes that the obligations to submit attainment planning provisions to meet the requirements for an attainment plan for the $PM_{2.5}$ NAAQS, including RFP plans, RACM and RACT, quantitative milestones, contingency measures and an attainment demonstration are suspended for as long as the area continues to monitor attainment of the applicable $PM_{2.5}$ standards. If in the future, prior to redesignation of the nonattainment area to attainment, the EPA determines after notice-and-comment rulemaking that the area again violates the applicable $PM_{2.5}$ standard, then the basis for suspending the obligation of the state to make one or more of these submissions would no longer exist and these attainment plan elements would again be due. Since all attainment planning requirements had been suspended for this area and the area attained by its attainment date, the CAA attainment plan contingency measures would not apply at the time of the NAAQS violation. In addition, because the area did not have a maintenance plan, the CAA section 175A maintenance plan contingency measures would also not apply. When an area violates after a CDD, and the statutory submission date has passed, CAA section 110(k)(5) applies, requiring that if the EPA finds that the applicable implementation plan is substantially inadequate to attain or maintain the NAAQS, the Administrator shall establish a reasonable deadline (not to exceed 18 months) for a state to submit a SIP plan revision.

*D. Section 179B/International Border Areas*

The EPA recognizes that some states are affected not only by local and regional sources of $PM_{2.5}$ and $PM_{2.5}$ precursors, but also international sources that can contribute to an area's $PM_{2.5}$ NAAQS nonattainment status. As discussed in Section II of this preamble, direct $PM_{2.5}$ and more importantly $PM_{2.5}$ precursors can be transported long distances and can be found in the air thousands of miles from where the emissions occurred and the particles were formed. Nitrates and sulfates formed from $NO_X$ and $SO_2$ emissions are generally transported over wide areas leading to substantial background contributions to NAAQS violations in urban areas. Organic carbon, which has both a primary and secondary component, can also be transported, but to a far lesser degree. In general, higher concentrations of elemental carbon and crustal matter are found closer to the sources of these emissions.

Section 179B of the CAA, entitled ''International Border Areas,'' applies to areas that could attain the relevant NAAQS by the statutory attainment date ''but for'' emissions emanating from outside the U.S. Specifically, section 179B(a) provides that the EPA shall approve an attainment plan for such an area if: (i) the attainment plan meets all other applicable requirements of the CAA, and (ii) the submitting state can satisfactorily demonstrate that ''but for emissions emanating from outside of the United States,'' the area would attain and maintain the relevant NAAQS. In addition, section 179B(d) applies specifically to $PM_{10}$ NAAQS (which would include the $PM_{2.5}$ NAAQS) and provides that if a state demonstrates that an area would have timely attained the NAAQS but for emissions emanating from outside the U.S., then the area is not subject to the mandatory reclassification element of section 188(b)(2) for Moderate areas that fails to attain the $PM_{10}$ NAAQS by the applicable attainment date.

Under section 179B, areas affected by emissions from outside the U.S. continue to have attainment plan obligations. First, even if the area is impacted by emissions from outside the U.S., that fact does not affect the designation of the area. An area that is violating the relevant NAAQS, even if emissions from outside the U.S. contribute to that violation, will be designated nonattainment. Section 179B does not affect designation. Second, as a result of that designation, the state is required to meet the applicable attainment plan requirements for the relevant NAAQS. Section 179B does not negate the attainment plan requirements, it only eliminates the obligation for an attainment demonstration that demonstrates attainment and maintenance of the NAAQS, and elimination of that obligation is conditioned upon the state meeting all other attainment plan requirements.

Under section 179B, states remain obligated to meet the attainment plan requirements other than the requirement to demonstrate timely attainment. The applicable requirements for an attainment plan for $PM_{2.5}$ include those requirements that apply to a Moderate area attainment plan, including an emissions inventory, RACM and RACT measures, RFP and quantitative milestones, and contingency measures. The Addendum includes a discussion of the applicable attainment plan requirements in the context of developing a SIP subject to section 179B. In it, the EPA clarified that ''RACM/RACT must be implemented to the extent necessary to demonstrate attainment by the applicable attainment date if emissions emanating from outside the U.S. were not included in the analysis.'' [283] The EPA further encouraged states ''to reduce emissions beyond the minimum necessary to satisfy the 'but for' test in order to reduce the PM concentrations to which their populations are exposed''.[284] However, the EPA acknowledged that ''if . . . States . . . were also required, because of contributions to $PM_{10}$ violations caused by foreign emissions, to shoulder more of a regulatory and economic burden than States not similarly affected . . . such a requirement would unfairly penalize States containing international border areas and effectively undermine the purpose of section 179B. Indeed, to the extent an affected State can satisfactorily demonstrate that implementation of such measures clearly would not advance the attainment date, EPA and the state could conclude they are unreasonable and hence do not constitute RACM.'' [285]

The EPA has considered this past interpretation of RACM and RACT requirements in the context of section 179B attainment plans for $PM_{2.5}$ NAAQS and no longer views it as appropriate or consistent with the agency's guidance that encourages states ''to reduce emissions beyond the minimum necessary to satisfy the 'but for' test in order to reduce the $PM_{10}$ concentrations to which their populations are exposed.'' [286] That is, given that the primary purpose of an attainment plan is to achieve emission reductions so that people living in a nonattainment area receive the public health protection intended by the NAAQS, adopting an interpretation that would allow those people to continue to be subjected to levels of $PM_{2.5}$ above the NAAQS that the state could reasonably reduce—in this case not to attainment level, but to a level below the current level—would be antithetical to the objectives of the CAA. In addition, as with all other Moderate $PM_{2.5}$ nonattainment areas, the EPA interprets the provisions of section 172(c)(6) to require that such areas must implement all additional reasonable measures that it can implement through the sixth calendar year following designation of the area, in addition to those measures meeting

[283] Addendum to the General Preamble, 59 FR 41998 (August 16, 1994), at page 42001.

[284] *Ibid.*

[285] *Ibid.*

[286] *Ibid.*

the definition of RACM and RACT, in order to make progress toward attainment after the end of the fourth year following designation.

Therefore, the EPA is proposing and seeking comment on two proposed approaches that would give greater clarity to the agency's existing interpretation of control strategy requirements for Moderate area attainment plans to be approved under section 179B. The first proposed interpretation would clarify that the control strategy for an area that could attain by the Moderate area attainment date, ''but for'' foreign emissions of direct $PM_{2.5}$ or its precursors, must include all control measures identified by the state to be technologically and economically feasible and implementable on sources in the area by the end of the sixth calendar year following designation of the area, thus satisfying requirements for RACM and RACT and additional reasonable measures, with a possible exception for any such measures that collectively would not be effective in reducing ambient $PM_{2.5}$ levels in the area. This interpretation would closely align the EPA's interpretation of what constitutes a reasonable control strategy for a Moderate area attainment plan submitted pursuant to section 179B with the EPA's proposed interpretation of what constitutes a reasonable control strategy for a Moderate area attainment plan submitted pursuant to section 189(a)(1) for an area that cannot practicably attain by the statutory Moderate area attainment date.

More specifically, under the first proposed approach for identifying appropriate control measures on sources in a Moderate $PM_{2.5}$ nonattainment area that could attain the NAAQS ''but for'' foreign emissions, the EPA is proposing that the state would be required to implement all technologically and economically feasible measures that can be implemented on sources in the area by the end of the sixth calendar year following designation of the area in order to ensure that the area makes reasonable progress toward attaining the standard even if such measures are not expected to yield attainment by the statutory Moderate area attainment date. However, because the EPA recognizes that it may not be reasonable to require that a state implement those technologically and economically feasible control measures that collectively will not effectively reduce ambient $PM_{2.5}$ concentrations, the agency is proposing to allow the state not to implement such measures if it can demonstrate that collectively they will not be effective in reducing $PM_{2.5}$ levels in the area. The EPA seeks comment on this proposed approach for Moderate $PM_{2.5}$ nonattainment areas potentially subject to an attainment demonstration waiver under section 179B, and seeks comment on an alternative proposed approach that would not allow such an exception based on the collective effectiveness of otherwise ''reasonable'' measures. This alternative proposed option parallels a similar option described in Section IV.D in this preamble for Moderate $PM_{2.5}$ nonattainment areas that cannot practicably attain the NAAQS by the latest statutory attainment date for the area.

The EPA also seeks comment on a distinct, second proposed approach for interpreting what would constitute an acceptable control strategy for sources in an area for which a state is seeking an attainment plan approval under section 179B. Under this second option, a state would need to demonstrate that its selected control measures for a Moderate nonattainment area would achieve reductions in $PM_{2.5}$ levels that exceeded the applicable NAAQS in proportion to their contribution to overall $PM_{2.5}$ levels. For example, if monitors in a Moderate nonattainment area reveal that the area is exceeding the 2012 $PM_{2.5}$ NAAQS of 12 $\mu g/m^3$ by 2 $\mu g/m^3$, for a total of 14 $\mu g/m^3$, and the state concludes that foreign sources are contributing 3 $\mu g/m^3$, then the state would be responsible for the remaining 11 $\mu g/m^3$ and would need to implement enough reasonable control measures to achieve reductions in monitored ambient $PM_{2.5}$ concentrations equal to (11/14)*2 $\mu g/m^3$ or 1.6 $\mu g/m^3$. The EPA recognizes that this approach could require a high level of precision to be able to quantify accurately contributions from sources inside and outside the nonattainment area as well as projected emission reductions to be achieved with the implementation of each potential control measure for sources inside the area. However, the agency believes that such precision may be justified to support any ''but for'' demonstration submitted to the EPA and to support any claims that a state should only be required to implement a subset of otherwise ''reasonable'' control measures on sources of direct $PM_{2.5}$ emissions or emissions of $PM_{2.5}$ precursors located in the nonattainment area.

The EPA seeks comment on these two approaches to clarify what constitutes a reasonable control strategy in the context of a SIP submitted pursuant to section 179B. The EPA is also proposing regulations for the $PM_{2.5}$ NAAQS consistent with the existing guidance with respect to requirements for RFP and quantitative milestones and contingency measures for areas seeking Moderate area attainment plan approval under section 179B. The General Preamble states that:

> In international border areas, EPA will not require the contingency measures for $PM_{10}$ to be implemented after the area fails to attain if EPA determines that the area would have attained the NAAQS, but for emissions emanating from outside the U.S. However, the EPA will require contingency measures to be implemented if it determines that the area failed to make RFP in achieving the required reductions in $PM_{10}$ emissions from sources within the U.S., or if the area does not, in fact, obtain the emission reductions that were necessary to demonstrate timely attainment of the NAAQS, but for emissions emanating from outside the U.S.[287]

The EPA is proposing that this interpretation of section 179B(a)(1) with respect to contingency measures and RFP requirements should apply to Moderate nonattainment areas for the $PM_{2.5}$ NAAQS. Specifically, the EPA proposes that as part of any Moderate area attainment plan submitted under section 179B, a state must include an RFP plan developed consistent with proposed Option 2 for RFP analyses for Moderate nonattainment areas that cannot practicably attain the relevant NAAQS by the statutory attainment date, described in Section IV.F of this preamble. Furthermore, the state must include as part of any attainment plan submission made for such an area contingency measures that can be implemented without significant effort in the event the EPA finds that such area failed to meet RFP requirements. The contingency measures should achieve approximately 1 year's worth of emissions reductions as calculated by the state for purposes of the RFP analysis. In addition, the EPA proposes that the state must identify quantitative milestones for the area to be achieved 4.5 years and 7.5 years from the date of designation of the area. The EPA proposes to apply the same proposed requirements for establishing and reporting on quantitative milestones for Moderate nonattainment areas seeking attainment date waivers under section 179B as for all other Moderate nonattainment areas, described fully in Section IV.G of this preamble. The agency seeks comment on these proposed requirements for Moderate area plans submitted pursuant to section 179B.

The EPA has historically evaluated section 179B ''but for'' demonstrations on a case-by-case basis, based on the

[287] *Ibid.*

individual circumstances and data provided by the submitting state. These demonstrations have included information such as ambient air quality monitoring data, modeling scenarios, emissions inventory data and meteorological or satellite data.[288] The Moderate area attainment demonstration modeling and other elements of the attainment demonstration must show timely attainment of the NAAQS but for the emissions from outside of the U.S. Section 179B does not, however, provide authority to exclude monitoring data influenced by international transport from regulatory determinations related to attainment and nonattainment. Thus, even if the EPA approves a section 179B ''but for'' demonstration for an area, the area would continue to be designated as nonattainment and subject to the applicable requirements, including nonattainment new source review, conformity and other measures prescribed for nonattainment areas by the CAA. Section 179B requires states to continue to meet attainment plan requirements, notwithstanding the contribution of emissions from sources outside the U.S., in order to provide the public health protection intended by the NAAQS. However, if the EPA approves a ''but for'' demonstration for a Moderate nonattainment area, the area would not be subject to reclassification for failure to attain by the applicable attainment date as explained earlier.

Although monitor data cannot be excluded for a determination of whether an area has attained based solely on the fact the data are affected by emissions from outside the U.S., such data may be excluded from consideration if they were significantly influenced by exceptional events under section 319(b)(3) of the CAA. Where international transport of emissions contributes to an exceedance or violation and comes from natural sources such as wildfires, and otherwise meets the criteria contained in the EPA's Exceptional Events Rule, it can be addressed by that rule.[289] Specifically, if the EPA concurs with an air agency's request to exclude affected data, the event-influenced data are officially noted and removed from the data set used to calculate official design values. Because of previously expressed stakeholder feedback regarding implementation of the Exceptional Events Rule and specific stakeholder concerns regarding the analyses that can be used to support wildfire-related exceptional event demonstrations, the EPA intends to propose revisions to the Exceptional Events Rule in a future notice-and-comment rulemaking and will solicit public comment at that time. The EPA has approved $PM_{2.5}$ wildfire influenced exceptional events demonstrations in the past, which are posted on the agency's Exceptional Events Rule Web site.[290]

Depending on the nature and scope of international emissions events affecting air quality in the U.S., the EPA may be able to assist states in developing approvable exceptional events demonstrations. More generally, the EPA believes that the best approach for evaluating the potential impacts of international transport on nonattainment is for states to work with the EPA on a case-by-case basis to determine the most appropriate information and analytical methods for each area's unique situation. The EPA will work with states that are developing attainment plans for which section 179B is relevant, and ensure the states have the benefit of the EPA's understanding of international transport of $PM_{2.5}$ and $PM_{2.5}$ precursors.

*E. Enforcement and Compliance*

Section 172(c)(6) in subpart 1 of the CAA 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.'' In the remanded 2007 $PM_{2.5}$ Implementation Rule, the EPA described the general elements that characterize an enforceable SIP regulation, recognizing that enforceable SIP regulations may address the elements in different ways depending on the type of source category being regulated. The agency continues to believe and hereby proposes that in general, in order for a SIP regulation to be enforceable, it must clearly spell out which sources or source types are subject to its requirements and what its requirements (*e.g.,* emission limits or work practices) are. An enforceable regulation would also specify the timeframes within which these requirements must be met, and definitively state the recordkeeping and monitoring requirements appropriate to the type of sources being regulated. The recordkeeping and monitoring requirements would have to be sufficient to enable the state or the EPA to determine whether the source is complying with the emission limit on a continuous basis. An enforceable regulation would also contain test procedures in order to determine whether sources are in compliance.

The EPA continues to believe that complete and effective regulations that ensure compliance with an applicable emissions limit would have to include requirements for both performance testing of emissions and ongoing monitoring of the compliance performance of control measures, and the agency proposes to require that SIP regulations that establish emission limits include the following:

(a) Indicator(s) of compliance—the pollutant or pollutants of interest (*e.g.,* filterable and condensable $PM_{2.5}$) and the applicable units of measurement for expressing compliance (*e.g.,* ng/J of heat input, lb/hr);

(b) Test method—reference to a specific EPA or other published set of sample collection and analytical procedures, equipment design and performance criteria, and the calculations providing data in units of the indicator of compliance (Section IX.K of this preamble presents a discussion of specific test methods for condensable $PM_{2.5}$ emissions);

(c) Averaging time—the minimum length of each required test run and the requirement to average the results of the test runs (*e.g.,* three runs) representing a specified period of time (*e.g.,* 8 hours); and,

(d) Frequency—the maximum time between emissions or performance tests (*e.g.,* within 30 days of facility start-up and once each successive quarter, every 6-month period, or yearly).

In order to be complete with regard to compliance monitoring provisions, the EPA proposes that regulations adopted into the SIP must include the following critical elements:

(a) Indicator(s) of performance—the parameter or parameters measured or observed for demonstrating proper operation of the pollution control measure or compliance with the applicable emissions limitation or standard. Indicators of performance could include direct or predicted emissions measurements, process or control device (and capture system) operational parametric values that correspond to compliance with efficiency or emissions limits, and recorded findings of verification of work practice activities, raw material or fuel pollutant content, or design

[288] *Ibid.* The Addendum includes further examples of information a state may present for the EPA to consider as part of the ''but for'' demonstration, including additional monitors in international border areas, more detailed emissions inventories, and speciation data that identifies $PM_{2.5}$ components from foreign sources.

[289] *See* 40 CFR 50.14.

[290] The EPA's Exceptional Events Rule Web site is located at: *http://www.epa.gov/ttn/analysis/exevents.htm.*

characteristics. Indicators could be expressed as a single maximum or minimum value, a function of process variables (*e.g.,* within a range of pressure drops), a particular operational or work practice status (*e.g.,* a damper position, completion of a waste recovery task), raw material or fuel pollutant content, or an interdependency between two or more variables;

(b) Measurement technique—the means used to gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type or analytical method, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement approaches include continuous emissions monitoring systems (CEMS), continuous opacity monitoring systems (COMS), continuous parametric monitoring systems (CPMS), performance testing, vendor or laboratory analytical data, and manual inspections and data collection that include making records of process conditions, raw materials or fuel specifications, or work practices. Directly enforceable emission measurements, such as PM CEMs, are preferred wherever feasible. Where COMS are feasible, it should be clear that opacity is a directly enforceable standard, not merely an indicator of compliance;

(c) Averaging time—the period over which to average data to verify compliance with the emissions limitation or standard or proper operation of the pollution control measure. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, periodic (*e.g.,* monthly, annual) average of raw materials or fuel pollutant content, and an instantaneous alarm;

(d) Monitoring frequency—the number of monitoring data values recorded over a specified time interval. Examples of monitoring frequencies include at least one data value every 15 minutes for CEMS or CPMS, at least every 10 seconds for COMS, upon receipt or application of raw materials or fuel to the process, or at least once per operating day (or week, month, etc.) for performance testing, work practice verification, or equipment design inspections; and,

(e) Reporting and record retention requirements—criteria for retaining monitoring and test data in an electronic form and periodic electronic reporting of information as needed to the compliance office. Electronic record retention and submission have been widely adopted, and the EPA believes that such readily accessible documentation could be used by state, federal and other analysts to spot trends and non-compliance more easily than if these entities conducted reviews of paper documents. The EPA also recommends that compliance reports be made available online so that the general public can readily access the information without the need to submit Freedom of Information Act (FOIA) requests to the EPA. The EPA is in the process of revising federal rules to make similar requirements apply.

The EPA continues to believe that approval of regulations adopted into SIPs would have to ensure that these critical elements are present and clearly defined to be approvable. In particular, the compliance obligations, including emissions limits and other applicable requirements, would need to be representative of and accountable to the assumptions used in a state's attainment demonstration. This accountability would include the ability to transfer the applicable regulatory requirements to a title V operating permit subject to the EPA and public review.[291]

The EPA seeks comment on the elements proposed to be required to ensure that regulations adopted into a SIP are enforceable.

### *F. Efforts To Encourage a Multi-Pollutant Approach When Developing $PM_{2.5}$ Attainment Plans*

#### 1. General Guidance

From a planning and resource perspective, the EPA believes that it can be efficient for states to develop integrated control strategies that address multiple pollutants rather than separate strategies for each pollutant or NAAQS individually. An integrated air quality control strategy that reduces multiple pollutants can help ensure that reductions are efficiently achieved and produce the greatest overall air quality benefits. For example, it is widely known that certain control measures that reduce emissions of $NO_X$ and VOC, and thus reduce ambient $PM_{2.5}$ levels, can also result in reduced ambient concentrations of ground-level ozone.[292] Many VOC are also hazardous air pollutants (HAP), so a control strategy for a $PM_{2.5}$ nonattainment area that reduces VOC emissions may provide the additional benefit of reducing air toxics. It is also widely known that many sources of $PM_{2.5}$ also emit toxic metals as particulates, so controlling directly emitted $PM_{2.5}$ emissions from these sources would also reduce the emissions of toxic metals. In addition, due to expected changes in meteorology resulting from climate change, the EPA encourages states to assess climate change and air pollution together and account for the potential effects of climate change in their multi-pollutant planning efforts.

In June 2007, the EPA's CAA Advisory Committee (CAAAC) recommended that the agency allow states to integrate SIP requirements and other air quality goals into a comprehensive plan.[293] The recommended plan would demonstrate attainment/maintenance of multiple NAAQS, accomplish sector-based reductions, realize risk reductions of HAPs and make improvements in visibility. It could also be structured to integrate programs addressing land use, transportation, energy and climate.

The EPA has encouraged states to take a multi-pollutant approach to managing air quality.[294] Specifically, the agency has encouraged states to involve all stakeholders when planning to meet air quality standards and to provide a basic outline for how local jurisdiction(s) could address air pollutants in an integrated manner.

While the agency encourages states to develop multi-pollutant plans, it recognizes that the requirement for the agency to review and, as necessary, revise NAAQS every 5 years, which can trigger new statutory attainment plan submission and attainment dates, as well as the ever-evolving understanding of pollutants and many control programs that may be available to reduce emissions, can sometimes make such efforts challenging. For example, under the current law, the 2007 submission date for Regional Haze SIPs has already passed while RACT SIPs for nonattainment areas classified as Moderate or higher for the 2008 ozone NAAQS were due more than 2 years before the due date for Moderate area

[291] Under the title V regulations, sources have an obligation to include in their title V permit applications, among other components, all emissions of pollutants for which the source is major, and all emissions of regulated air pollutants. *See, e.g.,* 40 CFR 70.5(c)(3). The definition of regulated air pollutant in 40 CFR 70.2 includes any pollutant for which a NAAQS has been promulgated, including $PM_{2.5}$.

[292] For a list of potential control measures for $PM_{2.5}$ and $PM_{2.5}$ precursors, *see http://www.epa.gov/air/pdfs/MenuOfControlMeasures.pdf.*

[293] Recommendations to the Clean Air Act Advisory Committee: Phase II, June 2007, *http://www2.epa.gov/caaac/caaac-reports.*

[294] Memorandum from Stephen D. Page to Regional Air Division Directors, ''Consideration of Multiple Pollutants in Control Strategy Development.'' August 10, 2005.

attainment plans for areas designated nonattainment for the 2012 annual $PM_{2.5}$ NAAQS. Although it is not feasible to integrate fully these planning requirements, states could potentially use common databases and modeling tools for all three SIP submissions for these different requirements and rely on similar control measures as appropriate. Furthermore, as states develop plans to meet any current or future $PM_{2.5}$ NAAQS, they may wish to modify existing plans for implementing the ozone NAAQS or other NAAQS, or for regional haze, as they consider strategies more comprehensively. However, it is important to note that states and the EPA must continue to meet all the CAA mandated planning and program elements for individual NAAQS. The EPA seeks comment on alternative approaches to integrate the planning requirements for multiple NAAQS and other CAA programs that are promulgated at different times.

2. What is the EPA doing beyond encouraging states to integrate their air quality planning activities to the extent feasible?

Ideally, an air quality management plan (AQMP) is a set of pollution reduction strategies/planning activities for an area demonstrating: attainment/maintenance of one or more NAAQS; risk reductions from HAPs; improvements in visibility and ecosystem health; and, integration of land use, transportation, energy and climate activities in the area. Three areas in the country—North Carolina, New York and the City of St. Louis (involving both Missouri and Illinois)—participated in an EPA-led pilot effort to develop multi-pollutant AQMPs. The pilot projects provided lessons regarding AQMP development that should prove useful to other areas interested in better integrating their air quality planning. The areas' initial AQMPs and other materials are available on the EPA's Web site.[295]

Implementation of the 2012 $PM_{2.5}$ NAAQS provides an opportunity for states to consider how to use a multi-pollutant approach from the beginning of their planning process. The EPA recommends that states and tribes wishing to take a comprehensive approach consider the following activities:

- Develop models for the attainment demonstration that include previously implemented or planned measures to reduce $PM_{2.5}$ precursors and secondary fine particles, ozone precursors, pollutants that contribute to regional haze and, where appropriate, air toxics and any potential negative impacts on ecosystems;
- Conduct an integrated assessment of the impact that controls have on ambient levels of $PM_{2.5}$, ozone, regional haze, and, where applicable, air toxics, greenhouse gases, ecosystem protection and environmental justice to identify those controls with the greatest potential co-benefits; and,
- Use common data bases and analytical tools, where possible.

The EPA is requesting comment on what incentives or assistance the agency might be able to provide to encourage states to integrate their planning activities.

3. Multi-Pollutant Assessments/One-Atmosphere Modeling

A multi-pollutant assessment, or one-atmosphere modeling, is conducted with a single air quality model that is capable of simulating transport and formation of multiple pollutants simultaneously.[296] For example, this type of model can simulate formation and deposition involving pollutants associated with $PM_{2.5}$, ozone and regional haze, and it can include algorithms simulating gas phase chemistry, aqueous phase chemistry, aerosol formation and acid deposition. This type of model could also include the formation and deposition of key air toxics and the chemical interactions that occur with these individual toxic species to produce $PM_{2.5}$ and ozone.

Multi-pollutant assessments are recommended for $PM_{2.5}$ attainment demonstrations because the formation and transport of VOC and $NO_X$ are closely related to the formation of both ozone and regional haze. There is often a positive correlation between measured secondary particulate matter and ozone. Many of the same factors affecting $PM_{2.5}$ concentrations also affect ozone concentrations because similarities exist in sources of precursors for both pollutants. For example, emissions of $NO_X$ may lead to formation of nitrates, which affect both ambient $PM_{2.5}$ and ozone levels and impair visibility. Many VOC (such as toluene) are air toxics and may also be sources of precursors for both organic particles and ozone. In addition, the presence of ozone itself may be an important factor affecting secondary particle formation.

Because of these relationships, models and data analysis intended to address $PM_{2.5}$ could be beneficial for use in addressing ozone and visibility impairment. When performing a multi-pollutant assessment, the modeling should take into account previously implemented or planned measures to reduce $PM_{2.5}$, ozone, and regional haze. States that undertake multi-pollutant assessments as part of their attainment demonstration should consider assessing the impact of their $PM_{2.5}$ strategies on ozone and visibility impairment to ensure that optimal emission reduction strategies are developed for the three programs to the extent possible. This could facilitate addressing all of these pollutants in a more cost effective manner.

States may also find it desirable to assess the impact of $PM_{2.5}$, ozone, and/or regional haze control strategies on toxic air pollutants regulated under the CAA or under state air toxic initiatives. Given the relationships that exist between air toxics and the formation of $PM_{2.5}$ and ozone, states may find that controls can be selected to meet goals for $PM_{2.5}$ and/or ozone attainment as well as those of specific air toxic programs.

*G. Measures To Ensure Appropriate Protections for Overburdened Populations*

1. Review of PM NAAQS and At-Risk Populations

As discussed in Section II of this preamble, when the EPA sets a primary NAAQS, the CAA directs the Administrator to establish a standard that is ''requisite'' to protect public health with ''an adequate margin of safety.''[297] In setting the NAAQS, the EPA considers available, relevant scientific information on the health effects that may occur in the general

[295] *See http://www.epa.gov/air/aqmp/.*

[296] Depending on the context, ''multi-pollutant'' can be defined in different ways. In this context the agency is defining multi-pollutant modeling as simultaneous modeling of $PM_{2.5}$, ozone, key air toxics, and regional haze. Future multi-pollutant models may include the ability to model a broader array of air toxics as well as greenhouse gases.

[297] The requirement that primary standards provide an adequate margin of safety was intended to address uncertainties associated with inconclusive scientific and technical information available at the time of standard setting. It was also intended to provide a reasonable degree of protection against hazards that research has not yet identified. Both kinds of uncertainties are components of the risk associated with pollution at concentrations below those at which human health effects can be said to occur with reasonable scientific certainty. Thus, in selecting primary standards that provide an adequate margin of safety, the EPA Administrator is seeking not only to prevent pollution levels that have been demonstrated to be harmful but also to prevent lower pollutant levels that may pose an unacceptable risk of harm, even if the risk is not precisely identified as to nature or degree. The CAA does not require the Administrator to establish a primary NAAQS at a zero-risk level or at background concentration levels, but rather at a level that reduces risk sufficiently so as to protect public health with an adequate margin of safety.

population, as well as specific groups within the general population that are at increased risk for experiencing adverse pollutant-related health effects (*i.e.,* at-risk populations).[298] These groups could exhibit a greater risk of pollutant-related health effects than the general population for a number of reasons including being adversely affected at lower pollutant concentrations, experiencing a larger health impact at a given pollutant concentration, and/or being exposed to higher pollutant concentrations than the general population. Thus, the NAAQS review process inherently takes into consideration certain environmental justice factors as part of the standard-setting process. In setting a secondary standard, the CAA directs the Administrator to establish a standard that ''is requisite to protect the public welfare from any known or anticipated adverse effects.''

Section 109(d) of the CAA requires the EPA to periodically review (every 5 years) the science upon which the standards are based and the standards themselves. As discussed elsewhere in this proposal, in its 2012 review of the PM NAAQS, the EPA revised the primary annual $PM_{2.5}$ standard by lowering the level to 12.0 micrograms per cubic meter ($\mu g/m^3$) so as to provide increased protection against health effects associated with long- and short-term $PM_{2.5}$ exposures.[299] The agency also revised the form of the primary annual $PM_{2.5}$ standard to eliminate the spatial averaging provisions to avoid potential disproportionate impacts on at-risk populations. In conjunction with these revisions, the EPA retained the primary 24-hour $PM_{2.5}$ standard, as revised in 2006 (71 FR 61144, October 17, 2006), to provide supplemental protection against health effects associated with short-term $PM_{2.5}$ exposures, especially in areas with high peak $PM_{2.5}$ concentrations. This suite of primary annual $PM_{2.5}$ standards provides increased public health protection, including the health of at-risk populations which include children, older adults, persons with pre-existing health and lung disease, and persons of lower socioeconomic status, against a broad range of $PM_{2.5}$-related effects that include premature mortality, increased hospital admissions and emergency department visits, and development of chronic respiratory disease.[300]

In addition, the Policy Assessment (U.S. EPA, 2011a, p. 2–60) observed that the highest concentrations of $PM_{2.5}$ in an area tend to be measured at monitors located in areas where the surrounding populations are more likely to live below the poverty line and to have higher percentages of minorities. The EPA directed states to relocate a limited number of existing monitors to near-roadway sites in large urban areas. Both of these revisions were informed by scientific evidence that underscored the potentially disproportionate exposure to high $PM_{2.5}$ concentrations and therefore disproportionate risk to low-income and minority populations.

2. Relationship Between Direct $PM_{2.5}$ Emissions and $PM_{2.5}$ Precursor Emissions Reductions and At-Risk Populations

Sources of direct PM emissions have their greatest impact on $PM_{2.5}$ concentrations and public health in the general vicinity of the source (*e.g.,* within 10 miles), while sources of precursor emissions can contribute to $PM_{2.5}$ concentrations more than 100 miles away and are considered to have a more regional impact. To date, state $PM_{2.5}$ attainment plans have generally relied to a greater extent on reductions of precursor pollutants rather than on reductions of direct $PM_{2.5}$ emissions. Studies show, however, that on a per ton basis, the reduction of a ton of direct $PM_{2.5}$ emissions leads to greater health benefits than the reduction of a ton of $SO_2$ or $NO_X$.[301]

The process for developing attainment plans for the current and future $PM_{2.5}$ NAAQS presents a potential opportunity to target the health protections afforded by the NAAQS, as the EPA expects that attainment for the 2012 $PM_{2.5}$ NAAQS and future $PM_{2.5}$ NAAQS in nonattainment areas with the most severe pollution problems may need to give greater emphasis to reducing direct $PM_{2.5}$ emissions in combination with efforts already underway to further reduce precursor emissions. Placing greater emphasis on reducing emissions from sources of direct $PM_{2.5}$ (*e.g.,* certain industrial facilities located in more densely populated areas; areas with high motor vehicle and other diesel engine emissions, such as rail yards and near major roadways; and, areas with high wood smoke emissions) could provide the added benefit of reducing exposure to $PM_{2.5}$ in low-income and minority communities.

With this in mind, the EPA is seeking comment on additional ways that air agencies can provide public health protection specifically for overburdened populations when preparing attainment plans for the $PM_{2.5}$ NAAQS. The discussion that follows provides some examples of points in the attainment plan development process at which a state could assess opportunities for providing such additional protections, and examples of what those additional protections might look like.

3. Options for States To Consider To Ensure Appropriate Protections From $PM_{2.5}$ Exposure for Overburdened Populations

The EPA believes that states have sufficient flexibility and discretion under the CAA in implementing their attainment strategies to focus resources on controlling those sources of emissions that directly and adversely affect low-income and other at risk populations. By reducing impacts on at-risk populations, states can maximize health benefits, thereby creating greater net benefits for the state in a cost-effective manner.[302] In addition, reducing adverse impacts to low-income and minority populations advances the environmental justice goal of fair treatment for these populations.

There are a number of actions that states could take to focus resources in this way. Some of these actions can help identify areas where additional ambient monitoring may be needed in low income and overburdened communities.

[298] The legislative history of section 109 of the CAA indicates that a primary standard is to be set at the ''maximum permissible ambient air level . . . which will protect the health of any [sensitive] group of the population'' and that for this purpose ''reference should be made to a representative sample of persons comprising the sensitive group rather than to a single person in such a group.''

[299] 78 FR 3086 (January 15, 2013).

[300] In the final 2012 p.m. NAAQS rule, based on information presented in the *Integrated Science Assessment for Particulate Matter* (U.S. EPA, 2009, sections 2.2.1 and 8.1.7), the EPA made a finding that persons with lower socioeconomic status are at increased risk for experiencing adverse health effects related to PM exposures (78 FR 3085, January 15, 2013, at page 3104). Persons with lower socioeconomic status (SES) have been generally found to have a higher prevalence of pre-existing diseases, limited access to medical treatment, and increased nutritional deficiencies, which can increase this population's risk to PM-related effects (77 FR 38911, June 29, 2012).

[301] *See* Fann, N., Fulcher, C., and B. Hubbell, 2009. The Influence of location, source, and emission type in estimates of the human health benefits of reducing a ton of air pollution. Air Quality, Atmosphere & Health. Volume 2, Number 3, 169–176, June 2009. *See also* Fann et. al., 2011. Maximizing health benefits and minimizing inequality: incorporating local-scale data in the design and evaluation of air quality policies. Society for Risk Analysis, vol. 31, no. 6, p. 908–922, June 2011.

[302] Wesson, K., Fann, N., Morris, M, Fox, T., Hubbell, T., 2010. A multipollutant, risk-based approach to air quality management. Case study for Detroit. *Atmospheric Pollution Research,* 1, 296–304. The study compared air quality control strategies and concluded that the multi-pollutant, risk-based approach was able to produce approximately two times greater monetized benefits through avoided health impacts and was more cost effective than a pollutant-by-pollutant approach.

Such information can be used to support updates to the state's annual monitoring plan. Examples of actions to support updates to the annual monitoring plan include:

• Develop databases and online mapping tools that enable users (including state staff, public, and the regulated community) to understand where sources of direct $PM_{2.5}$ emissions are located and where new or modified sources of emissions could have potential impacts on low income and other overburdened communities;

• Incorporate existing mapping tools which identify target areas in the attainment plan development process and related actions; and,

• Analyze emissions data, ambient data, and available modeling to identify potential unmonitored $PM_{2.5}$ hotspots in areas with a high percentage of low income, minority or indigenous persons (*see* Section IV.E of this preamble for further discussion of this option).

Once target areas for addressing these sensitive population needs within a nonattainment area have been identified, the state could consider taking any of the following actions which help target emissions reductions that may be needed to attain the $PM_{2.5}$ NAAQS:

• Prioritize the selection of control measures that target reductions of direct $PM_{2.5}$, particularly from sources located in ''at-risk'' areas as part of the state's RACM and RACT analysis (for Moderate nonattainment areas) or BACM and BACT analysis (for Serious nonattainment areas), as well as other measures needed to demonstrate attainment (*see* Sections IV.D and VI.D, respectively, of this preamble for further discussion of this option);

• Improve the understanding of the potential impact of minor sources by improving or generating an emissions inventory for such minor sources, including sources that are not currently required to report emissions, to generate options on how emissions can be reduced in the target area;

• Design voluntary programs to reduce VMT and mobile source-related $PM_{2.5}$ emissions (*e.g.,* diesel retrofits);

• Incorporate environmental justice criteria into the alternatives analysis to ensure appropriate siting and require cumulative impact studies for proposed projects;

• Eliminate exemptions from and/or raise thresholds for minor source permitting;

• Develop a list of potential supplemental environmental projects (SEPs) [303] that could be applied in the target area; and,

• Prioritize targeted enforcement strategies.

In addition to the above, states could increase opportunities for meaningful involvement of community groups in attainment plan development, annual monitoring network plan reviews, and permitting processes [304] for at-risk and minority populations by taking the following steps:

• Develop advisory boards and/or develop enhanced notice-and-comment requirements for low income and minority communities to assure meaningful involvement relative to projects that impact their communities;

• Provide special notice of important actions affecting target areas in appropriate languages and with attention to cultural barriers;

• Provide advance notification for low income and minority communities of upcoming opportunities for public comment on SIPs, ambient air monitoring plans, and other relevant actions;

• Maintain multi-lingual Web sites and offer translators for public meetings and hearings;

• Coordinate with the state's EJ coordinator to assist with outreach efforts; and,

• Provide states with appropriate federal EJ guidance tools.

The EPA is seeking comment on these examples and whether and how the EPA might provide recommendations to states preparing attainment plans for the 2012 and any future $PM_{2.5}$ NAAQS on additional ways to ensure equal protections for overburdened populations.

*H. Tribal Issues*

The 1998 Tribal Air Rule (TAR) (40 CFR part 49), which implements section 301(d) of the CAA, gives tribes the option of developing TIPs. Specifically, the TAR provides for the tribes to be treated in the same manner as a state in implementing certain sections of the CAA. However, tribes are not required to develop implementation plans. The EPA determined in the TAR that it was inappropriate to treat tribes in a manner similar to a state with regard to specific plan submittal and implementation deadlines for NAAQS-related requirements, including, but not limited to, such deadlines in CAA sections 110(a)(1), 172(a)(2), 182 187, and 191. *See* 40 CFR 49.4(a). In addition, the 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 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 49.8. In such circumstances, tribes seeking approval for CAA programs provide potential investigative leads to an appropriate federal enforcement agency.

If a tribe elects to do a TIP, the agency will work with the tribe to develop an appropriate schedule which meets the needs of the tribe, and which does not interfere with the attainment of the NAAQS in other jurisdictions. The tribe developing a TIP can work with the EPA Regional Office on the appropriateness of addressing RFP and other substantive SIP requirements that may or may not be appropriate for the tribe's situation.

The CAA and the TAR provide tribes opportunities and flexibility for the tribe in the preparation of a TIP to address the NAAQS. If a tribe elects to develop a TIP, the TAR offers flexibility for the tribe to identify and implement on a case-by-case basis only those CAA programs or reasonably severable program elements needed to address their specific air quality problems. In the TAR, the EPA described this flexible implementation approach as a modular approach. Each tribe may evaluate the particular activities, including potential sources of air pollution within the exterior boundaries of its reservation (or within non-reservation areas for which it has demonstrated jurisdiction), which cause or contribute to its air pollution problem. A tribe may adopt measures for controlling those sources of $PM_{2.5}$-related emissions, as long as the elements of the TIP are reasonably severable from the package of elements that can be included in a whole TIP. A TIP must include regulations designed to solve specific air quality problems for which the tribe is seeking the EPA's approval, as well as a demonstration that the tribal air agency has the authority from the tribal government to develop and run their program, the capability to enforce their rules, and the resources to implement the program they adopt. In addition, the tribe must receive an eligibility determination from the EPA to be treated in the same manner as a state for the particular

[303] For more information on SEPs, go to *www2.epa.gov/enforcement/supplemental-environmental-projects-sep.*

[304] *See* 78 FR 27220 (May 9, 2013) notice of availability, ''EPA Activities To Promote Environmental Justice in the Permit Application Process.''

matter at issue and to receive authorization from the EPA to run a CAA program.

The EPA would review and approve, where appropriate, these partial TIPs as one step of an overall air quality plan to attain the NAAQS. A tribe may step in later to add other elements to the plan, or the EPA may step in to fill gaps in the air quality plan as necessary or appropriate. In approving a TIP, the agency would evaluate whether the plan appropriately coordinates with the overall air quality plan for an area when tribal lands are part of a multi-jurisdictional area.

Because many $PM_{2.5}$ nonattainment areas will include multiple jurisdictions, and in some cases both Indian country and state lands, it is particularly important for the tribes and the states to work together to coordinate their planning efforts. States need to incorporate Indian country emissions in their base emissions inventories if Indian country is part of an attainment or nonattainment area.[305] Tribes and states should coordinate their planning activities as appropriate to ensure that neither is adversely affecting attainment of the NAAQS in the area as a whole. Coordinated planning in these areas 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 applicable $PM_{2.5}$ NAAQS. In reviewing and approving individual TIPs and SIPs, the EPA will determine if together they are consistent with the overall air quality needs of an area.

To date, very few tribes have submitted for the EPA's approval TIPs covering areas over which they have jurisdiction. In the absence of a TIP, the EPA is authorized under the TAR to implement CAA programs in such areas as necessary or appropriate. For example, an unhealthy air quality situation on an Indian reservation may require the EPA to develop a FIP to reduce emissions from sources on the reservation. Likewise, if the agency determines that sources in an area under tribal jurisdiction could interfere with a larger nonattainment area meeting the NAAQS by its attainment date, it would develop a FIP for those sources in consultation with the tribe, as necessary or appropriate.

States have an obligation to notify other states in advance of any public hearing(s) on their state plans if such plans will significantly impact such other states. 40 CFR 51.102(d)(5). Under section 301(d) of the CAA and the TAR, tribes may become eligible to be treated in a manner similar to states (TAS) for this purpose. Affected tribes with this status must also be informed of the contents of such state plans and given access to the documentation supporting these plans. In addition to this mandated process, the EPA encourages states to extend the same notice to all affected tribes, regardless of their TAS status.

Executive Orders and the EPA's Indian policies generally call for the EPA to coordinate and consult with tribes on matters that affect tribes. Executive Order 13175, titled, ''Consultation and Coordination with Indian Tribal Governments'' requires the EPA to develop a process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have Tribal implications.'' In addition, the EPA's policies include the agency's 1984 Indian Policy relating to Indian tribes and implementation of federal environmental programs, the April 10, 2009, Office of Air Quality Planning and Standards guidance ''Consulting with Indian Tribal Governments,'' and the ''EPA Policy on Consultation and Coordination With Indian Tribes.'' Consistent with these policies, the EPA intends to meet with tribes on activities potentially affecting the attainment and maintenance of the current and future $PM_{2.5}$ NAAQS in Indian country, including agency actions on SIPs. As such, it would be helpful for 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 their SIPs.

### *I. Voluntary Programs for Reducing Ambient $PM_{2.5}$*

#### 1. PM Advance Program

The EPA believes there are significant advantages for states, tribes and local agencies to take steps to reduce direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors as early as possible. First and foremost, early reductions help to achieve cleaner air sooner, and help to ensure continued health protection. Second, early steps could help an area avoid a nonattainment designation in the first place, or for an area eventually designated as nonattainment, early reductions could help bring the area back into attainment sooner, which may lead to qualifying for a CDD and subsequent suspension of attainment planning requirements as described in Section IX.C of this preamble. In addition, early action to improve air quality can help an eventual nonattainment area, particularly an area that has never been designated nonattainment before, to establish working relationships between key stakeholders. The EPA's expectation is that early actions to reduce emissions in such areas would be less resource-intensive than actions taken once a nonattainment designation has been made, since at that point the implementation of controls would need to occur in conjunction with actions to comply with other requirements such as nonattainment NSR and transportation conformity.

In January 2013, the EPA began a new early emissions reduction program for attainment areas called ''PM Advance,'' which is much like the related ''Ozone Advance'' program that began in April 2012. Additional information about the PM Advance program for the annual and 24-hour $PM_{2.5}$ NAAQS is provided in a separate guidance document that is available at *http://www.epa.gov/ozonepmadvance*.

#### 2. Residential Wood Smoke Programs

The EPA recognizes that residential wood smoke is a concern for many nonattainment areas. The EPA estimates that wood stoves, hydronic heaters and fireplaces emit more than 345,000 tons of $PM_{2.5}$ into the air throughout the country each year—mostly during the winter months. Residential wood smoke can increase fine particle pollution to levels that cause significant health concerns (*e.g.,* asthma attacks, heart attacks, premature death). Wood smoke causes many counties throughout the U.S. to either exceed the national health-based standards for fine particles, or places them on the cusp of exceeding the standards. Because wood stoves, hydronic heaters and other similar appliances can be used around the clock in residential areas, they can cause significant and varying health and quality of life issues.

To reduce fine particle pollution, many $PM_{2.5}$ nonattainment areas will need to address residential wood smoke. The EPA has developed the ''Strategies for Reducing Residential Wood Smoke''

[305] On January 17, 2014, the United States Court of Appeals for the District of Columbia Circuit issued a decision vacating the EPA's 2011 rule entitled ''Review of New Sources and Modifications in Indian Country'' (76 FR 38748, July 1, 2011) with respect to non-reservation areas of Indian country (*See, Oklahoma Department of Environmental Quality* v. *EPA,* 740 F.3d 185 (D.C. Cir. 2014)). Under the court's reasoning, with respect to CAA state implementation plans, a state has primary regulatory jurisdiction in non-reservation areas of Indian country (*i.e.,* Indian allotments located outside of reservations and dependent Indian communities) within its geographic boundaries unless the EPA or a tribe has demonstrated that a tribe has jurisdiction over a particular area of non-reservation Indian country within the state.

document that provides education and outreach tools, information on regulatory approaches to reduce wood smoke, as well as information about voluntary programs that communities around the country have used.[306] In addition, it includes methods for calculating emissions reductions, funding ideas and the basic components of a wood smoke reduction plan that can be adopted into a SIP as an enforceable control measure.[307] To access the document, go to *http://epa.gov/burnwise/pdfs/strategies.pdf*. For more information on the EPA's wood smoke reduction program, visit *http://www.epa.gov/burnwise*.

*J. Improved Stationary Source Emissions Monitoring*

1. Background

For purposes of demonstrating compliance with the EPA's air quality regulatory requirements, the EPA, air agencies, and sources rely on two basic types of monitoring: ambient air quality monitoring and stationary source emissions monitoring. Ambient air quality monitoring, as discussed in Section II of this preamble, entails collecting and measuring samples of criteria pollutants in ambient air to evaluate air quality as compared to clean air standards and historical information. Stationary source emissions monitoring, on the other hand, entails collecting and using measurement data (or other information) from individual stationary sources to demonstrate compliance with emissions standards, to assess process or control device performance, or to verify work practices. While ambient air quality monitoring is used to assess compliance with the NAAQS, stationary source emissions monitoring is used to assess compliance with source-specific regulations under programs like the New Source Performance Standards (NSPS), the National Emissions Standards for Hazardous Air Pollutants (NESHAP), the compliance assurance monitoring (CAM) program, the title V air operating permits program, and the acid deposition control program, as well as specific SIP control measures.[308]

Accurate stationary source emissions monitoring is critical for purposes of developing accurate emissions inventories and in order to identify appropriate control measures to reduce emissions from stationary sources. In addition, after control measures are in place, stationary source emissions monitoring provides process and control device performance information to the facility operator so that appropriate corrective action can be taken if emission levels exceed applicable thresholds. Thus, appropriate stationary source emissions monitoring requirements, like the control measures with which they are associated, are a fundamental element of an approvable attainment plan.

By way of example, in a limited study on improving stationary source emissions monitoring, the EPA found that revising the measurement technique at a stationary source could provide information to the facility operator to take corrective action that could potentially reduce emissions up to 15 percent, and that increasing monitoring frequency at the facility could provide information that could be used to inform corrective actions that could yield potential stationary source emissions reductions of up to 13 percent.[309] [310] Implementation of stationary source emissions monitoring improvements could thus lead to actions to achieve additional emissions reductions not only at individual sources but also in the nonattainment areas where these sources are located.

2. Guidance To Help Improve Stationary Source Emissions Monitoring

Because of the important role that effective stationary source emissions monitoring can play in informing the development of attainment strategies for $PM_{2.5}$ NAAQS nonattainment areas, the EPA is interested in applied best practices for stationary source emissions monitoring that could be included in guidance for other stationary sources and air agencies. The EPA seeks to gather information about ways to make the source emissions monitoring data collection process easier and more transparent. The EPA therefore seeks appropriate examples and supporting data from individual sources and air agencies with experience in this area to inform such future guidance. The EPA also seeks comment on the specific topics and questions that follow, which the agency may address in future guidance related to improved source monitoring. Specifically:

(1) Based on your experience, in which cases do you believe improved monitoring techniques are more appropriate than visual emissions (VE) techniques for monitoring compliance with $PM_{2.5}$ (or PM, in general) emissions limits? Please identify monitoring techniques that you would recommend in lieu of VE, and describe the instances in which VE remains appropriate.

(2) Based on your experience, are bag leak detection systems, PM continuous parameter monitoring systems (CPMS), or PM continuous emissions monitoring systems (CEMS) reliable, cost-effective methods for monitoring compliance with PM emissions? Please provide additional information on reliability and cost to support your position.

(3) Will increasing the frequency of VE observations resolve the issue of applicability of VE techniques for monitoring compliance with $PM_{2.5}$ emissions? In other words, are there situations in which increased VE frequency (*i.e.,* daily versus weekly) would be expected to have no impact on compliance with $PM_{2.5}$ emission limits? If so, please provide relevant data and explanation of such situations.

(4) Should the EPA consider mandating through rulemaking the use of alternatives to VE techniques for monitoring compliance with $PM_{2.5}$ and PM emissions limits in certain situations and applications? If so, in what cases?

(5) Should the EPA's effort with regard to the use of improved monitoring techniques in lieu of VE monitoring be focused on applicable requirements established/relied upon for compliance with the $PM_{2.5}$ NAAQS, or should the agency more broadly address other applicable requirements where VE techniques are commonly used (*e.g.,* to estimate TSP and $PM_{10}$ emissions)?

(6) Should the EPA consider mandating through rulemaking the use of alternatives to continuous opacity monitoring systems (COMS) for monitoring compliance with $PM_{2.5}$ and PM emissions limits in certain situations and applications? If so, in what cases?

[306] On February 3, 2015, the EPA strengthened the New Source Performance Standards (NSPS) for new residential wood heaters and established NSPS for other new wood heaters, including outdoor and indoor wood-fired boilers (also known as hydronic heaters). The standards will reduce emissions of direct $PM_{2.5}$ as well as carbon monoxide, VOC, air toxics (including formaldehyde, benzene and polycyclic organic matter), and black carbon. *See http://www2.epa.gov/residential-wood-heaters/new-source-performance-standards-new-residential-wood-heaters-new.*

[307] For further guidance on incorporating voluntary measures into a SIP, *see* ''Incorporating Emerging and Voluntary Measures in a State Implementation Plan (SIP).'' U.S. EPA. Office of Air and Radiation. September 2004. Available at *http://www.epa.gov/ttn/caaa/t1/memoranda/evm_ievm_g.pdf.*

[308] Regulations governing the implementation of these programs are located at 40 CFR parts 60, 61, 63, 64, 70, 71 and 75.

[309] *Impact of Improved Monitoring on $PM_{2.5}$ Emissions,* memorandum from L. Barr and K. Schaffner, RTI International, to B. Parker, U.S. Environmental Protection Agency. December 2003.

[310] As discussed in Section IX.E of this preamble, emissions monitoring has four essential components: (i) indicator(s) of performance; (ii) measurement technique(s); (iii) monitoring frequency; and, (iv) averaging time.

(7) In its study published in 2003, the EPA identified stationary source emission reduction techniques that air agencies should consider when developing their potential list of control measures for a $PM_{2.5}$ NAAQS nonattainment area.[311] Specifically, the EPA identified improved measurement techniques and increased monitoring frequency as practices that could better inform sources and air agencies of excess emissions from individual sources which, if responded to more quickly, could yield significant reductions and assist in bringing the area into attainment for the NAAQS. Please comment on whether these techniques remain appropriate, given that they were based on the best technical information available at the time. Are there ways to improve the methodologies described in the study?

(8) Please submit any examples of improved stationary source emissions monitoring, including a description of the measure, monitoring data, etc.

(9) Please submit any other methodologies—complete with equations and explanations—for estimating emissions reductions due to improved monitoring.

The EPA will continue to explore and implement innovative, cost-effective ideas that offer tangible incentives for improved source monitoring to be adopted as part of the associated emissions limitations that will help achieve additional reductions from stationary sources and bring areas into attainment for the $PM_{2.5}$ NAAQS in a timely way.

*K. Stationary Source Test Methods for Emissions of Condensable $PM_{2.5}$*

1. Background

As discussed in Section II of this preamble, direct $PM_{2.5}$ comprises of two components: Filterable $PM_{2.5}$ and condensable $PM_{2.5}$ emissions. Accurate test methods for quantifying filterable PM emissions have been available for air agencies and states to apply since the early 1970s. In addition, controls have improved over the past 40 years and most sources now achieve substantially lower emissions than required by state and federal emissions limits. With the filterable portion of $PM_{2.5}$ emissions being relatively well controlled, the condensable portion of $PM_{2.5}$ emissions now represents a larger share of overall $PM_{2.5}$ emissions for several categories of stationary sources. However, accurate test methods for condensable $PM_{2.5}$ emissions have only been recently developed and approved by the EPA. Thus, many states may have stationary source emission limits adopted into their existing SIPs based only on filterable $PM_{2.5}$ emissions or based on outdated methods for measuring or estimating condensable $PM_{2.5}$ emissions.

The following discussion focuses on current test methods for quantifying condensable $PM_{2.5}$ emissions and the EPA's proposed requirements for states developing control strategies for $PM_{2.5}$ nonattainment areas.

2. Test Methods for Condensable PM From Stationary Sources

Since January 1, 2011, the EPA has required that states take into consideration condensable $PM_{2.5}$ emissions when establishing emission limits for stationary sources as part of any control strategy for $PM_{2.5}$ NAAQS nonattainment areas.[312] This date coincided with the effective date of the agency's revisions to test methods for measuring filterable $PM_{10}$ emissions from stationary sources (Method 201A) and for measuring condensable PM emissions from stationary sources (Method 202).[313] The revisions increased the precision of Method 202 and improved the consistency in the measurements obtained between source tests performed under different regulatory authorities.

In the preamble to the 2007 $PM_{2.5}$ Implementation Rule, the EPA explained that the use of the (then anticipated) revisions to the EPA Method 201A combined with Method 202 to obtain measured source specific emissions of $PM_{2.5}$ would improve the quality of emissions inventories for stationary sources and would aid in the development of a more reliable attainment strategy, as sources that may have a considerable amount of condensable $PM_{2.5}$ emissions could be better characterized with the new methods. The EPA continues to believe that using these improved test methods can help identify sources of direct $PM_{2.5}$ emissions which, if better controlled, can help to bring a $PM_{2.5}$ nonattainment area into attainment. Likewise, use of these test methods may help a state identify sources whose condensable emissions may have been incorrectly estimated and therefore may not provide meaningful $PM_{2.5}$ control opportunities.

3. Proposed SIP Requirements for Test Methods For Condensable $PM_{2.5}$ Emissions

The EPA proposes to require that, where a state needs to adopt control measures for direct $PM_{2.5}$ from sources in a nonattainment area, the state must specify $PM_{2.5}$ emission limits in its SIP that include both filterable and condensable emissions. In addition, compliance testing of those sources must include measurement of condensable emissions (such as through the use of Method 202). Under this proposal, any new or revised emission limit used as a control measure to bring an area into attainment for any current or future $PM_{2.5}$ NAAQS must use methods that measure $PM_{2.5}$ or total PM including both filterable and condensable particulate matter. Existing emission limitations that are not being revised as part of a Moderate area or Serious area attainment plan can remain as filterable PM or whatever test method is used by the state for compliance determination. In these cases, the acceptability of existing stationary source test methods for $PM_{2.5}$ attainment plans will depend upon what is required under the state's current test methods for PM emissions. The EPA believes that this proposed requirement is appropriate because the addition of the condensable portion of $PM_{2.5}$ to filterable $PM_{2.5}$ may increase direct $PM_{2.5}$ emissions by a factor of five or more, and the use of test methods that only measure filterable emissions potentially limit the control measures available for developing cost effective strategies to achieve attainment of the $PM_{2.5}$ NAAQS.

The EPA seeks comment on this proposed requirement for states to quantify condensable $PM_{2.5}$ emissions in their attainment plans for $PM_{2.5}$ nonattainment areas.

## X. What is the EPA proposing with respect to revoking the 1997 primary annual $PM_{2.5}$ NAAQS?

*A. Background*

If the 1997 primary annual $PM_{2.5}$ NAAQS were to remain in place after conformity requirements begin to apply for the 2012 primary annual $PM_{2.5}$ NAAQS (1 year after the effective date of designations), a number of federal agencies, metropolitan planning organizations (MPOs) and other state, local, and federal transportation and air quality agencies in areas that are currently designated nonattainment or maintenance for the 1997 annual $PM_{2.5}$ NAAQS and will be designated nonattainment for the 2012 primary annual NAAQS would be required to implement conformity requirements for both annual $PM_{2.5}$ NAAQS concurrently. Additionally, some areas would also be implementing conformity requirements for the 2006 24-hour $PM_{2.5}$

[311] *Ibid.*

[312] 72 FR 20586 (April 25, 2007).

[313] 75 FR 80118 (December 21, 2010).

NAAQS, and two areas remain subject to conformity requirements for the 1997 24-hour $PM_{2.5}$ NAAQS. This could lead to unnecessary complexity for transportation conformity determinations, especially if an area's boundaries for the various $PM_{2.5}$ NAAQS differ from one another and the same test of conformity cannot be used for all of the $PM_{2.5}$ NAAQS. Even where an area's boundaries are unchanged, different analysis years under the conformity rules may be required for each $PM_{2.5}$ NAAQS. It could also lead to general conformity determinations being made in areas that are attainment for the 2012 primary annual $PM_{2.5}$ NAAQS. Finally, state and local air quality agencies would be required to continue attainment planning activities for the 1997 primary annual $PM_{2.5}$ NAAQS even if they had air quality data that resulted in their being designated attainment for the 2012 primary annual $PM_{2.5}$ NAAQS.

The EPA believes that it is more important and consistent with CAA requirements to determine conformity for the new 2012 primary annual $PM_{2.5}$ NAAQS, which is more stringent and thus more protective of health than the 1997 $PM_{2.5}$ NAAQS. This section therefore describes the EPA's proposed approaches for transitioning from the 1997 primary annual $PM_{2.5}$ NAAQS to the 2012 primary annual $PM_{2.5}$ NAAQS. This section discusses a number of options for revoking the 1997 primary annual $PM_{2.5}$ NAAQS and addresses anti-backsliding requirements that would apply, as appropriate, under each of the revocation options. The EPA is not proposing to revoke the 1997 secondary annual $PM_{2.5}$ NAAQS in this action because that NAAQS has been retained in order to prevent certain welfare effects associated with $PM_{2.5}$.[314]

The proposed options are framed in the context of the CAA requirements that apply to NAAQS transitions to ensure that states and nonattainment areas continue to make progress and do not reverse progress, or backslide, from improvements already made in air quality. The CAA contains several provisions indicating congressional intent not to allow a state to alter or remove provisions from an approved attainment plan if the revision would reduce air quality protection. Section 193 of the CAA prohibits modification of a control requirement in effect or required to be adopted as of November 15, 1990 (the date of enactment of the 1990 CAA Amendments), unless such a modification would ensure equivalent or greater emissions reductions. Section 172(e), which addresses relaxations of a NAAQS, requires protections for areas that have not attained a NAAQS prior to a relaxation by requiring controls which are at least as stringent as the controls applicable in nonattainment areas prior to any such relaxation. Section 110(l) provides that a SIP revision cannot be approved if it will interfere with attainment or other CAA requirements. Under section 175A(d), an area that is redesignated to attainment may, with an appropriate showing of no interference, cease to implement a measure that is contained in the SIP at the time of redesignation, but only if that measure is retained as a contingency measure in the area's maintenance plan.[315] [316]

The transition from the 1997 to the 2012 primary annual $PM_{2.5}$ NAAQS is a straightforward tightening of the level with little change in the form of the standard, so it is unambiguous that the 2012 primary annual $PM_{2.5}$ NAAQS is more stringent than the 1997 primary annual $PM_{2.5}$ NAAQS. In the final 2012 PM NAAQS rule the EPA eliminated the provisions that allowed for an area to use spatial averaging of monitoring data to determine whether or not it is attaining the 1997, 2012 and any future annual $PM_{2.5}$ NAAQS.[317] Eliminating spatial averaging provides additional protection for populations that may be at a greater risk to exposures of elevated levels of $PM_{2.5}$. In these circumstances where the annual $PM_{2.5}$ NAAQS has clearly been strengthened, section 172(e) on its face does not apply. The EPA's interpretation that anti-backsliding provisions consistent with the purposes of section 172(e) by analogy should apply as upheld by the court in *South Coast* as appropriate in the absence of statutory provisions addressing tightened air quality standards. In proposing anti-backsliding requirements that would apply as appropriate to the options that are being considered, the EPA seeks to apply the principles of section 172(e).[318]

*B. History of Revocation of Other NAAQS*

The EPA has either adopted or has proposed to adopt transition policies for other NAAQS, including the policies for the transitions from:

- The 1-hour ozone NAAQS to the 1997 ozone NAAQS;
- The 1997 ozone NAAQS to the 2008 ozone NAAQS;
- The prior lead NAAQS to the 2008 lead NAAQS; and,
- The prior sulfur dioxide ($SO_2$) NAAQS to the 2010 $SO_2$ NAAQS.

It is important to note that for all previous NAAQS transitions, the EPA has used revocation to reduce the burden associated with implementing a NAAQS that has been replaced with a more stringent NAAQS.

In its Phase 1 Rule for the transition from the 1-hour ozone NAAQS to the 1997 ozone NAAQS, the EPA stated that the 1-hour ozone NAAQS would be revoked (*i.e.,* no longer apply) 1 year after the effective date of initial area designations for the 1997 ozone NAAQS. The EPA also included anti-backsliding requirements in the Phase 1 Rule to address the transition between the two standards.

The Phase 1 Rule for implementation of the 1997 ozone NAAQS was the subject of legal challenges, and the resulting court decision in *South Coast* upheld the EPA's authority to revoke the 1-hour ozone NAAQS as long as adequate anti-backsliding measures were retained to prevent backsliding.[319] The decision directed the EPA to provide additional 1-hour ozone NAAQS anti-backsliding requirements for NNSR, section 185 fees, and section 172(c)(9) and 182(c)(9) contingency measures for failure to attain the 1-hour ozone NAAQS by the applicable attainment date or to make reasonable further progress toward attainment of that standard, in addition to the anti-backsliding measures contained in the Phase 1 rule.[320]

[314] 78 FR 3086 (January 15, 2013).

[315] Nonattainment areas that were redesignated to attainment with an approved section 175A maintenance plan are referred to throughout this document as ''maintenance areas.''

[316] Unimplemented requirements in the SIP or those shown to be unnecessary for maintenance can be shifted to the contingency measures portion of the SIP upon redesignation. *See* ''Procedures for Processing Requests to Redesignate Areas to Attainment,'' Memorandum from John Calcagni, Director, Air Quality Management Division, September 4, 1992; ''State Implementation Plan (SIP) Requirements for Areas Submitting Requests for Redesignation to Attainment of the Ozone and Carbon Monoxide (CO) National Ambient Air Quality Standards (NAAQS) On or After November 15, 1992,'' Memorandum from Michael H. Shapiro, Acting Assistant Administrator for Air and Radiation, September 17, 1993. As discussed elsewhere in this document, an exception is made for NNSR, which can be removed from the SIP completely and need not be retained as a contingency measure after redesignation to attainment.

[317] *See* the **Federal Register** published on January 15, 2013 (78 FR 3085, 3124, 3125, 3126, 3137 and 3229).

[318] *South Coast Air Quality Management District* v. *EPA,* 472 F.3d 882 (D.C. Cir. 2006).

[319] *South Coast Air Quality Management District* v. *EPA,* 472 F.3d 882 (D.C. Cir. 2006).

[320] For a more complete discussion of the requirements for the transition from the 1-hour ozone NAAQS to the 1997 ozone NAAQS, *see* the **Federal Register** dated April 30, 2004 (69 FR 23951, 23969, 23970, 23971, 23972, 23973, 23974, 23975, 23976, 23977, 23978, 23979, 23980, 23981, 23982, 23983, 23984, 23985, 23986, 23987, 23988 and 23989).

As part of its final SIP requirements rule for the 2008 ozone NAAQS, the EPA included requirements for the transition from the 1997 ozone NAAQS to the 2008 ozone NAAQS.[321] In developing that rulemaking, the EPA built upon its experience in implementing the Phase 1 rule for the transition from the 1-hour ozone NAAQS to the 1997 ozone NAAQS and the decision in the *South Coast* litigation. The EPA revoked the 1997 ozone NAAQS on the effective date of the final SIP requirements rule and finalized anti-backsliding requirements consistent with the implementation of the court decision for the previous ozone transition that would apply in areas designated nonattainment for the 1997 ozone NAAQS at the time of revocation.[322]

It should be noted that as part of the transition from the 1997 ozone NAAQS to the 2008 ozone NAAQS, the EPA revoked the 1997 ozone NAAQS for transportation conformity purposes only in a separate action related to classifications for the 2008 ozone NAAQS that was finalized prior to the time that the full implementation rule had been proposed.[323] The EPA took this action because the D.C. Circuit Court in litigation on the transportation conformity rule and in its decision in the *South Coast* litigation affirmed that the use of motor vehicle emissions budgets that have been approved or found adequate for use in transportation conformity determinations for the prior NAAQS must be used in transportation conformity determinations for the new NAAQS until a state submits motor vehicle emissions budgets for the new NAAQS and those budgets are either found adequate or are approved.[324] [325] These cases seemed to indicate that the use of these existing budgets until new budgets are available is the appropriate anti-backsliding measure with respect to transportation conformity to support revocation for that purpose.[326] It should be noted, however, that the revocation of the 1997 ozone NAAQS for transportation conformity purposes was the subject of litigation in the D.C. Circuit Court.[327] The court issued its decision on December 23, 2014, and held that the EPA lacked authority to revoke the 1997 ozone NAAQS only for transportation conformity purposes because for areas that remain designated as nonattainment or maintenance for the 1997 ozone NAAQS, CAA section 176(c) requires transportation conformity determinations in nonattainment and maintenance areas.

Following promulgation of the 2008 lead NAAQS and 2010 $SO_2$ NAAQS, the EPA revoked the prior lead and $SO_2$ NAAQS for all purposes in areas that had attained the prior NAAQS and had been redesignated to attainment, as well as in areas that had initially been designated as attainment for those NAAQS. The EPA retained the prior NAAQS in areas that had not yet attained those NAAQS until those areas had an approved attainment plan for the revised NAAQS. Because the EPA revoked the prior lead and $SO_2$ NAAQS in areas that had been redesignated to attainment for those NAAQS, the EPA primarily relied on the CAA's anti-backsliding provisions found in sections 110(l) and 193 in order to provide anti-backsliding protection.[328]

In developing the options for revoking the 1997 primary annual $PM_{2.5}$ NAAQS contained in this proposal, the EPA has drawn from these prior anti-backsliding approaches.

### *C. Proposed Options for Revocation and Related Anti-Backsliding Requirements for the 1997 Primary Annual $PM_{2.5}$ NAAQS*

The EPA is proposing and seeking comment on two options for revoking the 1997 primary annual $PM_{2.5}$ NAAQS and is seeking comment on whether to revoke the NAAQS at the current time. Under either of the options to revoke the 1997 NAAQS, revocation would take effect no sooner than 1 year after the effective date of designations for the 2012 primary annual $PM_{2.5}$ NAAQS. One of these options would provide for revocation at a later date for some areas.

After revocation of the 1997 primary annual $PM_{2.5}$ NAAQS, the designations (and the classifications associated with those designations) for that standard would no longer be in effect, and the designations that would remain in effect would be those for the 1997 secondary annual $PM_{2.5}$ NAAQS, the 2006 primary and secondary 24-hour $PM_{2.5}$ NAAQS and the 2012 primary annual $PM_{2.5}$ NAAQS. However, the EPA would retain the listing of the designated nonattainment areas for the revoked 1997 primary annual $PM_{2.5}$ NAAQS in 40 CFR part 81, for the sole purpose of identifying the anti-backsliding requirements that may apply to the areas at the time of revocation. Accordingly, such references to historical designations for the revoked standard should not be viewed as current designations under CAA section 107(d).

For any proposed option that allows for revocation in nonattainment areas for the 1997 primary annual $PM_{2.5}$ NAAQS, the EPA is also proposing anti-backsliding provisions to ensure that in these areas: (i) There is protection against degradation of air quality (*e.g.,* the areas do not backslide in terms of air quality improvements); (ii) the areas continue to make progress toward attainment of the new, more stringent 2012 primary annual $PM_{2.5}$ NAAQS; and, (iii) there is consistency with the $PM_{2.5}$ NAAQS implementation framework outlined in subpart 4 of part D, title I of the CAA. At the current time, there are 14 areas that continue to be designated as nonattainment for the 1997 annual $PM_{2.5}$ NAAQS; however all but 2 of these areas have 2011–2013 air quality data showing that they are attaining that NAAQS. Therefore, the EPA expects many of these current nonattainment areas will be eligible to seek redesignation to attainment prior to any revocation. The EPA is proposing and seeking comment on the following two options:

- *Option 1:* Revoke the 1997 primary annual $PM_{2.5}$ NAAQS for all purposes in attainment areas for that NAAQS 1 year after the effective date of the designations for the 2012 primary annual $PM_{2.5}$ NAAQS; or,
- *Option 2:* Revoke the 1997 primary annual $PM_{2.5}$ NAAQS for all purposes in all nonattainment and attainment areas for that NAAQS 1 year after the effective date of the designations for the 2012 primary annual $PM_{2.5}$ NAAQS.

More details on the proposed options and associated rationale are included below.

[321] *See* the published proposal at 78 FR 34178 (June 6, 2013) and the final SIP requirements rule for the 2008 ozone NAAQS at *http://www.epa.gov/groundlevelozone/implement.html.*

[322] *Ibid.*

[323] 77 FR 30160 (May 21, 2012).

[324] *See South Coast Air Quality Management District* v. *EPA,* 472 F.3d 882 (D.C. Cir. 2006).

[325] 40 CFR 93.101 defines ''motor vehicle emissions budget'' as ''that portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones or demonstrating attainment or maintenance of the NAAQS, for any criteria pollutant or its precursors, allocated to highway and transit vehicle use and emissions.''

[326] In addition, the Court affirmed that conformity determinations need not be made for a revoked standard.

[327] *NRDC* v. *EPA,* No. 12–1321 (D.C. Cir.) (challenging EPA actions taken at 77 FR 30160 (May 21, 2012)).

[328] For details on the requirements for the lead NAAQS and the $SO_2$ NAAQS, respectively, *see* 73 FR 66964 (November 12, 2008), at page 67043; and 75 FR 35519 (June 22, 2010), at page 35580.

1. Option 1: Revoke the 1997 Primary Annual $PM_{2.5}$ NAAQS for All Purposes in Attainment Areas for That NAAQS 1 Year After the Effective Date of the Designations for the 2012 Primary Annual $PM_{2.5}$ NAAQS

The EPA's first proposed option would revoke the 1997 primary annual $PM_{2.5}$ NAAQS for all purposes in areas that are designated as attainment for that NAAQS 1 year after the effective date of designations for the 2012 primary annual $PM_{2.5}$ NAAQS, as well as in future areas that are redesignated as attainment areas after the initial revocation. The areas addressed by this option are those that were originally designated as attainment areas for the 1997 primary $PM_{2.5}$ NAAQS and those that were originally designated as nonattainment but have since or will in the future be redesignated to attainment for that NAAQS. Under this option, the EPA would not revoke the 1997 primary annual $PM_{2.5}$ NAAQS in any area that is designated nonattainment for that NAAQS.

Areas that are designated nonattainment for the 1997 annual $PM_{2.5}$ NAAQS at the time of the initial revocation would be required to continue to meet all applicable requirements for such NAAQS, and could continue to seek redesignation to attainment for the 1997 primary annual $PM_{2.5}$ NAAQS. For example, even if the revocation were to become effective in April 2016, redesignations could continue to be approved after that date. For such areas, the effective date of the revocation would be the effective date of the area's redesignation to attainment for the 1997 annual $PM_{2.5}$ NAAQS.

The EPA notes that under proposed Option 1 it is unnecessary to propose anti-backsliding requirements for the 1997 primary annual $PM_{2.5}$ NAAQS, since Option 1 would only revoke this NAAQS in attainment areas. Anti-backsliding requirements are not applicable to attainment areas (*i.e.,* for former nonattainment areas that have been redesignated to attainment the EPA has already determined through the redesignation process and approval of maintenance plans that all applicable requirements for the 1997 primary annual $PM_{2.5}$ NAAQS—including anti-backsliding requirements—have been fulfilled and areas that have always been designated attainment for this NAAQS).

For areas that were initially designated as attainment for both the 1997 and 2012 annual $PM_{2.5}$ NAAQS the EPA is proposing that the approved PSD SIPs for these areas satisfy the obligation to submit an approvable maintenance plan for the 2012 primary annual $PM_{2.5}$ NAAQS under section 110(a)(1).

The EPA also notes that areas designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS would be required to comply with applicable conformity requirements beginning 1 year after the effective date of designations for that NAAQS. For transportation conformity purposes these requirements would include using adequate or approved motor vehicle emissions budgets for the 1997 annual $PM_{2.5}$ NAAQS where they exist until the area has approved or adequate budgets for the 2012 primary annual $PM_{2.5}$ NAAQS.[329] The use of such budgets serves as the appropriate anti-backsliding measure for transportation conformity purposes.

In general, Option 1 builds upon the EPA's practice in the transition from the 1-hour to the 1997 ozone NAAQS in that areas will not only be able to be redesignated to attainment up to the date of the initial revocation, but any remaining nonattainment areas will be able to be redesignated after the initial revocations occur 1 year after the effective date of designations.[330] This approach is also consistent with the approach established for the transition from the prior lead and $SO_2$ NAAQS to the current lead and $SO_2$ NAAQS.

2. Option 2: Revoke the 1997 Primary Annual $PM_{2.5}$ NAAQS for All Purposes in All Nonattainment and Attainment Areas for That NAAQS 1 Year After the Effective Date of Designations for the 2012 Primary Annual $PM_{2.5}$ NAAQS

Under this second proposed option, the EPA would revoke the 1997 primary annual $PM_{2.5}$ NAAQS for all purposes in all nonattainment and attainment areas 1 year after the effective date of designations for the 2012 primary annual $PM_{2.5}$ NAAQS. The requirements for revoking the 1997 primary annual NAAQS in attainment areas for that NAAQS are discussed under proposed Option 1. However, revoking the 1997 primary annual $PM_{2.5}$ NAAQS in nonattainment areas for that NAAQS would require anti-backsliding measures. Therefore, the EPA is proposing the following anti-backsliding measures for any designated nonattainment areas that exist for the 1997 primary annual $PM_{2.5}$ NAAQS upon the effective date of the proposed revocation:

- For areas designated *attainment* for the 2012 primary annual $PM_{2.5}$ NAAQS and *nonattainment* for the 1997 primary annual $PM_{2.5}$ NAAQS, the EPA's preferred proposed option is not to require these areas to adopt any outstanding applicable requirements for the revoked 1997 primary annual $PM_{2.5}$ standard. However, the EPA proposes that the approved PSD SIPs for these areas satisfy the obligation to submit an approvable maintenance plan for the 2012 primary annual $PM_{2.5}$ NAAQS under section 110(a)(1).
- For these same areas (*i.e.,* those designated *attainment* for the 2012 primary annual $PM_{2.5}$ NAAQS and nonattainment for the 1997 primary annual $PM_{2.5}$ NAAQS), the EPA is also proposing an alternative anti-backsliding option where these areas would be required to show maintenance for the 2012 primary annual $PM_{2.5}$ NAAQS. This maintenance showing would be due 3 years after the effective date of designations for the 2012 primary annual $PM_{2.5}$ NAAQS. The maintenance showing would contain a demonstration of continued maintenance of the 2012 primary annual $PM_{2.5}$ NAAQS in the area for 10 years from the effective date of the area's designation as attainment for the 2012 primary annual $PM_{2.5}$ NAAQS. The EPA would take further action to specify the elements of such a maintenance showing should the agency require it in the final rule. For areas designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS and also designated nonattainment for the 1997 annual $PM_{2.5}$ NAAQS, the EPA is proposing that these areas continue to implement their approved SIPs for the 1997 annual $PM_{2.5}$ NAAQS and fulfill any outstanding requirements, and that they comply with the applicable requirements for the current 2012 primary annual $PM_{2.5}$ NAAQS. For example, at some time in the future there may be an area that is reclassified as Serious for the 1997 $PM_{2.5}$ NAAQS while also classified as Moderate for the 2012 $PM_{2.5}$ NAAQS. In such an area, the lower Serious area major source threshold of 70 tpy (PTE) would apply. In addition to these proposed requirements, if a state seeks to revise any measure already approved into its SIP for a nonattainment area for the 1997 annual $PM_{2.5}$ NAAQS, the state must meet the requirements of sections 110(l) and 193, if applicable.

The EPA notes that Option 2 for 2012 attainment/1997 nonattainment would

[329] Areas that do not have adequate or approved motor vehicle emissions budgets for the 1997 annual $PM_{2.5}$ NAAQS or the 2006 24-hour $PM_{2.5}$ NAAQS would use one of the two interim emissions tests required by 40 CFR 93.109(c)(3) and 40 CFR 93.119(b).

[330] Although section 51.905(a) specified that the anti-backsliding requirements ''attached'' at the time of designation for the 1997 ozone NAAQS, areas were still able to redesignate to attainment for the 1-hour ozone NAAQS up to the date of revocation of that standard.

be similar to the approach to revocation of the 1-hour ozone NAAQS consistent with court decisions and the approach to revocation of the 1997 ozone NAAQS in the final 2008 ozone NAAQS SIP requirements rule.[331] The EPA also notes that areas designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS would be required to comply with applicable conformity requirements beginning 1 year after the effective date of designations for that NAAQS. For transportation conformity purposes these requirements would include using adequate or approved motor vehicle emissions budgets for the 1997 annual $PM_{2.5}$ NAAQS where they exist until the area has approved or adequate budgets for the 2012 primary annual $PM_{2.5}$ NAAQS.[332] The use of such budgets serves as the appropriate anti-backsliding measure for transportation conformity purposes. Further details regarding this option and associated rationale are in Section X.D of this preamble.

Lastly, the EPA requests comment on the possible approach of not revoking the 1997 primary annual $PM_{2.5}$ NAAQS at this time. Under this concept, the EPA would not revoke the 1997 primary annual $PM_{2.5}$ NAAQS for any purpose at this time. As a result, all nonattainment and maintenance areas would be required to continue planning activities associated with the 1997 annual $PM_{2.5}$ NAAQS such as submitting attainment SIPs and maintenance plans, NNSR, and transportation and general conformity requirements for the 1997 primary annual $PM_{2.5}$ NAAQS, in addition to any new requirements associated with the more health-protective 2012 primary annual $PM_{2.5}$ NAAQS. Under this approach the EPA would not have to establish any anti-backsliding requirements.

The EPA again notes that if this approach were finalized it would be the first time that the EPA has not taken some action to reduce the burden associated with implementing a NAAQS that has been replaced with a more stringent NAAQS.[333] If the EPA were to finalize this approach, it would result in state and local agencies being required to implement the requirements associated with two primary annual $PM_{2.5}$ NAAQS. These agencies would be required to continue attainment planning activities for the 1997 primary annual $PM_{2.5}$ NAAQS even if they had air quality data that resulted in their being designated attainment for the 2012 primary annual $PM_{2.5}$ NAAQS. State, local and federal agencies would be required to continue to make transportation and general conformity determinations for the less protective 1997 primary annual $PM_{2.5}$ NAAQS.

*D. Discussion of Options*

Until the 1997 primary annual $PM_{2.5}$ NAAQS is revoked, that NAAQS remains in effect, in parallel with the 2012 primary annual $PM_{2.5}$ NAAQS, and continues to apply independently and by its own terms. The EPA believes that all of the proposed options to revoke the 1997 primary annual $PM_{2.5}$ NAAQS are consistent with the CAA and previous precedent in transitioning from a previous NAAQS to a new, more stringent NAAQS, and would ensure that attainment areas continue to attain the revoked NAAQS into the future. If the 1997 primary annual $PM_{2.5}$ NAAQS is revoked, the EPA is proposing that the anti-backsliding requirements for the 1997 primary annual $PM_{2.5}$ NAAQS, as proposed in this rulemaking, will become applicable. However, the EPA notes that most of the areas that were initially designated as nonattainment for the 1997 primary annual $PM_{2.5}$ NAAQS where the NAAQS would be revoked have already been redesignated to attainment (*i.e.,* they are maintenance areas) or could qualify for redesignation based on current air quality data, and in such cases their approved maintenance plan for the 1997 primary annual $PM_{2.5}$ would prevent backsliding.[334] Under Option 2 there would be a limited number of nonattainment areas where the 1997 primary annual NAAQS would be revoked and where anti-backsliding measures would be required. Under all of the proposed options, conformity would apply in areas that are designated nonattainment for the more health protective 2012 primary annual $PM_{2.5}$ NAAQS. In the case of transportation conformity, adequate or approved motor vehicle emissions budgets for the 1997 primary annual $PM_{2.5}$ NAAQS would be used in conformity determinations until motor vehicle emissions budgets for the 2012 primary annual $PM_{2.5}$ NAAQS are found adequate or are approved. Once a NAAQS is revoked in a nonattainment area, the EPA would not designate or redesignate areas for that NAAQS after the revocation of that NAAQS except as described in Option 1. The extent of continued implementation of a revoked standard derives from administration of anti-backsliding requirements for that standard.

Under Option 1, the 1997 primary annual $PM_{2.5}$ NAAQS would be revoked only in areas that have attained the 1997 annual $PM_{2.5}$ NAAQS and have been redesignated to attainment with an approved section 175A maintenance plan for the 1997 primary annual $PM_{2.5}$ NAAQS; under Option 2, many of the areas where the 1997 primary annual NAAQS would be revoked would have been redesignated to attainment with an approved maintenance plan. The EPA also anticipates that states will continue to request that areas be redesignated to attainment and the EPA will continue to act on those requests under Option 2. As a result the EPA anticipates that a number of such requests will be approved prior to the point in time that the EPA has proposed for the revocations to become effective (*i.e.,* 1 year after the effective date of designations for the 2012 primary annual $PM_{2.5}$ NAAQS). Therefore, the number of nonattainment areas for the 1997 primary annual $PM_{2.5}$ NAAQS will continue to decrease and fewer areas will be required to comply with anti-backsliding requirements, and a correspondingly larger number of areas will be required to continue to implement their approved section 175A maintenance plan for the 1997 primary annual $PM_{2.5}$ NAAQS.

It should also be noted that, for either proposed option, after the effective date of any revocation of the 1997 primary annual $PM_{2.5}$ NAAQS, transportation and general conformity determinations would continue to be required in areas that are designated nonattainment for the 1997 secondary annual $PM_{2.5}$ NAAQS until such areas are redesignated to attainment pursuant to the requirements of section 107(d)(3). Areas that are initially designated as nonattainment for the 2012 primary annual NAAQS are subject to transportation and general conformity requirements after the end of the grace period that ends 1 year after the effective date of designations for the 2012 primary annual $PM_{2.5}$ NAAQS. *See* further information for how conformity will be implemented for the 2012 $PM_{2.5}$ NAAQS in Section IX.B of this preamble. Under Options 1 and 2 the

[331] *See* the final SIP requirements rule for the 2008 ozone NAAQS at *http://www.epa.gov/groundlevelozone/implement.*

[332] Areas that do not have adequate or approved motor vehicle emissions budgets for the 1997 annual $PM_{2.5}$ NAAQS or the 2006 24-hour $PM_{2.5}$ NAAQS would use one of the two interim emissions tests required by 40 CFR 93.109(c)(3) and 40 CFR 93.119(b).

[333] As discussed in Section IX.B of this preamble, the EPA has taken action to revoke previous ozone, $SO_2$ and lead NAAQS when the previous NAAQS has been revised.

[334] Based on 2011–13 air quality data, many of the areas that were initially designated nonattainment for the 1997 annual $PM_{2.5}$ NAAQS will have already met the 1997 annual $PM_{2.5}$ NAAQS and will have been redesignated to attainment by the time it is revoked (projected to be in or around April 2016), and thus after revocation of the 1997 primary annual $PM_{2.5}$ NAAQS, the number of areas with 1997 anti-backsliding requirements will be correspondingly reduced.

timing that the EPA is proposing means that any area that was previously a 1997 annual $PM_{2.5}$ NAAQS nonattainment area, but has been redesignated to attainment for the 1997 annual $PM_{2.5}$ NAAQS by the time of revocation of the 1997 primary annual $PM_{2.5}$ NAAQS (*e.g.,* April 2016 for most areas), will not be subject to the anti-backsliding requirements for the 1997 annual $PM_{2.5}$ NAAQS. This is because when an area has been redesignated to attainment for a $PM_{2.5}$ NAAQS while that NAAQS is in effect, it has fulfilled all applicable requirements for that NAAQS, including applicable anti-backsliding requirements for the 1997 annual $PM_{2.5}$ NAAQS. The area is, therefore, not subject to anti-backsliding requirements for the revoked 1997 primary annual $PM_{2.5}$ NAAQS. These areas are required instead to implement their approved CAA section 175A maintenance plan for the 1997 primary annual $PM_{2.5}$ NAAQS and implement a PSD program for this NAAQS, if they are designated attainment for the 2012 primary annual $PM_{2.5}$ NAAQS.[335] [336] Revisions to the approved maintenance plan can only be made if the revisions meet the requirements of section 110(l) and, if applicable, section 193. The EPA proposes that these areas not be required to submit a second 10-year maintenance plan for the 1997 primary annual $PM_{2.5}$ NAAQS because there is no justification for additional maintenance plan burdens to be imposed on these areas solely because at one time they were designated nonattainment under the revoked 1997 primary annual $PM_{2.5}$ NAAQS. Not requiring a second 10-year maintenance plan for these areas would help to minimize the burden associated with preparing SIPs for a succession of NAAQS of increasing stringency.

As explained previously, for areas redesignated to attainment under Options 1 and 2, the section 175A maintenance plan for the 1997 primary annual $PM_{2.5}$ NAAQS satisfies the anti-backsliding requirements of these areas. The EPA believes that for these areas any further 110(a)(1) maintenance plan requirement under the 2012 primary annual $PM_{2.5}$ NAAQS for areas designated attainment for that NAAQS would be unnecessarily burdensome.

For Option 2, the EPA is applying a general principle to apply transition requirements depending on how the area is designated—attainment or nonattainment—for the 2012 primary annual $PM_{2.5}$ NAAQS, while taking into account the area's status with respect to the 1997 primary annual $PM_{2.5}$ NAAQS. For those areas which have already incorporated measures into their approved SIPs that satisfy the nonattainment requirements for that standard, section 110(l) functions to require continued implementation of such measures unless revised in accordance with its provisions.

Under Option 2, the EPA is proposing as one alternative that areas designated attainment for the 2012 primary annual $PM_{2.5}$ NAAQS and nonattainment for the 1997 annual $PM_{2.5}$ NAAQS (as of revocation of the 1997 primary annual $PM_{2.5}$ NAAQS) not be required to adopt any outstanding applicable requirements for the revoked 1997 primary annual standard. This approach is similar to the approach followed in the transition from the 1-hour ozone NAAQS to the 1997 ozone NAAQS. However, instead of submitting a maintenance plan the EPA is also proposing that the approved PSD SIPs for these areas satisfy the obligation to submit an approvable maintenance plan for the 2012 primary annual $PM_{2.5}$ NAAQS under section 110(a)(1). This is similar to what the EPA finalized for the transition from the 1997 ozone NAAQS to the 2008 ozone NAAQS.[337] The EPA's rationale for this approach is as follows: Areas designated attainment for the 2012 primary annual $PM_{2.5}$ NAAQS and nonattainment for the 1997 primary annual $PM_{2.5}$ NAAQS (as of revocation of the 1997 primary annual $PM_{2.5}$ NAAQS) have already attained the most stringent existing standard. These areas thus have developed nonattainment plans that in combination with federal measures and emissions controls in upwind areas have produced sufficient emissions reductions to achieve the more protective 2012 primary annual $PM_{2.5}$ NAAQS. They remain subject to the 1997 nonattainment area requirements already approved into the SIP, which can be revised only upon a showing that such revision is consistent with sections 110(l) and 193, if applicable. At this time, and given the succession of NAAQS of increasing stringency that has occurred, the EPA believes that the burden of developing an approvable maintenance plan for the 2012 primary annual $PM_{2.5}$ NAAQS would outweigh any compensating benefit for an area that is already attaining that more stringent NAAQS and that is subject to prior nonattainment requirements which are already incorporated into the SIP.

Under Option 2, the EPA is also proposing, for areas that are attainment for the 2012 primary annual $PM_{2.5}$ NAAQS, that the NNSR anti-backsliding requirement(s) for the 1997 annual $PM_{2.5}$ NAAQS cease to apply, since PSD will then be in effect. The state may request that the corresponding NSR requirements be removed entirely, rather than be retained in the SIP as a maintenance plan contingency measure.[338] Areas that are designated nonattainment for the more stringent 2012 primary annual $PM_{2.5}$ NAAQS will be subject to NNSR and other nonattainment requirements for their classification under the more stringent 2012 primary annual $PM_{2.5}$ NAAQS.

The revocation of the 1-hour ozone NAAQS and the associated anti-backsliding provisions were the subject of past litigation. In its December 2006 decision on that challenge, as modified following rehearing, the Court held with respect to the anti-backsliding approach for conformity that 1-hour ozone motor vehicle emissions budgets must be used in transportation conformity determinations for the more protective 1997 ozone NAAQS where such SIP motor vehicle emissions budgets have been found adequate or approved, until SIP motor vehicle emissions budgets for the 1997 ozone NAAQS are available.[339] In addition, the Court affirmed more broadly that in order for transportation conformity determinations to fulfill the requirements of CAA section 176(c)(1), motor vehicle emissions budgets for a prior NAAQS must be used in transportation conformity determinations under a revised NAAQS until emissions budgets for the revised NAAQS are either found adequate or are approved, but that conformity determinations need not be made for a revoked standard. Therefore, areas designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS that have adequate or approved SIP budgets for the 1997 annual $PM_{2.5}$ NAAQS must continue to use such budgets in transportation conformity determinations until budgets for the

[335] Areas initially designated as attainment for the 1997 annual $PM_{2.5}$ NAAQS would also be required to continue to implement a PSD program unless an area was designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS. Such an area would be required to implement a NNSR program for that NAAQS.

[336] Areas designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS would implement a NNSR program for that NAAQS.

[337] *See* the the final SIP requirements rule for the 2008 ozone NAAQS at *http://www.epa.gov/groundlevelozone/implement.html.*

[338] *See* 40 CFR 51.905(a)(3), the comparable provision for transitions from the 1-hour NAAQS to the 1997 ozone NAAQS, which allows such areas to request that the 1-hour NNSR provisions be removed from the SIP.

[339] *See South Coast Air Quality Management District* v. *EPA,* 472 F.3d at 882 (D.C. Cir. 2006).

2012 primary annual $PM_{2.5}$ NAAQS are found adequate or are approved.[340]

With regard to general conformity, the D.C. Circuit Court did not address the need for specific anti-backsliding measures in its initial decision or in the modified decision on the *South Coast* litigation. Therefore, if the EPA finalizes either Option 1 or 2 and revokes the 1997 primary annual $PM_{2.5}$ NAAQS, general conformity determinations will be required in nonattainment areas for the 2012 primary annual NAAQS as required by section 176(c)(5) to ensure that the action of federal agencies do not cause a violation of that NAAQS, make an existing violation worse or delay timely attainment of the NAAQS or an interim milestone.[341] The EPA believes that revoking the 1997 primary annual $PM_{2.5}$ NAAQS under Option 1 or 2 is logical because it would result in only one primary annual $PM_{2.5}$ NAAQS—the 2012 primary annual $PM_{2.5}$ NAAQS—applying for purposes of transportation and general conformity in most areas, after the end of the 1-year conformity grace period that applies to newly designated nonattainment areas. (CAA section 176(c)(6)).

Areas that are attaining the more health protective 2012 primary annual $PM_{2.5}$ NAAQS would no longer have to expend resources to make conformity determinations for any of the current primary annual $PM_{2.5}$ NAAQS after the 1997 primary annual $PM_{2.5}$ NAAQS is revoked and the area is redesignated as attainment for the 1997 secondary annual $PM_{2.5}$ NAAQS. Some of these areas would be required to continue to make conformity determinations for the 2006 24-hour $PM_{2.5}$ NAAQS and based on 2011–13 air quality data two areas would be required to make conformity determinations for the 1997 24-hour $PM_{2.5}$ NAAQS. It should be noted that any areas that are attaining the more health protective 2012 primary annual NAAQS are also necessarily attaining the less stringent 1997 annual $PM_{2.5}$ NAAQS by a wide margin. Therefore, the options of this proposal would provide a seamless transition from demonstrating conformity for the 1997 annual $PM_{2.5}$ NAAQS to demonstrating conformity for the more stringent 2012 primary annual $PM_{2.5}$ NAAQS.

Areas designated nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS will likely need the full 1-year grace period provided in section 176(c)(6) to complete the required initial transportation conformity determination. Those areas that were designated as either nonattainment or maintenance for the 1997 annual $PM_{2.5}$ NAAQS at the time of designation as nonattainment for the 2012 primary annual $PM_{2.5}$ NAAQS will need certainty as to the specific requirements for that conformity determination. For example they need to know what analysis years must be addressed and, if the boundaries for the $PM_{2.5}$ NAAQS are different, they need to know whether to address conformity for both areas and which test or tests would apply.

The EPA seeks comment on the options proposed in the preceding discussion regarding revoking the 1997 primary annual $PM_{2.5}$ standard, as well as on whether the agency should take no action to revoke the standard as this time.

## XI. Environmental Justice Considerations

The EPA believes the human health or environmental risk addressed by this action will not have disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it would not negatively affect the level of protection provided to human health or the environment under the $PM_{2.5}$ NAAQS. When promulgated, these proposed regulations will clarify the state implementation plan requirements and the NNSR permitting requirements to be met by states in order to attain the $PM_{2.5}$ NAAQS as expeditiously as practicable. These requirements are designed to protect all segments of the general population. The EPA included specific discussion in this preamble about actions that could be considered for the protection of minority, low-income or indigenous populations in Section IV.D.6 on Moderate area attainment plan control strategies; Section VI.D.7 on Serious area attainment plan control strategies; and Section IX.G, measures to ensure appropriate protections for overburdened populations. In addition, as part of the consultation activities conducted in developing this rule, the EPA participated in training and outreach activities with representatives from environmental justice organizations in a March 2014 conference held in Research Triangle Park, NC titled, ''Clean Air Act Rulemaking and Permitting Training for EJ Communities.'' These proposed regulations are designed to protect and enhance the health and safety of these and other populations, and they will not adversely affect the health or safety of minority, low-income or indigenous populations.

## XII. Statutory and Executive Order Reviews

### *A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review*

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review because it raises novel policy issues. Any changes made in response to OMB recommendations have been documented in the docket.[342]

### *B. Paperwork Reduction Act (PRA)*

The information collection activities in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the PRA. The Information Collection Request (ICR) document prepared by the EPA has been assigned the EPA ICR number 2258.03, OMB Control No. 2060–0611. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

The EPA is proposing this $PM_{2.5}$ NAAQS SIP Requirements Rule to describe the CAA requirements that must be met by states with nonattainment areas required to develop attainment plans for attaining and maintaining the NAAQS. The intended effect of the SIP Requirements Rule is to provide certainty to states regarding their planning obligations such that states may begin SIP development. Only states with nonattainment areas are required to submit SIPs under this rule.

For purposes of analysis of the estimated paperwork burden, the EPA assumed there were 21 existing nonattainment areas for the 1997 and 2006 $PM_{2.5}$ NAAQS, and 15 hypothetical, newly-designated nonattainment areas.[343] The attainment

[340] Areas that do not have adequate or approved motor vehicle emissions budgets for the 1997 annual $PM_{2.5}$ NAAQS or the 2006 24-hour $PM_{2.5}$ NAAQS would use one of the two interim emissions tests requied by 40 CFR 93.109(c)(3) and 40 CRR 93.119(b).

[341] It should be noted that some areas will remain designated nonattainment for 1997 secondary annual $PM_{2.5}$ NAAQS. Such areas will remain subject to transportation and general conformity for that NAAQS until such time that they are redesignated to attainment for that NAAQS pursuant to the requirements of section 107(d)(3).

[342] Note that a regulatory impact analysis evaluating the costs and benefits associated with attaining the 2012 $PM_{2.5}$ NAAQS was released at the time the NAAQS review was finalized. *See* ''Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.'' U.S. Environmental Protection Agency, Office of Air Quality and Planning Standards, Health and Environmental Impacts Division, February 28, 2013. EPA–452/R–12–005.

[343] These hypothetical nonattainment areas were developed based on 2010–12 air quality data and state recommendations. Actual nonattainment designations and boundaries are based on the most recent, complete air quality data available.

plan requirements would appear as 40 CFR 51.1000 through 51.1015 which implement CAA subsections 172(c)(1) and (2), and 189(a)(1)(B) and (C), 189(b)(1)(A) and (B) and 189(c). Some states have new nonattainment areas and some states should already have information from emission sources, as facilities should have provided this information to meet 1997 and 2006 $PM_{2.5}$ NAAQS SIP requirements, operating permits and/or emissions reporting requirements. Such information does not generally reveal the details of production processes. But, to the extent it may, confidential business information for the affected facilities is protected. Specifically, submissions of emissions and control efficiency information that is confidential, proprietary and trade secret and is not emission data is protected from disclosure under the requirements of subsections 503(e) and 114(c) of the CAA.

The annual state burden for this information collection for the 15 hypothetical newly designated 2012 $PM_{2.5}$ nonattainment areas, averaged over the first 3 years of this ICR, is estimated to be a total of 54,000 labor hours per year at an annual labor cost of $3.2 million (present value) over the 3-year period, or approximately $649,000 per state for the 5 state respondents. The average annual reporting burden is approximately 3,600 hours per response, with approximately 3 responses per state for 15 state responses. There are no capital or operating and maintenance costs associated with the proposed rule requirements. Burden is defined at 5 CFR 1320.3(b).

The annual state burden for this information collection for the 21 existing nonattainment areas for the 1997 and 2006 $PM_{2.5}$ NAAQS, averaged over the first 3 years of this ICR, is estimated to be a total of 43,400 labor hours per year at an annual labor cost of $2.6 million (present value) over the 3-year period, or approximately $370,000 per state for the 7 state respondents. The average annual reporting burden is approximately 2,000 hours per response, with approximately 3 responses per state for 21 state responses. There are no capital or operating and maintenance costs associated with the proposed rule requirements. Burden is defined at 5 CFR 1320.3(b).

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 the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to *oria_submissions@omb.eop.gov*, Attention: Desk Officer for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than April 22, 2015. The EPA will respond to any ICR-related comments in the final rule.

*C. Regulatory Flexibility Act*

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any regulation subject to notice-and-comment rulemaking requirements under the Administrative Procedures Act or any other statute unless the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations and small governmental jurisdictions.

For purposes of assessing the impacts of this rule on small entities, small entity is defined as: (1) A small business as defined in the Small Business Administration's (SBA) 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 this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed rule will not impose any requirements directly on small entities. Entities potentially affected directly by this proposal include state, local and tribal governments and none of these governments are small governments. Other types of small entities are not directly subject to the requirements of this rule. The EPA continues to be interested in the potential impacts of the proposed rule on small entities and welcomes comments on issues related to such impacts.

*D. Unfunded Mandates Reform Act (UMRA)*

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local or tribal governments or the private sector. The CAA imposes the obligation for states to submit attainment plans to implement the $PM_{2.5}$ NAAQS. In this rule, the EPA is clarifying those requirements. Therefore, this action is not subject to the requirements of sections 202, 203, and 205 of the UMRA.

*E. Executive Order 13132: Federalism*

This action 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 requirement to submit attainment plans to meet a $PM_{2.5}$ NAAQS is imposed by the CAA. This proposed rule, if made final, would interpret those requirements as they apply to current and future $PM_{2.5}$ NAAQS. Thus, Executive Order 13132 does not apply to these proposed regulations.

In the spirit of Executive Order 13132 and consistent with the EPA policy to promote communications between the EPA and state and local governments, the EPA specifically solicits comments on this proposed action from state and local officials. In addition, the EPA intends to meet with organizations representing state and local officials during the comment period for this action.

*F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments*

This proposed action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It would not have a substantial direct effect on one or more Indian tribes. Furthermore, these proposed regulation revisions do 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 characterizing air quality and developing plans to attain the NAAQS, and these revisions to the regulations do nothing to modify that

relationship. Thus, Executive Order 13175 does not apply to this action.

Although Executive Order 13175 does not apply to this action, the EPA solicits comment on this proposed action from tribal officials. The EPA also intends to offer to consult with any tribal government to discuss this proposal.

*G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks*

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because it implements a previously promulgated health or safety-based federal standard established pursuant to the CAA.

These proposed regulatory provisions are designed to help implement the current and future $PM_{2.5}$ NAAQS, promulgated to protect the health and welfare of individuals, including children, who are susceptible to the adverse effects of exposure to unhealthy levels of ambient $PM_{2.5}$.

*H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use*

This action is not a ''significant energy action'' as defined in Executive Order 13211 (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.

*I. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104–113, section 12(d) (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards 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 voluntary consensus standards bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the agency decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, the EPA is not considering the use of any voluntary consensus standards.

*J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations*

The EPA believes the human health or environmental risk addressed by this action will not have disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations. The results of this evaluation are contained in Section XI of this preamble.

*K. Determination Under Section 307(d)*

Pursuant to sections 307(d)(1)(E) and 307(d)(1)(V) of the CAA, the Administrator proposes to determine that this action is subject to the provisions of section 307(d). Under section 307(d)(1)(V), the provisions of section 307(d) apply to ''such other actions as the Administrator may determine.''

**Statutory Authority**

The statutory authority for this action is provided by 42 U.S.C. 7403, 7407, 7410, and 7601.

**List of Subjects**

*40 CFR Part 50*

Environmental protection, Air pollution control, Intergovernmental relations, Particulate matter.

*40 CFR Part 51*

Environmental protection, Air pollution control, Intergovernmental relations, Particulate matter.

*40 CFR Part 93*

Environmental protection, Air pollution control, Intergovernmental relations, Particulate matter.

Dated: March 10, 2015.

**Gina McCarthy,**

*Administrator.*

For the reasons stated in the preamble, Title 40, Chapter I of the Code of Federal Regulations is proposed to be amended as follows:

## PART 50—NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS

■ 1. The authority citation for part 50 continues to read as follows:

**Authority:** 42 U.S.C. 7401, *et seq.*

■ 2. In § 50.13, add paragraph (d) to read as follows:

### § 50.13 National primary and secondary ambient air quality standards for $PM_{2.5}$.

* * * * *

(d) The standards set forth in this section will remain applicable to all areas notwithstanding the promulgation of the 2012 primary annual $PM_{2.5}$ national ambient air quality standards (NAAQS) in § 50.18. The 1997 primary annual $PM_{2.5}$ NAAQS set forth in this section will no longer apply to an area 1 year after the effective date of the designation of that area, pursuant to section 107 of the Clean Air Act, for the primary annual $PM_{2.5}$ NAAQS set forth in § 50.18; except that for areas designated nonattainment for the 1997 annual $PM_{2.5}$ NAAQS set forth in this section as of 1 year after the effective date of the designations for the primary annual $PM_{2.5}$ NAAQS established in § 50.18, the requirements applicable to the 1997 annual $PM_{2.5}$ NAAQS set forth in this section will apply until the effective date of an area's redesignation to attainment for the 1997 annual NAAQS pursuant to the requirements of section 107 of the Clean Air Act. The 1997 secondary annual $PM_{2.5}$ NAAQS and the 1997 24-hour $PM_{2.5}$ NAAQS shall remain in effect.

## PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

■ 3. 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—Review of New Sources and Modifications

■ 4. In § 51.165:

■ a. Revise paragraphs (a)(1)(iv)(A)(*1*), (a)(1)(x)(A), and (a)(1)(xxxvii)(C)(*2*);

■ b. Remove paragraphs (a)(1)(xxxvii)(C)(*3*), and (*4*); and

■ d. Revise paragraphs (a)(2)(i) and (a)(2)(ii)(A).

The revisions read as follows:

### § 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 (as defined in paragraph (a)(1)(xxxvii) of this section), 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 (*viii*) 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 $PM_{10}$.

*(vii)* 70 tons per year of $PM_{2.5}$ in any serious nonattainment area for $PM_{2.5}$.

*(viii)* 70 tons per year of any precursor for $PM_{2.5}$ in any serious nonattainment area for $PM_{2.5}$.

* * * * *

(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 nitrogen oxides
Lead: 0.6 tpy
$PM_{10}$: 15 tpy
$PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions; 40 tpy of VOC emissions;

* * * * *

(xxxvii) * * *

(C) * * *

(*2*) Sulfur dioxide, nitrogen oxides, volatile organic compounds and ammonia are precursors to $PM_{2.5}$ in any $PM_{2.5}$ nonattainment area, unless the State demonstrates to the Administrator's satisfaction or the EPA demonstrates that major stationary sources of a particular precursor do not contribute significantly to $PM_{2.5}$ levels that exceed the $PM_{2.5}$ ambient standards in a particular area.

* * * * *

(2) *Applicability procedures.* (i) Each plan shall adopt a preconstruction review program to satisfy the requirements of sections 172(c)(5) and 173 of the Act for any area designated nonattainment for any national ambient air quality standard under subpart C of 40 CFR part 81. Such a program shall apply to any new major stationary source or major modification that is major for the pollutant (as defined in paragraph (a)(1)(xxxvii) of this section) for which the area is designated nonattainment under section 107(d)(1)(A)(i) of the Act, if the stationary source or modification would locate anywhere in the designated nonattainment area. Different pollutants, including individual precursors, are not summed to determine applicability of a major stationary source or major modification.

(ii) * * *

(A) Except as otherwise provided in paragraphs (a)(2)(iii) and (iv) of this section, and consistent with the definition of major modification contained in paragraph (a)(1)(v)(A) of this section, a project is a major modification for a regulated NSR pollutant (as defined in paragraph (a)(1)(xxxvii) of this section), if it causes two types of emissions increases—a significant emissions increase (as defined in paragraph (a)(1)(xxvii) of this section), and a significant net emissions increase (as defined in paragraphs (a)(1)(vi) and (x) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

* * * * *

■ 5. In Appendix S to part 51:

■ a. Revise paragraph II.A.4.(i)(*a*) introductory text;

■ b. Add paragraphs II.A.4.(*a*)(*7*) and (*8*); and

■ c. Revise paragraphs II.A.10.(i) and II.A.31.(ii)(*b*)(*2*).

The revisions and addition read as follows:

**Appendix S to Part 51—Emission Offset Interpretative Ruling**

* * * * *

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 a regulated NSR pollutant (as defined in paragraph II.A.31 of this Ruling), 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.

* * * * *

*(7)* 70 tons per year of $PM_{2.5}$ in any serious nonattainment area for $PM_{2.5}$.

(*8*) 70 tons per year of any $PM_{2.5}$ precursor (as defined in paragraph II.A.31 of this Ruling) in any Serious nonattainment area for $PM_{2.5}$.

* * * * *

10. (i) *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 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 nitrogen oxides
Lead: 0.6 tpy
Particulate matter: 25 tpy of particulate matter emissions
$PM_{10}$: 15 tpy
$PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxides emissions

* * * * *

31. * * *

(ii) * * *

(*b*) * * *

(*2*) Sulfur dioxide and nitrogen oxides are precursors to $PM_{2.5}$ in all $PM_{2.5}$ nonattainment areas.

* * * * *

■ 6. Revise subpart Z to read as follows:

## Subpart Z—Provisions for Implementation of $PM_{2.5}$ National Ambient Air Quality Standards

Sec.

51.1000 Definitions.
51.1001 Applicability of part 51.
51.1002 Classifications.
51.1003 Attainment plan submittals and due dates.
51.1004 Attainment dates.
51.1005 Attainment date extensions.
51.1006 Requirements for demonstrating insignificant contribution of $PM_{2.5}$ precursors.
51.1007 Requirements for *de minimis* source category determinations for direct $PM_{2.5}$ and $PM_{2.5}$ precursors.
51.1008 Emissions inventory requirements.
51.1009 Moderate area attainment plan control strategy requirements.
51.1010 Serious area attainment plan control strategy requirements.
51.1011 Attainment demonstration and modeling requirements.
51.1012 Reasonable further progress (RFP) requirements.
51.1013 Quantitative milestone requirements.
51.1014 Contingency measures requirements.
51.1015 Clean data requirements.

### § 51.1000 Definitions.

The following definitions apply for purposes of this subpart. Any term not defined herein shall have the meaning as defined in 40 CFR 51.100 or Clean Air Act section 302.

*Act* means the Clean Air Act as codified at 42 U.S.C. 7401–7671q (2003).

*Additional feasible measure* is any control measure that otherwise meets the definition of ''best available control measure'' (BACM) but can only be implemented in whole or in part beginning 4 years after the date of reclassification of an area as Serious and no later than the statutory attainment date for the area.

*Additional reasonable measure* is any control measure that otherwise meets the definition of ''reasonably available control measure'' (RACM) but can only be implemented in whole or in part during the period beginning 4 years after the date of designation of a nonattainment area and no later than the end of the sixth calendar year following the date of designation of the area.

*Applicable annual standard* is the annual $PM_{2.5}$ NAAQS established, revised, or retained as a result of a particular $PM_{2.5}$ NAAQS review.

*Applicable attainment date* means the latest statutory date by which an area is required to attain a particular $PM_{2.5}$ NAAQS, unless EPA has approved an attainment plan for the area to attain such NAAQS, in which case the applicable attainment date is the date approved under such attainment plan. If EPA grants an extension of an approved attainment date, then the applicable attainment date for the area shall be the extended date.

*Applicable 24-hour standard* is the 24-hour $PM_{2.5}$ NAAQS established, revised, or retained as a result of a particular $PM_{2.5}$ NAAQS review.

*Attainment projected inventory* means the projected emissions of direct $PM_{2.5}$ and all $PM_{2.5}$ precursors from sources included in the base year inventory, and from any additional sources of such emissions expected within the boundaries of the nonattainment area by the projected attainment date for the area.

*Base year inventory* means the actual emissions of direct $PM_{2.5}$ and all $PM_{2.5}$ precursors from all sources within the boundaries of a nonattainment area in one of the 3 years used for purposes of designations or another technically appropriate year.

*Benchmark RFP analysis* means the analysis submitted as part of the RFP plan for a $PM_{2.5}$ nonattainment area that requires generally linear emissions reductions in direct $PM_{2.5}$ and in each $PM_{2.5}$ precursor from the base year through the projected attainment year.

*Best available control measure* (BACM) is any technologically and economically feasible control measure that can be implemented in whole or in part within 4 years after the date of reclassification of a $PM_{2.5}$ nonattainment area and that generally can achieve greater permanent and enforceable emissions reductions in direct $PM_{2.5}$ emissions and/or emissions of $PM_{2.5}$ precursors from sources in the area than can be achieved through the implementation of RACM on the same source(s). BACM includes best available control technology (BACT).

*Date of designation* means the effective date of a $PM_{2.5}$ area designation as promulgated by the Administrator.

*Date of reclassification* means the effective date of a $PM_{2.5}$ area reclassification from Moderate to Serious as promulgated by the Administrator.

*Direct $PM_{2.5}$ emissions* means solid particles emitted directly from an air emissions source or activity, or gaseous emissions or liquid droplets from an air emissions source or activity which condense to form particulate matter at ambient temperatures. Direct $PM_{2.5}$ emissions include filterable and condensable $PM_{2.5}$ emissions composed of elemental carbon, directly emitted organic carbon, directly emitted sulfate, directly emitted nitrate, and other inorganic particles (including but not limited to crustal material, metals, and sea salt).

*Existing control measure* means any federally enforceable national, state, or local control measure that results in reductions in direct $PM_{2.5}$ emissions or emissions of $PM_{2.5}$ precursors in a nonattainment area in that state.

*Implemented* means adopted by the state and fully approved into the SIP by EPA for the nonattainment area; built, installed, and/or otherwise physically manifested; and, fully complied with by the affected sources.

*Most stringent measure* (MSM) is any permanent and enforceable control measure that achieves the most stringent emissions reductions in direct $PM_{2.5}$ emissions and/or emissions of $PM_{2.5}$ precursors from among those control measures which are either included in any other SIP for any NAAQS or have been achieved in practice by any state and that can feasibly be implemented in the relevant $PM_{2.5}$ NAAQS nonattainment area.

*$PM_{2.5}$ design value* (DV) for a $PM_{2.5}$ nonattainment area is the highest of the three-year average concentrations calculated for the ambient air quality monitors in the area, in accordance with 40 CFR part 50, appendix N.

*$PM_{2.5}$ NAAQS* are the fine particulate matter National Ambient Air Quality Standards codified at 40 CFR part 50.

*$PM_{2.5}$ precursors* are sulfur dioxide ($SO_2$), oxides of nitrogen ($NO_X$), volatile organic compounds (VOC), and ammonia ($NH_3$).

*Reasonably available control measure* (RACM) is any technologically and economically feasible measure that can be implemented in whole or in part within 4 years after the date of designation of a $PM_{2.5}$ nonattainment area and that achieves permanent and enforceable reductions in direct $PM_{2.5}$ emissions and/or $PM_{2.5}$ precursor emissions from sources in the area. RACM includes reasonably available control technology (RACT).

*Reasonable further progress* (RFP) means such annual incremental reductions in emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors regulated in the attainment plan as are required for the purpose of ensuring attainment of the applicable $PM_{2.5}$ NAAQS in a nonattainment area by the applicable attainment date.

*Subpart 1* means subpart 1 of part D of title I of the Act.

*Subpart 4* means subpart 4 of part D of title I of the Act.

**§ 51.1001 Applicability of part 51.**

The provisions in subparts A through X of this part apply to areas for purposes of the $PM_{2.5}$ NAAQS to the extent they are not inconsistent with the provisions of this subpart.

**§ 51.1002 Classifications.**

(a) *Initial classification as Moderate $PM_{2.5}$ nonattainment area.* Any area designated nonattainment for a $PM_{2.5}$ NAAQS shall be classified at the time of such designation, by operation of law, as a Moderate $PM_{2.5}$ nonattainment area.

(b) *Reclassification as Serious $PM_{2.5}$ nonattainment area.* A Moderate nonattainment area shall be reclassified to Serious under the following circumstances:

(1) The EPA shall reclassify as Serious through notice-and-comment rulemaking any Moderate $PM_{2.5}$ nonattainment area that the EPA determines cannot practicably attain a particular $PM_{2.5}$ NAAQS by the applicable Moderate area attainment date.

(2) A Moderate $PM_{2.5}$ nonattainment area shall be reclassified by operation of law as a Serious nonattainment area if the EPA finds through notice-and-comment rulemaking that the area failed to attain a particular $PM_{2.5}$ NAAQS by the applicable Moderate area attainment date.

**§ 51.1003 Attainment plan submittals and due dates.**

(a) Nonattainment areas initially classified as Moderate.

(1) For any area designated as nonattainment and initially classified as Moderate for a $PM_{2.5}$ NAAQS, the

state(s) shall submit a Moderate area attainment plan that meets all of the following requirements:

(i) Emissions inventory requirements set forth at § 51.1008(a)(1);

(ii) Emissions inventory requirements set forth at § 51.1008(a)(2);

(iii) Moderate area attainment plan control strategy requirements set forth at § 51.1009;

(iv) Attainment demonstration and modeling requirements set forth at § 51.1011;

(v) Reasonable Further Progress (RFP) requirements set forth at § 51.1012;

(vi) Quantitative milestone requirements set forth at § 51.1013;

(vii) Contingency measure requirements set forth at § 51.1014; and,

(viii) Nonattainment new source review plan requirements pursuant to section 189(a)(1)(A) and section 172(c)(5) of the CAA.

(2) The state(s) shall submit its Moderate area attainment plan to EPA no later than 18 months from the date of designation of the area.

(b) Nonattainment areas reclassified to Serious.

(1) For any nonattainment area reclassified to Serious for a $PM_{2.5}$ NAAQS under § 51.1002(b), in addition to meeting the Moderate area attainment plan submittal requirements set forth at § 51.1003(a), the state(s) shall submit a Serious area attainment plan that meets all of the following requirements:

(i) Emissions inventory requirements set forth at § 51.1008(b)(1);

(ii) Emissions inventory requirements set forth at § 51.1008(b)(2);

(iii) Serious area attainment plan control strategy requirements set forth at § 51.1010;

(iv) Attainment demonstration and modeling requirements set forth at § 51.1011;

(v) Reasonable Further Progress (RFP) requirements set forth at § 51.1012;

(vi) Quantitative milestone requirements set forth at § 51.1013;

(vii) Contingency measure requirements set forth at § 51.1014; and,

(viii) Nonattainment new source review plan requirements pursuant to section 189(b)(3) and section 172(c)(5) of the CAA.

(2) The state(s) shall submit its Serious area attainment plan to EPA according to the following schedule:

(i) For any nonattainment area reclassified to Serious for a particular $PM_{2.5}$ NAAQS under § 51.1002(b)(1), the state(s) shall submit to EPA the portion of the Serious area attainment plan that meets the requirements set forth at paragraphs (b)(1)(i), (iii) and (viii) of this section no later than 18 months from the date of reclassification. The state(s) shall submit to EPA the portion of the Serious area attainment plan that meets the requirements set forth at paragraphs (b)(1)(ii) and (b)(1)(iv) through (vii) of this section to EPA no later than 4 years from the date of reclassification.

(ii) For any nonattainment area reclassified to Serious for a particular $PM_{2.5}$ NAAQS under § 51.1002(b)(2), the state(s) shall submit to EPA a Serious area attainment plan meeting the requirements set forth at paragraphs (b)(1)(i) through (viii) of this section no later than 18 months from the date of reclassification.

(iii) If the state(s) submits to EPA a request for a Serious area attainment date extension simultaneous with the Serious area attainment plan due under paragraph (b)(1) of this section, such a plan shall meet the most stringent measure (MSM) requirements set forth at § 51.1010(b) in addition to the BACM and BACT and additional feasible measure requirements set forth at § 51.1010(a).

(c) Serious nonattainment areas subject to CAA section 189(d) for failing to attain the $PM_{2.5}$ NAAQS by the applicable Serious area attainment date.

(1) For any Serious nonattainment area that fails to attain a particular $PM_{2.5}$ NAAQS by the applicable Serious area attainment date, the state(s) shall submit a revised Serious area attainment plan that demonstrates that the area annually will achieve at least 5 percent reductions in emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors based on the most recent emissions inventory for the area and that meets the following requirements:

(i) Emissions inventory requirements set forth at § 51.1008(c)(1);

(ii) Emissions inventory requirements set forth at § 51.1008(c)(2);

(iii) Demonstration of attainment and modeling requirements set forth at § 51.1011;

(iv) Reasonable Further Progress (RFP) requirements set forth at § 51.1012;

(v) Quantitative milestone requirements set forth at § 51.1013; and,

(vi) Contingency measure requirements set forth at § 51.1014.

(2) The state(s) shall submit to EPA the revised attainment plan meeting the requirements set forth at paragraphs (c)(1)(i) through (vi) of this section no later than 12 months from the missed applicable Serious area attainment date.

(d) Any attainment plan submitted to EPA under this section shall establish motor vehicle emissions budgets for the projected attainment year for the area, if applicable. The state shall develop such budgets according to the requirements of the transportation conformity rule as they apply to $PM_{2.5}$ nonattainment areas (40 CFR part 93).

**§ 51.1004 Attainment dates.**

(a) The state shall submit a projected attainment date as part of its attainment plan submission under § 51.1003 for any $PM_{2.5}$ NAAQS nonattainment area located in whole or in part within its boundaries. The state shall justify the projected attainment date for each such nonattainment area (or portion of a nonattainment area) as part of the demonstration of attainment developed and submitted according to the requirements set forth at § 51.1011 and according to the following:

(1) Nonattainment areas initially classified as Moderate.

(i) Except for nonattainment areas that meet the criterion under paragraph (a)(1)(ii) of this section, the projected attainment date for a Moderate $PM_{2.5}$ nonattainment area shall be as expeditious as practicable with the implementation of all control measures required under § 51.1009 and may be as late as the end of the sixth calendar year after the date of designation if the state demonstrates that the implementation of certain control measures that qualify as RACM or RACT or additional reasonable measures, but that are not necessary for demonstrating attainment by the end of the sixth calendar year after the date of designation, will not collectively advance the attainment date by at least 1 year.

(ii) The projected attainment date for a Moderate $PM_{2.5}$ nonattainment area which the state demonstrates cannot practicably attain the applicable $PM_{2.5}$ NAAQS by the end of the sixth calendar year after the date of designation of the area with the implementation of all control measures required under § 51.1009 shall be such date unless and until the area is reclassified as Serious according to § 51.1002.

(2) Nonattainment areas reclassified to Serious.

(i) Except for nonattainment areas that meet the criterion under paragraph (a)(2)(ii) of this section, the projected attainment date for a Serious $PM_{2.5}$ nonattainment area shall be as expeditious as practicable with the implementation of all control measures required under § 51.1010 but no later than the end of the tenth calendar year after the date of designation.

**[ALTERNATIVE PROPOSED REGULATORY TEXT]**

(i) Except for nonattainment areas that meet the criterion under paragraph (a)(2)(ii) of this section, the projected attainment date for a Serious $PM_{2.5}$ nonattainment area shall be as

expeditious as practicable with the implementation of all control measures required under § 51.1010 and may be as late as the end of the tenth calendar year after the date of designation if the state demonstrates that the implementation of certain control measures that qualify as BACM or BACT or additional feasible measures, but that are not necessary for demonstrating attainment by the end of the tenth calendar year after the date of designation, will not collectively advance the attainment date by at least 1 year.]

(ii) A state that submits an attainment plan that demonstrates that a Serious $PM_{2.5}$ nonattainment area cannot practicably attain the $PM_{2.5}$ NAAQS by the end of the tenth calendar year following the date of designation of the area with the implementation of all control measures required under § 51.1010(a) must request an extension of the Serious area attainment date consistent with § 51.1005(b). The request must propose a projected attainment date for the nonattainment area that is as expeditious as practicable, but no later than the end of the fifteenth calendar year from the date of designation of the area.

(3) Serious nonattainment areas subject to CAA section 189(d) for failing to attain by the applicable Serious area attainment date. The projected attainment date for a Serious $PM_{2.5}$ nonattainment area that failed to attain the $PM_{2.5}$ NAAQS by the applicable Serious area attainment date shall be as expeditious as practicable based on annual reductions in direct $PM_{2.5}$ and significant $PM_{2.5}$ precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent emissions inventory prepared for the area, but no later than 5 years following the missed Serious area attainment date.

(b) Except for attainment plans that meet the conditions of paragraphs (a)(1)(ii) or (a)(3) of this section, the Administrator shall approve an attainment date at the same time and in the same manner in which the Administrator approves the attainment plan for the area.

(1) In accordance with paragraph (a)(1)(ii) of this section, if a state demonstrates that a Moderate $PM_{2.5}$ nonattainment area cannot practicably attain the $PM_{2.5}$ NAAQS by the end of the sixth calendar year following the date of designation of the area, EPA shall proceed under the provisions of § 51.1002(b)(1) to reclassify the area to Serious through notice-and-comment rulemaking.

(2) In accordance with paragraph (a)(3) of this section, if a Serious $PM_{2.5}$ nonattainment area fails to attain the $PM_{2.5}$ NAAQS by the applicable Serious area attainment date, EPA will proceed to establish a new attainment date through a direct final action published in the **Federal Register**.

**§ 51.1005 Attainment date extensions.**

(a) Nonattainment areas initially classified as Moderate.

(1) A state with a Moderate $PM_{2.5}$ nonattainment area may apply for a 1-year attainment date extension for the area if the following conditions are met in the year preceding the applicable attainment date for the area:

(i) The state has complied with all requirements and commitments pertaining to the area in the applicable implementation plan;

(ii) For an area designated nonattainment for a particular 24-hour $PM_{2.5}$ NAAQS for which the state seeks an attainment date extension, the 98th percentile concentration at each monitor in the area for the calendar year prior to the applicable attainment date is less than or equal to the level of the applicable 24-hour standard (calculated according to the data analysis requirements in 40 CFR part 50, appendix N);

(iii) For an area designated nonattainment for a particular annual $PM_{2.5}$ NAAQS for which the state seeks an attainment date extension, the annual average concentration at each monitor in the area for the calendar year prior to the applicable attainment date is less than or equal to the level of the applicable annual standard (calculated according to the data analysis requirements in 40 CFR part 50, appendix N).

(2) The applicable implementation plan for a Moderate $PM_{2.5}$ nonattainment area for which a state seeks an attainment date extension is the plan submitted to EPA to meet the requirements of § 51.1003(a).

(3) For a Moderate $PM_{2.5}$ nonattainment area, the requesting state (or states) shall submit a written request by February 28 of the year following the applicable attainment date for the area.

(4) A state with a Moderate area that received an initial 1-year attainment date extension may apply for a second 1-year attainment date extension for the area if the state meets the conditions described in paragraph (a)(1) of this section in the year preceding the approved attainment date.

(b) Nonattainment areas reclassified as Serious.

(1) A state may apply for one attainment date extension not to exceed 5 years for a Serious nonattainment area if the following conditions are met:

(i) The state demonstrates that attainment of the applicable $PM_{2.5}$ NAAQS by the approved attainment date for the area would be impracticable or, in the absence of an approved attainment date, attainment of the applicable $PM_{2.5}$ NAAQS by the applicable statutory attainment date for the area would be impracticable;

(ii) The state has complied with all requirements and commitments pertaining to the area in the applicable implementation plan; and,

(iii) The state demonstrates that the attainment plan for the area includes the most stringent measures (MSM) that are included in the attainment plan of any state or are achieved in practice in any state, and can feasibly be implemented in the area consistent with § 51.1010(b).

(2) At the time of application for an attainment date extension, the state shall submit to EPA a Serious area attainment plan that meets the following requirements:

(i) Emissions inventory requirements set forth at § 51.1008(b);

(ii) Most stringent measures (MSM) requirement described under paragraph (b)(1)(iii) of this section and § 51.1010(b);

(iii) Attainment demonstration and modeling requirements set forth at § 51.1011 that justify the state's conclusion under paragraph (b)(1)(i) of this section;

(iv) Reasonable Further Progress (RFP) requirements set forth at § 51.1012;

(v) Quantitative milestone requirements set forth at § 51.1013; and,

(vi) Contingency measure requirements set forth at § 51.1014.

(3) The applicable implementation plan for a Serious $PM_{2.5}$ nonattainment area for which a state seeks an attainment date extension under § 51.1004(a)(2)(ii) is the plan submitted to EPA to meet the requirements set forth at § 51.1003(a).

(4) The applicable implementation plan for a Serious $PM_{2.5}$ nonattainment area for which a state seeks an attainment date extension under § 51.1004(a)(2)(i) is the plan submitted to EPA to meet the requirements set forth at § 51.1003(b)(1).

(5) A state applying for an attainment date extension for a Serious nonattainment area under § 51.1004(a)(2)(ii) shall submit to EPA a request for an extension at the same time as it submits the Serious area attainment plan due under § 51.1003(b)(1).

(6) A state applying for an attainment date extension for a Serious nonattainment area subsequent to submitting an initial Serious area attainment plan that demonstrated

attainment of the NAAQS by the applicable attainment date consistent with § 51.1004(a)(2)(i) at the time of submittal may apply for such an extension no later than 60 calendar days prior to the approved attainment date for the area or, in the absence of an approved attainment date, no later than 60 calendar days prior to the applicable statutory attainment date for the area.

(c) Serious nonattainment areas subject to CAA section 189(d) for failing to attain by the applicable Serious area attainment date. If a Serious area fails to attain a particular $PM_{2.5}$ NAAQS by the applicable Serious area attainment date, the area is then subject to the requirements of section 189(d) of the Act, and, for this reason, the state is prohibited from requesting an extension of the applicable Serious area attainment date for such area.

(d) For any attainment date extension request submitted pursuant to this section, the requesting state (or states) shall submit a written request and evidence of compliance with these regulations which includes both of the following:

(i) Evidence that all control measures submitted in the applicable attainment plan have been implemented, and

(ii) Evidence that the area has made emission reduction progress that represents reasonable further progress toward timely attainment of the applicable $PM_{2.5}$ NAAQS.

(e) For a $PM_{2.5}$ nonattainment area located in two or more states or jurisdictions, all states and/or jurisdictions in which such area is located shall submit separate attainment date extension requests for the area consistent with the requirements set forth at paragraph (d) of this section.

**§ 51.1006 Requirements for demonstrating insignificant contribution of $PM_{2.5}$ precursors.**

(a) For purposes of determining that a particular $PM_{2.5}$ precursor does not contribute significantly to ambient $PM_{2.5}$ concentrations in a $PM_{2.5}$ nonattainment area, the state shall conduct a technical analysis that accounts for all emissions of such $PM_{2.5}$ precursor from all sources located within the area.

(b) The state shall submit results and supporting documentation for any technical analyses conducted pursuant to paragraph (a) of this section as part of any attainment plan for the area.

**§ 51.1007 Requirements for de minimis source category determinations for direct $PM_{2.5}$ and $PM_{2.5}$ precursors.**

(a) All categories of sources of direct $PM_{2.5}$ emissions and of emissions of $PM_{2.5}$ precursors in a $PM_{2.5}$ nonattainment area shall be considered non-*de minimis* unless and until the state conducts a technical analysis to determine whether a particular source category may qualify for a presumptive *de minimis* source category exemption from evaluation for potential control measures due to its minimal contribution to the ambient $PM_{2.5}$ concentrations in the area.

(b) The state shall define source categories for stationary sources classified under the North American Industry Classification System (NAICS) at the level represented by four (4) digits or fewer.

(c) The state shall define a single source category for on-road mobile sources, including on-road vehicles and engines, and a single source category for nonroad mobile sources, including nonroad engines, equipment, and vehicles, or may define a single source category for all mobile sources in the aggregate.

**§ 51.1008 Emissions inventory requirements.**

(a) For any nonattainment area initially classified as Moderate, the state shall submit to EPA all of the following:

(1) A base year inventory for the nonattainment area for all emissions sources that meets the following minimum criteria:

(i) The inventory year shall be one of the 3 years used for designations or another technically appropriate inventory year if justified by the state in the plan submission.

(ii) The inventory shall include actual emissions of all sources within the nonattainment area.

(iii) The emissions values shall be either annual total emissions or average-season-day emissions. The state shall include as part of the plan a rationale for providing annual or seasonal emissions.

(iv) The inventory shall include direct $PM_{2.5}$ emissions and emissions of all $PM_{2.5}$ precursors.

(v) The state shall report emissions as point sources according to the point source emissions thresholds of the Air Emissions Reporting Rule (AERR), 40 CFR part 51, subpart A.

(vi) The detail of the emissions inventory shall be consistent with the data elements required by 40 CFR part 51, subpart A.

(2) An attainment projected inventory for the nonattainment area that meets the following minimum criteria:

(i) The year of the projected inventory shall be the most expeditious year for which attainment is demonstrated by the modeled attainment plan.

(ii) The emissions values shall be projected emissions of the same sources included in the base year inventory for the nonattainment area (*i.e.,* those only within the nonattainment area). The state shall include in this inventory projected emissions growth and contraction from both controls and other causes during the relevant period.

(iii) The temporal period of emissions shall be the same temporal period (annual or average-season-day) as the base year inventory for the nonattainment area.

(iv) Consistent with the base year inventory for the nonattainment area, the inventory shall include direct $PM_{2.5}$ emissions and emissions of all $PM_{2.5}$ precursors.

(v) The same sources reported as point sources in the base year inventory for the nonattainment area shall be provided as point sources in the attainment projected inventory for the nonattainment area. Nonpoint and mobile source projected emissions shall be provided using the same detail (*e.g.,* state, county, and process codes) as the base year inventory.

(vi) The same detail of the emissions included shall be consistent with the level of detail in the base year inventory (*i.e.,* as required by 40 CFR part 41, subpart A).

(b) For any nonattainment area reclassified as Serious, the state shall submit to EPA all of the following:

(1) For purposes of meeting the emissions inventory requirements of CAA section 172(c)(3), a base year inventory for the nonattainment area for all emissions sources that meets the requirements listed under paragraph (a)(1) of this section, and in addition, uses the Serious area definition of a major source listed under § 51.165(a)(1)(iv)(A)(vii) and (viii) in determining sources to include as point sources.

(2) An attainment projected inventory for the nonattainment area that meets the criteria listed under paragraph (a)(2) of this section.

(c) Serious nonattainment areas subject to CAA section 189(d) for failing to attain a $PM_{2.5}$ NAAQS by the applicable Serious area attainment date. No later than 12 months after EPA finds through notice-and-comment rulemaking that a Serious nonattainment area, or portion thereof contained within a state's borders, fails to attain a $PM_{2.5}$ NAAQS by the applicable attainment date and thus becomes subject to the requirements under CAA section 189(d), the state shall submit to EPA all of the following:

(1) For purposes of meeting the emissions inventory requirements of

CAA section 172(c)(3), a base year inventory for the nonattainment area for all emissions sources that meets the requirements listed under paragraph (a)(1) of this section, and in addition, uses the Serious area definition of a major source listed under § 51.165(a)(1)(iv)(A)(vii) and (viii) in determining sources to include as point sources.

(2) An attainment projected inventory for the nonattainment area as defined by § 51.1000(e) and that meets the criteria listed under paragraph (a)(2) of this section.

**§ 51.1009 Moderate area attainment plan control strategy requirements.**

(a) The state shall identify, adopt, and implement control measures, including control technologies, on sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors located in any Moderate $PM_{2.5}$ nonattainment area or portion thereof located within the state consistent with the following:

(1) The state shall identify all sources of direct $PM_{2.5}$ emissions and all sources of emissions of $PM_{2.5}$ precursors in the nonattainment area in accordance with the emissions inventory requirements of § 51.1008(a);

(2) The state shall identify all potential control measures to reduce emissions from all sources of direct $PM_{2.5}$ emissions and all sources of emissions of $PM_{2.5}$ precursors in the nonattainment area identified under paragraph (a)(1) of this section.

(i) The state may elect not to identify potential control measures to reduce emissions from any sources of a particular $PM_{2.5}$ precursor if the state demonstrates that all sources of such $PM_{2.5}$ precursor contribute insignificantly to ambient $PM_{2.5}$ concentrations in the area under § 51.1006.

(ii) The state may elect not to identify potential control measures to reduce emissions from sources in any source category of direct $PM_{2.5}$ emissions or emissions of $PM_{2.5}$ precursors determined to be a *de minimis* source category under § 51.1007.

(3) For any potential control measure identified under paragraph (a)(2) of this section, the state may make a demonstration that such measure is not technologically or economically feasible to implement in whole or in part by the end of the sixth calendar year following the date of designation of the area, and the state may eliminate such whole or partial measure from further consideration under this paragraph.

(i) For purposes of evaluating the technological feasibility of a potential control measure, the state may consider factors including but not limited to a source's processes and operating procedures, raw materials, physical plant layout, and potential environmental impacts such as increased water pollution, waste disposal, and energy requirements.

(ii) For purposes of evaluating the economic feasibility of a potential control measure, the state may consider factors including but not limited to capital costs, operating and maintenance costs, and cost effectiveness of the measure.

(iii) The state must submit to EPA as part of its Moderate area attainment plan a detailed written justification for eliminating from further consideration any potential control measure identified under paragraph (a)(2) of this section on the basis of technological or economic infeasibility.

(4) The state shall use air quality modeling that meets the requirements of § 51.1011(a) and that accounts for emissions reductions estimated due to all technologically and economically feasible control measures identified for sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the Moderate $PM_{2.5}$ nonattainment area to demonstrate that the area can attain the applicable $PM_{2.5}$ NAAQS as expeditiously as practicable but no later than the end of the sixth year following the date of designation of the area, or to demonstrate that the Moderate $PM_{2.5}$ nonattainment area cannot practicably attain the applicable $PM_{2.5}$ NAAQS by such date.

(i) If the state demonstrates through air quality modeling that the area can attain the applicable $PM_{2.5}$ NAAQS by the end of the sixth calendar year following the date of designation of the area, the state shall adopt and implement all technologically and economically feasible control measures identified under paragraph (a)(3) of this section that are necessary to bring the area into attainment by such date. The state shall also adopt and implement all other technologically and economically feasible measures identified under paragraph (a)(3) of this section that, when considered collectively, would advance the attainment date for the area by at least 1 year.

(A) Any control measure identified for adoption and implementation under this paragraph that can be implemented in whole or in part by 4 years after the date of designation of the Moderate $PM_{2.5}$ nonattainment area shall be considered RACM for the area. Any such control measure that is also a control technology shall be considered RACT for the area.

(B) Any control measure identified for adoption and implementation under this paragraph that can only be implemented in whole or in part during the period beginning 4 years after the date of designation of the Moderate $PM_{2.5}$ nonattainment area and the beginning of the calendar year containing the applicable attainment date for the area shall be considered an additional reasonable measure for the area.

(ii) If the state demonstrates through air quality modeling that the area cannot practicably attain the applicable $PM_{2.5}$ NAAQS by the end of the sixth calendar year following the date of designation of the area, the state shall adopt all technologically and economically feasible control measures identified under paragraph (a)(3) of this section unless the state makes a demonstration that one or more such measures, when considered collectively, would have minimal effect on reducing ambient $PM_{2.5}$ concentrations in the area.

(A) Any control measure identified for adoption and implementation under this paragraph that can be implemented in whole or in part by 4 years after the date of designation of the Moderate $PM_{2.5}$ nonattainment area shall be considered RACM for the area. Any such control measure that is also a control technology shall be considered RACT for the area.

(B) Any control measure identified for adoption and implementation under this paragraph that can only be implemented in whole or in part during the period beginning 4 years after the date of designation of the Moderate $PM_{2.5}$ nonattainment area through the end of the sixth calendar year following the date of designation of the area shall be considered an additional reasonable measure for the area.

(b) The state shall identify, adopt, and implement control measures, including control technologies, on sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors located outside the Moderate $PM_{2.5}$ nonattainment area, or portion thereof, located within the state if doing so is necessary to provide for attainment or will expedite attainment of the applicable $PM_{2.5}$ NAAQS in such area.

(c) For control measures on sources of direct $PM_{2.5}$ emissions in the form of source emissions limitations, the state shall establish such limitations taking into account the filterable and condensable fractions of such emissions.

**§ 51.1010 Serious area attainment plan control strategy requirements.**

**[PROPOSED REGULATORY TEXT FOR OPTION 1:**

(a) The state shall identify, adopt, and implement control measures, including control technologies, on sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors located in any Serious $PM_{2.5}$ nonattainment area or portion thereof located within the state to yield a control strategy for the area that is more stringent than that developed for the area when it was classified as Moderate, and consistent with the following:

(1) The state shall identify all sources of direct $PM_{2.5}$ emissions and all sources of emissions of $PM_{2.5}$ precursors in the nonattainment area in accordance with the emissions inventory requirements of § 51.1008(b);

(2) The state shall identify all potential control measures to reduce emissions from all sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the nonattainment area identified under paragraph (a)(1) of this section.

(i) The state shall survey other NAAQS nonattainment areas in the U.S. and identify any measures not previously identified by the state during the development of the Moderate area attainment plan for the area.

(ii) The state may elect not to identify potential control measures to reduce emissions from any sources of a particular $PM_{2.5}$ precursor if the state demonstrates that all sources of such $PM_{2.5}$ precursor contribute insignificantly to ambient $PM_{2.5}$ concentrations in the area under § 51.1006.

(iii) The state may elect not to identify potential control measures to reduce emissions from sources in any source category of direct $PM_{2.5}$ emissions or emissions of $PM_{2.5}$ precursors determined to be a *de minimis* source category under § 51.1007.

(3) The state may make a demonstration that any measure identified under paragraph (a)(2) of this section is not technologically or economically feasible to implement in whole or in part by the end of the tenth calendar year following the date of designation of the area, and may eliminate such whole or partial measure from further consideration under this paragraph.

(i) For purposes of evaluating the technological feasibility of a potential control measure, the state may consider factors including but not limited to a source's processes and operating procedures, raw materials, physical plant layout, and potential environmental impacts such as increased water pollution, waste disposal, and energy requirements.

(ii) For purposes of evaluating the economic feasibility of a potential control measure, the state may consider capital costs, operating and maintenance costs, and cost effectiveness of the measure.

(iii) The state shall submit to EPA as part of its Serious area attainment plan submission a detailed written justification for eliminating from further consideration any potential control measure identified under paragraph (a)(2) of this section on the basis of technological or economic infeasibility. The state shall provide as part of its written justification an explanation of how its criteria for determining the technological and economic feasibility of potential control measures under paragraphs (a)(3)(i) and (ii) of this section are more stringent than its criteria for determining the technological and economic feasibility of potential control measures under § 51.1009(a)(3)(i) and (ii) for the same sources in the $PM_{2.5}$ nonattainment area.

(4) Except as provided under paragraph (a)(3) of this section, the state shall adopt and implement all potential control measures identified under paragraph (a)(2) of this section.

(i) Any control measure that can be implemented in whole or in part by the end of the fourth year following the date of reclassification of the area to Serious shall be considered a best available control measure for the area. Any such control measure that is also a control technology for a stationary source in the area shall be considered a best available control technology for the area.

(ii) Any control measure that can be implemented in whole or in part between the end of the fourth year following the date of reclassification of the area to Serious and the applicable attainment date for the area shall be considered an additional feasible measure.

(5) The state shall use air quality modeling that meets the requirements of § 51.1011(b) and that accounts for emissions reductions estimated due to all best available control measures, including best available control technologies, and additional feasible measures identified for sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the area to demonstrate that the area can attain the $PM_{2.5}$ NAAQS as expeditiously as practicable but no later than the end of the tenth calendar year following the date of designation of the area, or to demonstrate that the Serious $PM_{2.5}$ nonattainment area cannot practicably attain the applicable $PM_{2.5}$ NAAQS by such date.]

**[PROPOSED REGULATORY TEXT FOR OPTION 2:**

(a) The state shall identify, adopt, and implement control measures, including control technologies, on sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors located in any Serious $PM_{2.5}$ nonattainment area or portion thereof located within the state to yield a control strategy for the area that is more stringent than that developed for the area when it was classified as Moderate, and consistent with the following:

(1) The state shall identify all sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the nonattainment area in accordance with the emissions inventory requirements of § 51.1008;

(2) The state shall identify all potential control measures to reduce emissions from all sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the nonattainment area identified under paragraph (a)(1) of this section.

(i) The state shall survey other NAAQS nonattainment areas in the U.S. and identify any measures not previously identified by the state during the development of the Moderate area attainment plan for the area.

(ii) The state may elect not to identify potential control measures to reduce emissions from any sources of a particular $PM_{2.5}$ precursor if the state demonstrates that all sources of such $PM_{2.5}$ precursor contribute insignificantly to ambient $PM_{2.5}$ concentrations in the area under § 51.1006.

(3) The state may make a demonstration that a measure identified under paragraph (a)(2) of this section is not technologically or economically feasible to implement in whole or in part by the end of the tenth calendar year following the date of designation of the area, and may eliminate such whole or partial measure from further consideration under this paragraph.

(i) For purposes of evaluating the technological feasibility of a potential control measure, the state may consider factors including but not limited to a source's processes and operating procedures, raw materials, physical plant layout, and potential environmental impacts such as increased water pollution, waste disposal, and energy requirements.

(ii) For purposes of evaluating the economic feasibility of a potential control measure, the state may consider

capital costs, operating and maintenance costs, and cost effectiveness of the measure.

(iii) The state shall submit to EPA as part of its Serious area attainment plan submission a detailed written justification for eliminating from further consideration any potential control measure identified under paragraph (a)(2) of this section on the basis of technological or economic infeasibility. The state shall provide as part of its written justification an explanation of how its criteria for determining the technological and economic feasibility of potential control measures under paragraphs (a)(3)(i) and (ii) of this section are more stringent than its criteria for determining the technological and economic feasibility of potential control measures under § 51.1009(a)(3)(i) and (ii) for the same sources in the $PM_{2.5}$ nonattainment area.

(4) The state shall use air quality modeling that meets the requirements of § 51.1011(b) and that accounts for emissions reductions estimated due to all technologically and economically feasible control measures identified for sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the area to demonstrate that the area can attain the applicable $PM_{2.5}$ NAAQS as expeditiously as practicable but no later than the end of the tenth calendar year following the date of designation of the area, or to demonstrate that the Serious $PM_{2.5}$ nonattainment area cannot practicably attain the applicable $PM_{2.5}$ NAAQS by such date.

(5) For a Serious $PM_{2.5}$ nonattainment area which air quality modeling demonstrates that the area can attain the applicable $PM_{2.5}$ NAAQS by the end of the tenth calendar year following the date of designation of the area, the state shall adopt and implement all technologically and economically feasible control measures needed to bring the area into attainment by such date and additionally any other such measures that, when considered collectively, would advance the attainment date for the area by at least 1 year.

(i) Any control measure that can be implemented in whole or in part by the end of the fourth year following the date of reclassification of the area to Serious shall be considered a best available control measure for the area. Any such control measure that is also a control technology for a stationary source in the area shall be considered a best available control technology for the area.

(ii) Any control measure that can only be implemented in whole or in part between the end of the fourth year following the date of reclassification of the area to Serious and the applicable attainment date for the area shall be considered an additional feasible measure.]

(b) For a Serious $PM_{2.5}$ nonattainment area which air quality modeling demonstrates cannot practicably attain the applicable $PM_{2.5}$ NAAQS by the end of the tenth calendar year following the date of designation of the area, the state shall identify, adopt, and implement the most stringent control measures that are included in the attainment plan for any state or are achieved in practice in any state, and can be feasibly implemented in the area, consistent with the following:

(1) The state shall identify all sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the nonattainment area in accordance with the emissions inventory requirements of § 51.1008(b).

(2) The state shall identify all potential control measures to reduce emissions from all sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors in the nonattainment area identified under paragraph (a)(1) of this section and not otherwise determined to contribute insignificantly to ambient $PM_{2.5}$ concentrations in the area according to § 51.1006 or to be *de minimis* according to § 51.1007.

(i) The state shall survey other NAAQS nonattainment areas in the U.S. and identify the most stringent measures adopted into any SIP for any NAAQS or used in practice to control emissions from any non-*de minimis* source categories.

(ii) The state shall reanalyze any measures previously rejected by the state during the development of any Moderate area or Serious area attainment plan control strategy for the area, unless the extension request is made at the same time as the Serious area attainment plan required after the area is reclassified in accordance with § 51.1005(b)(5).

(3) The state may make a demonstration that a measure identified under paragraph (b)(2) of this section is not technologically or economically feasible to implement in whole or in part by 5 years after the applicable attainment date for the area, and may eliminate such whole or partial measure from further consideration under this paragraph.

(i) For purposes of evaluating the technological feasibility of a potential control measure, the state may consider factors including but not limited to a source's processes and operating procedures, raw materials, physical plant layout, and potential environmental impacts such as increased water pollution, waste disposal, and energy requirements.

(ii) For purposes of evaluating the economic feasibility of a potential control measure, the state may consider capital costs, operating and maintenance costs, and cost effectiveness of the measure.

(iii) The state shall submit to EPA as part of its Serious area attainment plan submission a detailed written justification for eliminating from further consideration any potential control measure identified under paragraph (b)(2) of this section on the basis of technological or economic infeasibility. The state shall provide as part of its written justification an explanation of how its criteria for determining the technological and economic feasibility of potential control measures under paragraphs (b)(3)(i) and (ii) of this section are more stringent than its criteria for determining the technological and economic feasibility of potential control measures under paragraphs (a)(3)(i) and (ii) of this section and under § 51.1009(a)(3)(i) and (ii) for the same sources in the $PM_{2.5}$ nonattainment area.

(4) Except as provided under paragraph (b)(3) of this section, the state shall adopt and implement all control measures identified under paragraph (b)(2) of this section that may achieve greater emissions reductions from any non-*de minimis* sources of direct $PM_{2.5}$ emissions or sources of emissions of $PM_{2.5}$ precursors in the area than previously adopted measures have achieved and that shall achieve attainment as expeditiously as practicable but no later than 5 years after the applicable attainment date for the area.

(c) The state shall identify, adopt, and implement control measures, including control technologies, on sources of direct $PM_{2.5}$ emissions and sources of emissions of $PM_{2.5}$ precursors located outside the Serious $PM_{2.5}$ nonattainment area or portion thereof, located within the state if doing so will expedite attainment of the applicable $PM_{2.5}$ NAAQS within the area.

(d) For control measures on sources of direct $PM_{2.5}$ emissions in the form of source emissions limitations, the state shall establish such limitations taking into account the filterable and condensable fractions of such emissions.

**§ 51.1011 Attainment demonstration and modeling requirements.**

(a) *Nonattainment areas initially classified as Moderate.* The attainment demonstration due to EPA as part of any

Moderate area attainment plan required under § 51.1003(a) shall meet all of the following criteria:

(1) The attainment demonstration shall show the projected attainment date for the Moderate nonattainment area that is as expeditious as practicable in accordance with the requirements of § 51.1004(a)(1).

(2) The attainment demonstration shall meet the requirements of Appendix W of this part and shall include inventory data, modeling results, and emission reduction analyses on which the state has based its projected attainment date.

(3) The base year for the emissions inventory required for an attainment demonstration under this paragraph shall be one of the 3 years used for designations or another technically appropriate inventory year if justified by the state in the plan submission.

(4) The control strategies modeled as part of the attainment demonstration shall be consistent with the following as applicable:

(i) For a Moderate area that can demonstrate attainment of the applicable $PM_{2.5}$ NAAQS no later than the end of the sixth calendar year following the date of designation of the area with the implementation of RACM and RACT and additional reasonable measures, the control strategies modeled as part of the attainment demonstration shall be consistent with control strategy requirements under § 51.1009(a).

(ii) For a Moderate area that cannot practicably attain the applicable $PM_{2.5}$ NAAQS by the end of the sixth calendar year following the date of designation of the area with the implementation of RACM and RACT and additional reasonable measures, the control strategies modeled as part of the attainment demonstration shall be consistent with control strategy requirements under § 51.1009(b).

(5) The attainment demonstration and supporting air quality modeling should be consistent with the most current version of EPA's $PM_{2.5}$ attainment demonstration modeling guidance.

(6) Required time frame for obtaining emissions reductions. For each Moderate nonattainment area, the attainment plan must provide for implementation of all control measures needed for attainment as expeditiously as practicable. All control measures in the attainment demonstration must be implemented no later than the beginning of the year prior to the attainment date, notwithstanding RACM implementation deadline requirements in § 51.1009.

(b) *Nonattainment areas reclassified as Serious.* The attainment demonstration due to EPA as part of a Serious area attainment plan required under § 51.1003(b) shall meet all of the following criteria:

(1) The attainment demonstration shall show the projected attainment date for the Serious nonattainment area that is as expeditious as practicable in accordance with the requirements of § 51.1004(a)(2).

(2) The attainment demonstration shall meet the requirements of Appendix W of this part and shall include inventory data, modeling results, and emission reduction analyses on which the state has based its projected attainment date.

(3) The base year for the emissions inventories required for attainment demonstrations under this paragraph shall be one of the 3 years used for designations or another technically appropriate inventory year if justified by the state in the plan submission.

(4) The control strategies modeled as part of the attainment demonstration shall be consistent with the following as applicable:

(i) For a Serious area that can demonstrate attainment of the applicable $PM_{2.5}$ NAAQS no later than the end of the tenth calendar year following the date of designation of the area with the implementation of best available control measures (BACM), including best available control technologies (BACT), and additional feasible measures, the control strategies modeled as part of the attainment demonstration shall be consistent with control strategy requirements under § 51.1010(a).

(ii) For a Serious area that cannot practicably attain the applicable $PM_{2.5}$ NAAQS by the end of the tenth calendar year following the date of designation of the area with the implementation of best available control measures (BACM), including best available control technologies (BACT), and additional feasible measures, the control strategies modeled as part of the attainment demonstration shall be consistent with control strategy requirements under § 51.1010(b).

(5) The attainment demonstration and supporting air quality modeling should be consistent with the most current version of EPA's $PM_{2.5}$ attainment demonstration modeling guidance.

(6) Required timeframe for obtaining emissions reductions. For each Serious nonattainment area, the attainment plan must provide for implementation of all control measures needed for attainment as expeditiously as practicable. All control measures must be implemented no later than the beginning of the year prior to the attainment date, notwithstanding BACM implementation deadline requirements in § 51.1010.

**§ 51.1012 Reasonable further progress (RFP) requirements.**

(a) Consistent with CAA section 172(c)(2), the state shall submit in each attainment plan for a $PM_{2.5}$ nonattainment area a plan that demonstrates that the area will achieve, on an annual basis, reasonable further progress (RFP) in reducing emissions of direct $PM_{2.5}$ and any $PM_{2.5}$ precursors from sources in the area that the state has determined are necessary to be controlled in order for the area to attain the applicable $PM_{2.5}$ NAAQS as expeditiously as practicable. The RFP plan shall include all of the following:

(1) A description of each control measure adopted by the state to satisfy the control strategy requirements of § 51.1009 (for Moderate area attainment plans) or § 51.1010 (for Serious area attainment plans), as appropriate, and the projected reductions in direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors that each control measure will achieve by the projected attainment date for the area.

(2) A schedule for implementing the measures described in paragraph (a)(1) of this section.

(3) An analysis that demonstrates that by the end of the calendar year for each milestone date for the area determined in accordance with § 51.1013(a), emissions will be at a level that reflects generally linear progress in reducing emissions on an annual basis between the base year and the attainment year.

(b) Except as provided under paragraph (c) of this section, the RFP analysis required under paragraph (a)(3) of this section shall include, at a minimum, a benchmark RFP analysis, and may include an alternative RFP analysis, consistent with the following:

(1) The base year for the RFP emissions inventory shall be one of the 3 years used for designations or another technically appropriate inventory year if justified by the state in the plan submission.

(2) In the benchmark RFP analysis, the state must identify direct $PM_{2.5}$ emissions and $PM_{2.5}$ precursors regulated in the control strategy for the area and specify target emission reduction levels to be achieved during the milestone years. In developing the benchmark RFP analysis, the state must develop emissions inventory information for the area and calculate the following:

(i) For direct $PM_{2.5}$ emissions and each $PM_{2.5}$ precursor addressed in the control strategy, the full implementation reduction is calculated by subtracting

the full implementation inventory from the base year inventory.

(ii) The ''milestone date fraction'' is the ratio of the number of years from the base year to the milestone year divided by the number of years from the baseline year to the full implementation year.

(iii) For direct $PM_{2.5}$ emissions and each $PM_{2.5}$ attainment plan precursor addressed in the attainment strategy, a benchmark emission reduction is calculated by multiplying the full implementation reduction by the milestone date fraction.

(iv) The benchmark emission level in the milestone year is calculated for direct $PM_{2.5}$ emissions and each $PM_{2.5}$ precursor by subtracting the benchmark emission reduction from the base year emission level.

(v) In comparing inventories between the base year and future years for direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors, the inventories must be derived for sources located within the nonattainment area.

(vi) For purposes of establishing motor vehicle emissions budgets for transportation conformity purposes (as required in 40 CFR part 93) for a $PM_{2.5}$ nonattainment area, the state shall include in its RFP submittal an inventory of on-road mobile source emissions in the nonattainment area for each milestone year.

(3) The RFP analysis must demonstrate that emissions for the milestone year are either:

(i) At levels that are roughly equivalent to the benchmark emission levels for direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors addressed in the attainment plan; or

(ii) At levels included in an alternative RFP analysis that projects generally equivalent improvement in air quality by the milestone year as would be achieved under the benchmark RFP plan.

(iii) The equivalence of an alternative RFP analysis to the corresponding benchmark analysis must be determined by comparing the expected air quality changes from the two analyses at the design value monitor location. This comparison must use the information developed for the attainment plan to assess the relationship between emissions reductions of the direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors addressed in the control strategy for the area and the ambient air quality improvement.

(c) For an attainment plan submittal that demonstrates that a Moderate $PM_{2.5}$ nonattainment area cannot practicably attain the applicable $PM_{2.5}$ NAAQS by the end of the sixth calendar year following the effective date of designation of the area with the implementation of control measures as required under § 51.1009, the RFP analysis required under paragraph (a)(3) of this section shall demonstrate generally linear emissions reductions in direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors projected from the Moderate area control strategy determined according to § 51.1008 for each milestone year.

(d) For a multi-state or multi-jurisdictional nonattainment area, the RFP plans for each state represented in the nonattainment area shall demonstrate RFP on the basis of common multi-state inventories. The states or jurisdictions within which the area is located must provide a coordinated RFP plan. Each state in a multi-state nonattainment area must ensure that the sources within its boundaries comply with enforceable emission levels and other requirements that in combination with the reductions planned in other state(s) within the nonattainment area will provide for attainment as expeditiously as practicable and demonstrate RFP consistent with these regulations.

**§ 51.1013 Quantitative milestone requirements.**

(a) Consistent with CAA section 189(c)(1), the state must submit in each attainment plan for a $PM_{2.5}$ nonattainment area specific quantitative milestones that demonstrate reasonable further progress toward attainment of the applicable $PM_{2.5}$ NAAQS in the area and that meet the following requirements:

(1) Nonattainment areas initially classified as Moderate.

(i) For an attainment plan submittal that demonstrates that a Moderate $PM_{2.5}$ nonattainment area can attain the applicable $PM_{2.5}$ NAAQS by the end of the sixth calendar year following the date of designation of the area or earlier with the implementation of control measures as required under § 51.1009, the state shall submit quantitative milestones to be achieved no later than a milestone date of 4.5 years from the date of designation of the area.

(ii) For an attainment plan submittal that demonstrates that a Moderate $PM_{2.5}$ nonattainment area cannot practicably attain the applicable $PM_{2.5}$ NAAQS by the end of the sixth calendar year following the effective date of designation of the area with the implementation of control measures as required under § 51.1009, the state shall submit quantitative milestones to be achieved no later than milestone dates of 4.5 years and 7.5 years, respectively, from the date of designation of the area.

(iii) The state shall select quantitative milestones that coincide with the milestone due dates specified in paragraphs (a)(1)(i) and (ii) of this section, as applicable, and that provide for objective evaluation of emissions reductions and/or air quality improvements representing progress toward attainment of the applicable $PM_{2.5}$ NAAQS in the area, including, at a minimum, a milestone that all control measures identified and adopted as RACM and RACT for the area will be fully implemented within 4 years after the date of designation.

(2) Nonattainment areas reclassified to Serious.

(i) For an attainment plan submittal that demonstrates that a Serious $PM_{2.5}$ nonattainment area can attain a particular $PM_{2.5}$ NAAQS by the end of the tenth calendar year following the effective date of designation of the area with the implementation of control measures as required under § 51.1010(a), the state shall submit quantitative milestones to be achieved no later than milestone dates of 7.5 years and 10.5 years, respectively, from the date of designation of the area.

(ii) For an attainment plan submittal that demonstrates that a Serious $PM_{2.5}$ nonattainment area cannot practicably attain a particular $PM_{2.5}$ NAAQS by the end of the tenth calendar year following the date of designation of the area with the implementation of control measures required under § 51.1010(a), the state shall submit quantitative milestones to be achieved no later than milestone dates of 7.5 years, 10.5 years, and 13.5 years, respectively, from the date of designation of the area.

(iii) The state shall select quantitative milestones that coincide with the milestone due dates specified in paragraphs (a)(2)(i) and (ii) of this section, as applicable, and that provide for objective evaluation of emissions reductions and/or air quality improvements representing progress toward attainment of the applicable $PM_{2.5}$ NAAQS in the area, including, at a minimum, a milestone that all control measures identified and adopted as BACM and BACT for the area will be fully implemented within 4 years of reclassification of the area to Serious.

(3) Serious areas that fail to attain by the applicable Serious area attainment date. For an attainment plan submittal for a Serious area that failed to attain a particular $PM_{2.5}$ NAAQS by the applicable Serious area attainment date and is therefore subject to the requirements of CAA section 189(d) and § 51.1003(c), the state shall submit

quantitative milestones to be achieved no later than a milestone date of 13.5 years from the date of designation of the area and every 3 years thereafter until the projected attainment date for the area. The state shall select quantitative milestones that coincide with the milestone due dates for the area, and that provide for objective evaluation of emissions reductions and/or air quality improvements representing progress toward attainment of the applicable $PM_{2.5}$ NAAQS in the area.

(b) Not later than 90 days after the date on which a milestone applicable to a $PM_{2.5}$ nonattainment area occurs, each state in which all or part of such area is located shall submit to the Administrator a milestone report that contains all of the following:

(1) A certification by the Governor or Governor's designee that the state's attainment plan control strategy, including the RFP plan, is being implemented as described in the applicable attainment plan;

(2) A technical demonstration, including calculations, to document completion statistics for appropriate milestones and to demonstrate that the quantitative milestones have been satisfied and how the emission reductions achieved to date compare to those required or scheduled to meet RFP;

(3) An air quality screening analysis to determine if measured air quality progress is consistent with the expected air quality improvement target correlated with the RFP emissions reductions for the previous 3-year period calculated in accordance with § 51.1012;

(4) An evaluation of whether the area will attain the applicable $PM_{2.5}$ NAAQS by the projected attainment date for the area; and,

(5) A description and schedule for any remedial actions the state has taken or will take to address any failure to meet a quantitative milestone, including the implementation status of contingency measures required under § 51.1014(a)(1)(i) for failing to meet RFP.

(c) In the event a state fails to submit a milestone report that meets the requirements of paragraph (b) of this section by the due date or the Administrator determines that the state failed to meet a milestone by the milestone date, the state shall submit an attainment plan revision within 9 months of the missed due date or the Administrator's determination of the state's failure to meet a milestone that assures that the state will achieve the next milestone or attain the applicable NAAQS by the applicable date, whichever is earlier.

**§ 51.1014 Contingency measure requirements.**

(a) The state must include as part of each attainment plan submitted under this subpart for a $PM_{2.5}$ nonattainment area specific contingency measures that shall take effect with minimal further action by the state or EPA within 60 days of the Administrator making a determination that the area has failed to meet either of the following conditions:

(1) The area failed to meet the RFP requirements of § 51.1012 or to submit a milestone report due to EPA in accordance with § 51.1013(b); or,

(2) The area failed to attain the applicable $PM_{2.5}$ NAAQS by the applicable attainment date.

(b) The contingency measures adopted as part of a $PM_{2.5}$ attainment plan shall meet all of the following requirements:

(1) The contingency measures shall consist of control measures that are not otherwise included in the control strategy for the area.

(2) The contingency measures shall provide for emissions reductions approximately equivalent to 1 year's worth of reductions needed for RFP, based on the overall level of reductions needed to demonstrate attainment divided by the number of years from the base year to the attainment year, or approximately equivalent to 1 year's worth of air quality improvement or emissions reductions proportional to the overall amount of air quality improvement or emissions reductions to be achieved by the area's attainment plan.

(c) The attainment plan submission shall contain a description of the specific trigger mechanisms for the contingency measures and specify a schedule for implementation.

**§ 51.1015 Clean data requirements.**

(a) *Nonattainment areas initially classified as Moderate.* Upon a determination by EPA that a Moderate $PM_{2.5}$ nonattainment area has attained the $PM_{2.5}$ NAAQS, the requirements for the state to submit an attainment demonstration, provisions demonstrating that reasonably available control measures, including reasonably available control technology for stationary sources, shall be implemented no later than 4 years following the date of designation of the area, reasonable further progress plan, and contingency measures for the area shall be suspended until such time as:

(1) The area is redesignated to attainment, after which such requirements are permanently discharged; or,

(2) EPA determines that the area has re-violated the $PM_{2.5}$ NAAQS, at which time the state shall submit such attainment plan elements for the Moderate nonattainment area by a future date to be determined by EPA and announced through publication in the **Federal Register** at the time EPA determines the area is violating the $PM_{2.5}$ NAAQS.

(b) *Nonattainment areas reclassified as Serious.* Upon a determination by EPA that a Serious $PM_{2.5}$ nonattainment area has attained the $PM_{2.5}$ NAAQS, the requirements for the state to submit an attainment demonstration, reasonable further progress plan, and contingency measures for the area shall be suspended until such time as:

(1) The area is redesignated to attainment, after which such requirements are permanently discharged; or,

(2) EPA determines that the area has re-violated the $PM_{2.5}$ NAAQS, at which time the state shall submit such attainment plan elements for the Moderate nonattainment area by a future date to be determined by EPA and announced through publication in the **Federal Register** at the time EPA determines the area is violating the $PM_{2.5}$ NAAQS.

**[ALTERNATIVE PROPOSED REGULATORY TEXT:**

(b) *Nonattainment areas reclassified as Serious.* Upon a determination by EPA that a Serious $PM_{2.5}$ nonattainment area has attained the $PM_{2.5}$ NAAQS, the requirements for the state to submit an attainment demonstration, provisions demonstrating that best available control measures, including best available control technology for stationary sources, shall be implemented no later than 4 years following the date of reclassification of the area to Serious, reasonable further progress plan, and contingency measures for the area shall be suspended until such time as:

(1) The area is redesignated to attainment, after which such requirements are permanently discharged; or,

(2) EPA determines that the area has re-violated the $PM_{2.5}$ NAAQS, at which time the state shall submit such attainment plan elements for the Serious nonattainment area by a future date to be determined by EPA and announced through publication in the **Federal Register** at the time EPA determines the area is violating the $PM_{2.5}$ NAAQS.]

## PART 93—DETERMINING CONFORMITY OF FEDERAL ACTIONS TO STATE OR FEDERAL IMPLEMENTATION PLANS

■ 7. The authority citation for part 93 continues to read as follows:

**Authority:** 42 U.S.C. 7401–7671q.

## Subpart B—Determining Conformity of General Federal Actions to State or Federal Implementation Plans

■ 8. In § 93.153, revise paragraphs (b)(1) and (2) to read as follows:

**§ 93.153 Applicability.**

* * * * *

(b) * * *

(1) For purposes of paragraph (b) of this section the following rates apply in nonattainment areas (NAA's):

| | Tons/year |
|---|---|
| Ozone (VOC's or $NO_X$): | |
| Serious NAA's | 50 |
| Severe NAA's | 25 |
| Extreme NAA's | 10 |
| Other ozone NAA's outside an ozone transport region | 100 |
| Other ozone NAA's inside an ozone transport region: | |
| VOC | 50 |
| $NO_X$ | 100 |
| Carbon Monoxide: All maintenance areas | 100 |
| $SO_2$ or $NO_2$: All NAA's | 100 |
| $PM_{10}$: | |
| Moderate NAA's | 100 |
| Serious NAA's | 70 |
| $PM_{2.5}$ (direct emissions, $SO_2$, $NO_X$, VOC, and ammonia): | |
| Moderate NAA's | 100 |
| Serious NAA's | 70 |
| Pb: All NAA's | 25 |

(2) For purposes of paragraph (b) of this section the following rates apply in maintenance areas:

| | Tons/year |
|---|---|
| Ozone ($NO_X$, $SO_2$ or $NO_2$): | |
| All maintenance areas | 100 |
| Ozone (VOC's): | |
| Maintenance areas inside an ozone transport region | 50 |
| Maintenance areas outside an ozone transport region | 100 |
| Carbon monoxide: All maintenance areas | 100 |
| $PM_{10}$: All maintenance areas | 100 |
| $PM_{2.5}$ (direct emissions, $SO_2$, $NO_X$, VOC, and ammonia) | 100 |
| All maintenance areas | 100 |
| Pb: All maintenance areas | 25 |

* * * * *

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