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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51 and 52

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RIN 2060-AO24

Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers ($PM_{2.5}$) – Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The EPA is amending the requirements for particulate matter less than 2.5 micrometers ($PM_{2.5}$) under the Prevention of Significant Deterioration (PSD) program by adding maximum allowable increases in ambient pollutant concentrations ("increments") and two screening tools, known as the Significant Impact Levels (SILs) and a Significant Monitoring Concentration (SMC) for $PM_{2.5}$. The SILs for $PM_{2.5}$ are also being added to two other New Source Review (NSR) rules that regulate the construction and modification of any major stationary source locating in an attainment or unclassifiable area, where the source's emissions may cause or contribute to a violation of the national ambient air quality standards (NAAQS).

DATES: This final rule is effective on **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2006-0605. All documents in the docket are listed on the www.regulations.gov Web Site. Although listed in the index, some information may not be publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the Air Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Avenue, Northwest, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

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I. General Information

A. Does this action apply to me?

Entities affected by this rule include sources in all industry groups. The majority of sources potentially affected are expected to be in the following groups:

Industry group	NAICS[a]
Electric services.....	221111, 221112, 221113, 221119, 221121, 221122
Petroleum refining.....	32411
Industrial inorganic chemicals.....	325181, 32512, 325131, 325182, 211112, 325998, 331311, 325188
Industrial organic chemicals.....	32511, 325132, 325192, 325188, 325193, 32512, 325199
Miscellaneous chemical products.....	32552, 32592, 32591, 325182, 32551
Natural gas liquids.....	211112
Natural gas transport.....	48621, 22121

Pulp and paper mills.....	32211, 322121, 322122, 32213
Paper mills.....	322121, 322122
Automobile manufacturing.....	336111, 336112, 336712, 336211, 336992, 336322, 336312, 33633, 33634, 33635, 336399, 336212, 336213
Pharmaceuticals.....	325411, 325412, 325413, 325414

[a] North American Industry Classification System.

Entities affected by this rule also include state and local permitting authorities, and tribal authorities that implement these regulations.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final rule will also be available on the World Wide Web. Following signature by the EPA Administrator, a copy of this final rule will be posted in the regulations and standards section of our NSR home page located at http://www.epa.gov/nsr.

II. Purpose

The purpose of this rulemaking is to finalize certain program provisions under the regulations to prevent significant deterioration of air quality due to emissions of $PM_{2.5}$ (i.e., under the $PM_{2.5}$ PSD regulations). This final rule supplements the final implementation rule for $PM_{2.5}$, known as the Clean Air Fine Particle Implementation Rule (CAFPIR) that we promulgated

on April 25, 2007 (72 FR 20586), and the $PM_{2.5}$ NSR Implementation Rule that we promulgated on May 16, 2008 (73 FR 28321). Together, these three rules encompass the elements necessary for implementation of a $PM_{2.5}$ program in any area. This final rule is important because it establishes increments, SILs, and an SMC for $PM_{2.5}$ to facilitate ambient air quality monitoring and modeling under the PSD regulations for areas designated attainment or unclassifiable for $PM_{2.5}$.

III. Overview of Final $PM_{2.5}$ PSD Regulations

A. Increments

This rulemaking establishes increments for $PM_{2.5}$ pursuant to the legal authority contained in section 166(a) of the Clean Air Act (CAA or Act) for pollutants for which NAAQS are promulgated after 1977. The final $PM_{2.5}$ increments were identified as Option 1 in the 2007 Notice of Proposed Rulemaking (NPRM) for this action, and are as follows:

Averaging Period	**NAAQS ($\mu g/m^3$)**	**Increments ($\mu g/m^3$)**		
		Class I	Class II	Class III
Annual	15	1	4	8
24-hour	35	2	9	18

As discussed in more detail in sections V.F and VIII, the increments for $PM_{2.5}$ will become effective on **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION THE FEDERAL REGISTER]**.

This final rule does not revoke the annual increments for particulate matter less than 10 micrometers (PM_{10}) as proposed

under Option 1 in the 2007 NPRM. Thus, we are retaining the 24-hour and annual PM_{10} increments in addition to adding $PM_{2.5}$ increments. This outcome is discussed in greater detail in section V.H of this preamble.

B. Significant Impact Levels

This rule establishes SILs for $PM_{2.5}$ for evaluating the impact a proposed new source or modification may have on the NAAQS and PSD increments for $PM_{2.5}$. The SILs for $PM_{2.5}$ were developed by scaling the existing PM_{10} SILs using a $PM_{2.5}$-to-PM_{10} NAAQS ratio. The final SILs were identified as Option 3 in the 2007 NPRM, and are as follows:

Averaging Period	**SILs (μg/m^3)**		
	Class I	Class II	Class III
Annual	0.06	0.3	0.3
24-hour	0.07	1.2	1.2

These values will be added to the state implementation plan (SIP) provisions for PSD at 40 CFR 51.166 (as an optional screening tool) and the federal PSD program at 40 CFR 52.21, as well as under the preconstruction review permit requirements at 40 CFR 51.165(b) and part 51, Appendix S. See a more detailed discussion of the SILs, as well as the relevant comments and our responses to them, in section VI of this preamble. The SILs for $PM_{2.5}$ are incorporated into the federal PSD program as well as into the regulations for state-implemented PSD programs,

although they are regarded as optional for state programs. The effective date for implementing the SILs under the federal PSD program is the effective date of this final rule. See section VIII of this preamble for further discussion of the effective date.

C. Significant Monitoring Concentration

This final rule establishes the SMC for $PM_{2.5}$ as 4 µg/m^3 $PM_{2.5}$ (24-hour average). This value has been developed pursuant to proposed Option 1; however, it should be noted that the value being established in this final rule is lower than the proposed value of 10 µg/m^3 that was originally developed under Option 1. A more detailed discussion of the proposed SMC is presented in section VII of this preamble, describing the rationale for altering the proposed SMC, and the relevant comments on the proposed SMC and our responses to them. The SMC for $PM_{2.5}$ is incorporated into the federal PSD program as well as into the regulations for state-implemented PSD programs, although they are regarded as optional for state programs. As with the SILs for $PM_{2.5}$, the effective date for implementing the SMC under the federal PSD program is the effective date of this final rule. See section VIII of this preamble for further discussion of the effective date.

IV. Background

A. PSD Program

The NSR provisions of the Act are a combination of air quality planning and air pollution control technology program requirements for new and modified stationary sources of air pollution. In brief, section 109 of the Act requires us to promulgate primary NAAQS to protect public health and secondary NAAQS to protect public welfare. Once we have set these standards, states must develop, adopt, and submit to us for approval SIPs that contain emission limitations and other control measures to attain and maintain the NAAQS and to meet the other requirements of section 110(a) of the Act. Part C of title I of the Act contains the requirements for a component of the major NSR program known as the PSD program. This program sets forth procedures for the preconstruction review and permitting of new and modified major stationary sources of air pollution locating in areas meeting the NAAQS ("attainment" areas) and areas for which there is insufficient information to classify an area as either attainment or nonattainment ("unclassifiable" areas). Most states have SIP-approved preconstruction permit (major NSR) programs. The federal PSD program at 40 CFR 52.21 applies in some states that lack a SIP-

approved permit program, and in Indian country.[1] The applicability of the PSD program to a major stationary source must be determined in advance of construction and is a pollutant-specific determination. Once a major source is determined to be subject to the PSD program (PSD source), among other requirements, it must undertake a series of analyses to demonstrate that it will use the best available control technology (BACT) and will not cause or contribute to a violation of any NAAQS or increment. For the latter demonstration, the PSD regulations generally require sources to submit for review and approval a source impact analysis and an air quality analysis.

The source impact analysis is primarily a modeling analysis designed to show that the allowable emissions increase from the proposed project, in conjunction with other emissions increases from existing sources, will not result in a violation of either the NAAQS or increments. In cases where the source's emissions may adversely affect an area classified as a Class I area, additional review is conducted to protect the increments and special attributes of such an area defined as "air quality

[1] We have delegated our authority to some states to implement the federal PSD program. The EPA remains the reviewing authority in non-delegated states lacking SIP-approved programs and in Indian country.

related values” (AQRVs).

The air quality analysis must assess the ambient air quality in the area that the proposed project would affect. For this analysis, the owner or operator of the proposed project must submit as part of a complete permit application air quality monitoring data that represent the air quality in the area affected by the proposed source for the 1-year period preceding receipt of the application. Where data may already exist to represent existing air quality, it may be used by the applicant; otherwise, the source owner or operator is responsible for the installation and operation of monitors to collect the necessary data.

Historically, EPA has allowed the use of several types of screening tools to facilitate implementation of the preconstruction review process to reduce the permit applicant’s burden and streamline the permitting process for de minimis circumstances. These tools include a significant emissions rate (SER), SILs, and a SMC. The SER, defined in tons per year (tpy) for each regulated pollutant, is used to determine whether the emissions increase from any proposed source or modification can be excluded from review on the grounds that the increase of any particular pollutant is de minimis. An emission increase for a particular pollutant that is greater than the SER defined in the NSR regulations for that pollutant is considered to be a

significant increase.

The SIL, expressed as an ambient pollutant concentration (micrograms per cubic meter ($\mu g/m^3$)), is used to determine whether the ambient impact of a particular pollutant (once it is determined to be emitted in significant amounts) is significant enough to warrant a complete source impact analysis involving modeling the collective impacts of the proposed project and emissions from other existing sources.

The PSD regulations generally require each PSD applicant to collect 1 year of continuous air quality monitoring data for any pollutant determined to be subject to preconstruction review as part of complete PSD permit application. Using the SMC as a screening tool, expressed as an ambient pollutant concentration ($\mu g/m^3$), sources may be able to demonstrate that the modeled air quality impact of emissions from the new source or modification, or the existing air quality level in the area where the source would construct, is less than the SMC, i.e., de minimis, and may be allowed to forego the preconstruction monitoring requirement for a particular pollutant at the discretion of the reviewing authority.[2] See 40 CFR 51.166(i)(5) and 52.21(i)(5).

When the reviewing authority reaches a preliminary decision to authorize construction of a proposed major new source or

[2] The basic monitoring exemption provision is part of the original monitoring requirements adopted in the 1980 PSD rulemaking. 45 FR 52676, 52710, August 7, 1980.

major modification, it must provide notice of the preliminary decision and an opportunity for comment by the general public, industry, and other persons that may be affected by the emissions of the proposed major source or major modification. After considering these comments, the reviewing authority may issue a final determination on the construction permit in accordance with the PSD regulations.

B. History of Particulate Matter (PM) NAAQS

1. Total Suspended Particulate (TSP) and PM_{10} NAAQS

The EPA initially established NAAQS for PM in 1971, measured by the TSP indicator. Based on the size of the particles collected by the "high-volume sampler," which at that time was the reference method for determining ambient concentrations, TSP included all PM up to a nominal size of 25 to 45 micrometers. We established both annual and 24-hour NAAQS for TSP.

On July 1, 1987, we revised the NAAQS for PM and changed the indicator from TSP to PM_{10}; the latter indicator includes particles with a mean aerodynamic diameter less than or equal to 10 micrometers. The PM_{10} particles are the subset of inhalable particles small enough to penetrate to the thoracic region (including the tracheobronchial and alveolar regions) of the respiratory tract (referred to as thoracic particles). We established annual and 24-hour NAAQS for PM_{10}, and revoked the

NAAQS for TSP. (52 FR 24634).

2. $PM_{2.5}$ NAAQS

On July 18, 1997, we again revised the NAAQS for PM in several respects. While we determined that the NAAQS should continue to focus on particles less than or equal to 10 micrometers in diameter, we also determined that the fine and coarse fractions of PM_{10} should be considered separately. We established new annual and 24-hour NAAQS using $PM_{2.5}$ (referring to particles with a nominal mean aerodynamic diameter less than or equal to 2.5 micrometers) as the indicator for fine particles. The 1997 NAAQS rule also modified the PM_{10} NAAQS for the purpose of regulating the coarse fraction of PM_{10} (referred to as thoracic coarse particles or coarse-fraction particles; generally including particles with a nominal mean aerodynamic diameter greater than 2.5 micrometers and less than or equal to 10 micrometers, or $PM_{10-2.5}$); however, this part of the rulemaking was vacated during subsequent litigation, leaving the pre-existing 1987 PM_{10} NAAQS in place (62 FR 38652).

3. Revised $PM_{2.5}$ and PM_{10} NAAQS

On October 17, 2006, we promulgated revisions to the NAAQS for $PM_{2.5}$ and PM_{10} with an effective date of December 18, 2006 (71 FR 61144). We lowered the 24-hour NAAQS for $PM_{2.5}$ from 65 $\mu g/m^3$ to 35 $\mu g/m^3$, and retained the existing annual $PM_{2.5}$ NAAQS of 15 $\mu g/m^3$. In addition, we retained the existing PM_{10} 24-hour NAAQS

of 150 μg/m^3, and revoked the annual PM_{10} NAAQS (set at 50 μg/m^3).

C. Implementation of NSR for $PM_{2.5}$

After we established new annual and 24-hour NAAQS based on $PM_{2.5}$ as the indicator for fine particles in July 1997, we issued a guidance document titled "Interim Implementation for the New Source Review Requirements for $PM_{2.5}$," John S. Seitz, Director, Office of Air Quality Planning and Standards, EPA, October 23, 1997. As noted in that guidance, section 165 of the Act implies that certain PSD requirements become effective for a new NAAQS upon the effective date of the NAAQS. Section 165(a)(1) of the Act provides that no new or modified major source may be constructed without a PSD permit that meets all of the section 165(a) requirements with respect to the regulated pollutant. Moreover, section 165(a)(3) provides that the emissions from any such source may not cause or contribute to a violation of any increment or NAAQS. Also, section 165(a)(4) requires BACT for each pollutant subject to PSD regulation. The 1997 guidance stated that sources would be allowed to use implementation of a PM_{10} program as a surrogate for meeting $PM_{2.5}$ NSR requirements until certain difficulties were resolved. These difficulties included the lack of necessary tools to calculate the emissions of $PM_{2.5}$ and related precursors, the lack of adequate modeling techniques to project ambient impacts, and the lack of $PM_{2.5}$ monitoring sites.

On April 5, 2005, we issued a guidance document entitled "Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas," Stephen D. Page, Director, Office of Air Quality Planning and Standards, EPA. This memorandum provided guidance on the implementation of the nonattainment major NSR provisions in $PM_{2.5}$ nonattainment areas in the interim period between the effective date of the $PM_{2.5}$ NAAQS designations (April 5, 2005) and when we promulgate regulations to implement nonattainment major NSR for the $PM_{2.5}$ NAAQS. In addition to affirming the continued use of the John S. Seitz guidance memo in $PM_{2.5}$ attainment areas, this memo recommended that, until we promulgated the $PM_{2.5}$ major NSR regulations, states should use a PM_{10} nonattainment major NSR program as a surrogate to address the requirements of nonattainment major NSR for the $PM_{2.5}$ NAAQS.

On November 1, 2005, we proposed a rule to implement the $PM_{2.5}$ NAAQS, including proposed revisions to the NSR program. For those states with EPA-approved PSD programs, we proposed to continue the 1997 NSR guidance to use PM_{10} as a surrogate for $PM_{2.5}$, but only during the SIP development period. We also indicated in that proposal that we would be developing increments, SILs, and an SMC in a separate rulemaking, i.e., this final rule. Since there was an interim surrogate NSR program in place, i.e., the PM_{10} Surrogate Policy, EPA decided to first promulgate the non-NSR part of the implementation rule

(including attainment demonstrations, designations, control measures, etc.). This rule was promulgated as the CAFPIR on April 25, 2007 (72 FR 20586).

The NSR part of the implementation rule was issued separately as a final rule on May 16, 2008 (73 FR 28321), and included sets of NSR regulations for both attainment (PSD) and nonattainment areas (nonattainment NSR) for $PM_{2.5}$. In the May 16, 2008 rule we added one of the important screening tools — the SER — for $PM_{2.5}$. The SER for $PM_{2.5}$ is defined as an emissions rate of 10 tpy for direct $PM_{2.5}$ emissions. We also listed sulfur dioxide (SO_2) and nitrogen oxides (NO_x) as precursors of ambient $PM_{2.5}$ and defined "significant" as 40 tpy or more of either precursor pollutant. States were allowed up to 3 years from the date of publication in the Federal Register to revise their SIPs and submit their revised NSR programs to EPA for approval.

D. Increments Under the PSD Program

Under section 165(a)(3) of the Act, a PSD permit applicant must demonstrate that emissions from the proposed construction and operation of a facility "will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant …." The "maximum allowable increase" of an air pollutant that is allowed to occur above the applicable baseline concentration for that pollutant is known as the PSD increment. By establishing the

maximum allowable level of ambient pollutant concentration increase in a particular area, an increment defines "significant deterioration" of air quality in that area.

For PSD baseline purposes, a baseline area for a particular pollutant emitted from a source includes the attainment or unclassifiable area in which the source is located, as well as any other attainment or unclassifiable area in which the source's emissions of that pollutant are projected (by air quality modeling) to result in a significant ambient pollutant increase. See, e.g., 40 CFR 52.21(b)(15)(i). Once the baseline area is established, subsequent PSD sources locating in that area need to consider that a portion of the available increment may have already been consumed by previous emissions increases.

In general, the submittal date of the first complete PSD permit application in a particular area is the operative "baseline date."[3] On or before the date of the first complete PSD application, emissions generally are considered to be part of the baseline concentration, except for certain emissions from major stationary sources, as explained in the following

[3] Baseline dates are pollutant specific. That is, a complete PSD application establishes the baseline date only for those regulated NSR pollutants that are projected to be emitted in significant amounts (as defined in the regulations) by the applicant's new source or modification. Thus, an area may have different baseline dates for different pollutants.

discussion of baseline dates. Most emissions increases that occur after the baseline date will be counted toward the amount of increment consumed. Similarly, emissions decreases after the baseline date restore or expand the amount of increment that is available.

In practice, three dates related to the PSD baseline concept are important in understanding how to calculate the amount of increment consumed — (1) trigger date; (2) major source baseline date; and (3) minor source baseline date. The first relevant date is the trigger date. The trigger date, as the name implies, triggers the overall increment consumption process nationwide. Specifically, this is a fixed date, which must occur before the minor source baseline date can be established for the pollutant-specific increment in a particular attainment area. See, 40 CFR 51.166(b)(14)(ii) and 52.21(b)(14)(ii). For PM (regulated as TSP) and SO_2, Congress defined the applicable trigger date as August 7, 1977 - the date of the 1977 amendments to the Act when the original statutory increments were established by Congress. For nitrogen dioxide (NO_2), we selected the trigger date as February 8, 1988 - the date on which we proposed increments for NO_2. See 53 FR 40656, 40658; October 17, 1988. In this final rule, as described later, we are establishing a separate trigger date for purposes of implementing the $PM_{2.5}$ increments. See section V.F of this

preamble for additional discussion of the trigger date for $PM_{2.5}$.

The two remaining dates – "minor source baseline date" and "major source baseline date" – as described later, are necessary to properly account for the emissions that are to be counted toward the amount of increment consumed following the national trigger date, in accordance with the statutory definition of "baseline concentration" in section 169(4) of the Act. The statutory definition provides that the baseline concentration of a pollutant for a particular baseline area is generally the air quality at the time of the first application for a PSD permit in the area. Consequently, any increases in actual emissions occurring after that date (with some possible exceptions that we will discuss later) would be considered to consume the applicable PSD increment. However, the statutory definition in section 169(4) also provides that "[e]missions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted in pollutant concentrations established under this part."

To make this distinction between the date when emissions resulting from the construction at a major stationary source consume the increment and the date when emissions changes in general (i.e., from both major and minor sources) begin to consume the increment, we established the terms "major source

baseline date" and "minor source baseline date," respectively. See 40 CFR 51.166(b)(14) and 52.21(b)(14). Accordingly, the "major source baseline date," which precedes the trigger date, is the date after which actual emissions increases associated with construction at any major stationary source consume the PSD increment. In accordance with the statutory definition of "baseline concentration," the PSD regulations define a fixed date to represent the major source baseline date for each pollutant for which an increment exists. Congress defined the major source baseline date for the statutory increments for PM and SO_2 as January 6, 1975. For the NO_2 increments, which we promulgated in 1988 under our authority to establish an increment system under section 166(a) of the Act, the major source baseline date we selected was February 8, 1988 – the date on which we proposed increments for NO_2. 53 FR 40656. In both instances, the major source baseline date for the individual increments was set as a date which preceded the date on which the regulations pertaining to those increments were issued. In this final rule, as described later, we are establishing a separate major source baseline date for implementing the $PM_{2.5}$ increments. See section V.F of this preamble for further discussion of the major source baseline date for $PM_{2.5}$.

The "minor source baseline date" is the earliest date after the trigger date on which a source or modification submits the

first complete application for a PSD permit in a particular area. After the minor source baseline date, any increase in actual emissions (from both major and minor sources) consumes the PSD increment for that area.

Once the minor source baseline date is established, the new emissions increase from that major source consumes a portion of the increment in that area, as do any subsequent actual emissions increases that occur from any new or existing source in the area. When the maximum pollutant concentration increase defined by the increment has been reached, additional PSD permits cannot be issued until sufficient amounts of the increment are "freed up" via emissions reductions that may occur voluntarily, (e.g., via source shutdowns) or by mandatory control requirements imposed by the reviewing authority. Moreover, the air quality in a region cannot deteriorate to a level in excess of the applicable NAAQS, even if all the increment in the area has not been consumed. Therefore, new or modified sources located in areas where the air pollutant concentrations are near the level allowed by the NAAQS may not have full use of the amount of pollutant concentration increase allowed by the increment.

Under EPA guidance, the actual increment analysis that a proposed new or modified source undergoing PSD review must complete depends on the area impacted by the source's new

emissions. We have provided approved air quality models and guidelines for sources to use to project the air quality impact of each pollutant (over each averaging period) for which an increment analysis must be done.[4] In addition, we established SILs for each pollutant under the permit requirements applicable to new and modified major stationary sources locating in attainment areas that would cause or contribute to a violation of any NAAQS. See 40 CFR 51.165(b) and part 51, Appendix S, section III.A. These SILs have also been used for implementing the PSD program to identify levels below which the source's modeled impact of a particular pollutant is regarded as de minimis. In this final rule, we are establishing SILs (24-hour and annual) for $PM_{2.5}$ that are being added to the aforementioned regulations containing SILs for other pollutants, as well as to the PSD regulations in 40 CFR 51.166 and 52.21. See further discussion of the SILs for $PM_{2.5}$ in section VI of this preamble.

In the event that a source's modeled impacts of a particular pollutant are below the applicable SIL at all ambient air locations modeled, i.e., de minimis everywhere, EPA's policy for PSD provides that no further modeling analysis is required for that pollutant. Our longstanding policy under the PSD program is that when a preliminary screening analysis based on

[4] See EPA's "Guideline on Air Quality Models" at 40 CFR part 51, Appendix W.

the SIL is sufficient to demonstrate that the source's emissions throughout the area modeled will not cause or contribute to a violation of the increment, there is no need for a comprehensive source impact analysis involving a cumulative evaluation of the emissions from the proposed source and other sources affecting the area.

Within the impact area of a source subject to PSD, that is, the area within which the proposed project's emissions increase does have a significant impact, increment consumption is calculated using the source's proposed emissions increase, along with other actual emissions increases or decreases of the particular pollutant from any sources in the area, which have occurred since the minor source baseline date established for that area. In addition, the emissions increases or decreases from any major source that has commenced construction since the major source baseline date (which precedes the minor source baseline date) will consume or expand increment. Thus, an emissions inventory of sources whose emissions, in whole or in part, of a particular pollutant consume or expand the available increment in the area must be compiled. The inventory of increment-consuming emissions includes not only sources located directly in the impact area, but sources outside the impact area that affect the air quality for the particular pollutant within the impact area.

The inventory of increment-consuming emissions includes emissions from increment-affecting sources at two separate time periods – the baseline date and the current period of time. For each source that was in existence on the relevant baseline date (major source or minor source), the inventory includes the source's actual emissions on the baseline date and its current actual emissions. The change in emissions over these time periods represents the emissions that consume increment (or, if emissions have gone down, expand the available increment). For sources constructed since the relevant baseline date, all their current actual emissions consume increment and are included in the inventory.

When the inventory of increment-consuming emissions has been compiled, computer modeling is used to determine the change in ambient concentration that will result from these emissions when combined with the proposed emissions increase from the new major source or major modification that is undergoing PSD review. The modeling has generally been guided by the "Guideline on Air Quality Models" (40 CFR part 51, Appendix W), which includes provisions on air quality models and the meteorological data input into these models. The model output (expressed as a change in concentration) for each relevant averaging period is then compared to the corresponding allowable PSD increment.

E. Historical Approaches for Developing Increments

1. Congressional Enactment of Increments for PM and SO_2

Congress established the first increments defining significant deterioration of air quality in the 1977 Amendments to the Act. These amendments, among other things, added part C to title I, setting out the requirements for PSD. In section 163, Congress included numerical increments for PM and SO_2 for Class I, II, and III areas.

The three area classes are part of the increment system originally established by Congress. Congress designated Class I areas (including certain national parks and wilderness areas) as areas of special national concern, where the need to prevent deterioration of air quality is the greatest. Consequently, the allowable level of incremental change is the smallest relative to the other area classes, i.e., most stringent, in Class I areas. The increments of Class II areas are larger than those of Class I areas and allow for a moderate degree of emissions growth. For future redesignation purposes, Congress defined a "Class III" classification to allow the redesignation of any existing Class II area for which a state may desire to promote a higher level of industrial development (and emissions growth). Thus, Class III areas are allowed to have the greatest amount of pollutant increase of the three area classes while still achieving the NAAQS. To date, there have been no redesignations

made to establish a Class III area.

In establishing these PSD increments, Congress used the then-existing NAAQS for those pollutants as the benchmark for determining what constitutes "significant deterioration." Congress established the increments for PM as a percentage of the then-existing PM NAAQS. At the time the Act was amended in 1977, the NAAQS for PM were expressed in terms of ambient concentrations of TSP. Thus, EPA interpreted the statutory increments for PM using the same ambient TSP "indicator."

2. EPA's Promulgation of Increments for NO_2 and PM_{10}

Congress also provided authority for EPA to promulgate additional increments and to update the original PM increments created by statute. The EPA has promulgated two regulations pursuant to this authority.

a. Increments for NO_2 Using the "Contingent Safe Harbor" Approach Under Section 166(a) of the Act

Based on section 166(a) of the Act, on October 17, 1988, EPA promulgated increments for NO_2 to prevent significant deterioration of air quality due to emissions of NO_x (53 FR 40656). The EPA based these increments on percentages of the NAAQS in the same way that Congress derived the statutory increments for PM and SO_2. Those NO_2 increments were challenged in 1988 by the Environmental Defense Fund (EDF) when EDF filed suit in the U.S. Court of Appeals for the District of Columbia

Circuit against the Administrator (Environmental Defense Fund, Inc. v. Reilly, No. 88-1882). The EDF successfully argued that we failed to sufficiently consider certain provisions in section 166 of the Act. The court remanded the case to EPA "to develop an interpretation of section 166 that considers both subsections (c) and (d), and if necessary to take new evidence and modify the regulations." See Environmental Defense Fund v. EPA, 898 F.2d 183, 190 (D.C. Cir. 1990) (EDF v. EPA). Section 166(c) of the Act requires the PSD regulations to, among other things, meet the goals and purposes set forth in sections 101 and 160 of the Act. Section 166(d) requires these regulations be at least as effective as the increments established for PM (in the form of TSP) and SO_2 in section 163 of the Act. The court considered the NO_2 increment values determined using the percentage-of-NAAQS approach as "safe harbor" increments which met the requirements of section 166(d) of the Act. However, the court also determined that EPA's reliance on such increment levels was contingent upon our completing the analyses required under section 166(c), which provided that the final increment values must address the goals of sections 101 and 160 of the Act to

protect public health and welfare, parks, and AQRVs[5] and to insure economic growth.

In response to the court's decision, we proposed rulemaking on increments for NO_2 on February 23, 2005 (70 FR 8880) and finalized the rule on October 12, 2005 (70 FR 59582). In the final rule, we established our policy on how to interpret and apply the requirements of sections 166(c) and (d) of the Act. In accordance with the court ruling, we conducted further analyses (considering the health and welfare effects of NO_x) and concluded that the existing NO_2 increments were adequate to fulfill the requirements of section 166(c). See 70 FR 59586 for our detailed analysis of how pollutant regulations satisfy the requirements of section 166 of the Act. Hence, we retained the existing NO_2 increments along with other parts of the existing framework of pollutant-specific NO_2 increment regulations. We also amended the PSD regulations under 40 CFR 51.166 to make it clear that states may seek EPA approval of SIPs that utilize a

[5] The term "air quality related values" is not defined in the Act, but the legislative history provides language saying that "The term 'air quality related values' of federal lands designated as Class I includes the fundamental purposes for which such lands have been established and preserved by the Congress and the responsible federal agency. For example, under the 1916 Organic Act to establish the National Park Service (16 U.S.C. 1), the purpose of such national park lands 'is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.'" S. Rep. No. 95-127 at 36 (1977).

different approach than EPA used to establish these NO_2 increments. To receive our approval of an alternative program, a state must demonstrate that its program satisfies the requirements of sections 166(c) and 166(d) of the Act and prevents significant deterioration of air quality from emissions of NO_x.[6]

b. Increments for PM_{10} Using "Equivalent Substitution" Approach Under Section 166(f) of the Act

On October 5, 1989, we proposed PM_{10} increments. See 54 FR 41218. Although section 163 did not expressly define the existing statutory increments for PM in terms of a specific indicator, EPA reasoned that Congress' knowledge that TSP was the indicator for the PM NAAQS, and that the TSP standards were the starting point for the increments levels when the increments were established in 1977, meant that TSP was also the appropriate measure for the PM increments in section 163. As a consequence, EPA believed that the statutory PM increments could not simply be administratively redefined as PM_{10} increments, retaining the same numerical values, following the revision of the PM NAAQS. Rather, we stated our belief that with the promulgation of the PM_{10} NAAQS, EPA had both the responsibility

[6] Under the 2005 NO_x regulation, states can adopt measures other than increments as long as they can demonstrate that the measures selected comply with the same criteria and goals of sections 166(c) and (d) of the Act that must be met for increments.

and the authority under sections 166 and 301 of the Act to promulgate new increments for PM to be measured in terms of PM_{10}. We further concluded that promulgating PM_{10} increments to replace, rather than supplement, the statutory TSP increments under section 163 represented the most sensible approach for preventing significant deterioration with respect to PM. See 54 FR 41220 - 41221.

We promulgated PM_{10} increments to replace the then-existing TSP increments on June 3, 1993 (58 FR 31622). In the interim between proposal and promulgation, Congress enacted the 1990 CAA Amendments. As part of these amendments, Congress amended section 166 to add a new section 166(f). This section specifically authorized EPA to substitute PM_{10} increments for the existing section 163 PM increments based on TSP, provided that the substituted increments are "of equal stringency in effect" as the section 163 increments.

Thus, we were able to replace the TSP increments under section 163 of the Act using PM_{10} increments based directly on the newly enacted authority under section 166(f) of the Act. In the PM_{10} rule, we maintained the existing baseline dates and baseline areas for PM that had been previously established using the TSP indicator. Also, as proposed, we promulgated PM_{10} increments based on an approach we called the "equivalent to statutory increments" approach. Under this approach, we used

the original TSP increments as a benchmark for calculating the PM_{10} increments, thereby retaining roughly the same limitations on future deterioration of air quality as was allowed under the TSP increments.

In using this approach, we considered the historical consumption of TSP increment by a sample population of permitted PSD sources, and then determined the PM_{10} increments for each area classification and averaging time that would provide approximately the same percentage of PM_{10} increment consumption, on average, by the same population of sources. Then, all future calculations of increment consumption after the PM_{10} implementation date would be based on PM_{10} emissions. See 58 FR 31622 and 31625.

V. Final Action on $PM_{2.5}$ Increments

In this section of the preamble, we will summarize the considerations that went into our proposed action and describe the final action being taken regarding new regulations for preventing significant deterioration of $PM_{2.5}$ air quality — including $PM_{2.5}$ increments (sections V.A through V.E, baseline dates and other permit requirements for $PM_{2.5}$ (section V.F), baseline areas for $PM_{2.5}$ (section V.G), and PM_{10} increments (section V.H).

A. Decision to Establish $PM_{2.5}$ Increments Using "Contingent Safe Harbor Approach" Under Section 166(a)

The EPA's 2007 NPRM contained three options for developing numerical $PM_{2.5}$ increments. Option 1 used the authority of section 166(a) of the Act to establish increments for $PM_{2.5}$ as a new pollutant for which NAAQS were established after August 7, 1977, and established 24-hour and annual $PM_{2.5}$ increments (Class I, II, and III) based on the "contingent safe harbor" approach. Options 2 and 3 used the contingent safe harbor approach under section 166(a) to only develop 24-hour $PM_{2.5}$ increments (Class I, II, and III), while using the "equivalent substitution" approach under section 166(f) of the Act to develop annual $PM_{2.5}$ increments. Each of these options is discussed in detail in the 2007 NPRM. 72 FR 54123 - 54138. In addition, significant comments on each of the three options, and our responses to them, are provided in this section V of this preamble.

In this final rule, after considering the available information and comments from interested parties, EPA has decided to select Option 1 and establish increments for $PM_{2.5}$ using the "contingent safe harbor" approach in accordance with the authority provided in section 166(a) of the Act.

This final rule establishes increments for $PM_{2.5}$ at the following levels:

Averaging Period	**NAAQS ($\mu g/m^3$)**	**Increments ($\mu g/m^3$)**		
		Class I	Class II	Class III
Annual	15	1	4	8
24-hour	35	2	9	18

B. Rationale for the Applicability of Section 166(a)

In the 2007 NPRM, we expressed our belief that it is permissible to interpret section 166(a) to apply to $PM_{2.5}$. Section 166(a) requires EPA to develop regulations to prevent the significant deterioration of air quality due to emissions of certain named pollutants, and to develop such regulations for any pollutants for which NAAQS are subsequently promulgated. Although EPA has generally characterized the NAAQS for $PM_{2.5}$ as a NAAQS for a new indicator of PM, EPA did not replace the PM_{10} NAAQS with the NAAQS for $PM_{2.5}$ when the latter NAAQS were promulgated in 1997. Rather, EPA retained the annual and 24-hour PM_{10} NAAQS (retaining PM_{10} as an indicator of coarse particulate matter), and established new annual and 24-hour NAAQS for $PM_{2.5}$ as if $PM_{2.5}$ was a new pollutant, even though EPA had already developed air quality criteria for PM generally. Thus, for purposes of section 166(a), the promulgation of a NAAQS for $PM_{2.5}$ established a NAAQS for an additional pollutant after 1977.

Nine commenters supported our proposed Option 1, although only three of these explicitly expressed support for the use of section 166(a) authority to promulgate $PM_{2.5}$ increments. Ten other commenters specifically opposed the use of section 166(a) authority and/or supported the use of section 166(f) authority (on which the annual increments under Options 2A and 2B were

based).

One of the commenters who explicitly agreed with our proposed use of section 166(a) authority stated that it is the only option that is legally available. This commenter asserted that section 166(a) plainly applies to $PM_{2.5}$ because $PM_{2.5}$ is a pollutant for which NAAQS were promulgated after August 7, 1977. This commenter held that EPA's rulemaking duty under section 166(a) is not confined to "new pollutants," but is triggered by post-1977 NAAQS promulgations, regardless of whether for new or previously regulated pollutants. On the other hand, this commenter noted that by its terms section 166(f) is limited to authorizing the adoption of PM_{10} increments as a substitute for the statutory TSP increments and does not provide for substitution of $PM_{2.5}$ increments for TSP or PM_{10} increments.

The opposing commenters did not believe that section 166(a) provides a legal basis for EPA to promulgate $PM_{2.5}$ increments. One of these commenters stated that section 166(a) can only be used for a new pollutant, and $PM_{2.5}$ is not a new pollutant.

Another commenter who opposed the use of section 166(a) authority argued that nothing in section 166(a) of the Act can be interpreted to allow it to be used as the basis of increments when EPA revises an existing NAAQS. The commenter explained that, on its face, section 166(a) can only be interpreted to apply to pollutants other than PM and SO_2 since increments for

these pollutants were enacted by Congress in section 163 of the Act. The commenter added that it can be argued that Congress intended to have section 166(a) apply to the four other pollutants specifically listed there.

This commenter found unpersuasive our argument that we are not "substituting" increments (as section 166(f) requires for PM_{10}) but rather adding $PM_{2.5}$ increments to the existing PM_{10} increments, and that only section 166(a) allows such an approach (72 FR 54121). The commenter asserted that if EPA had defined a coarse fraction to the particulate matter standards, then that fraction, together with the $PM_{2.5}$ standards, would form the set of "substituted" new standards for the existing PM_{10} standards, and, thus, the increments.

The commenter also disagreed with EPA's argument that it can treat $PM_{2.5}$ as a new pollutant under section 166(a) of the Act since it has been demonstrated that sub-$PM_{2.5}$ particles have distinctly different health and welfare effects than the other forms of PM (i.e., coarse or PM_{10}). The commenter indicated that just as EPA replaced the TSP standards by PM_{10} as a better indicator of health effects, ongoing research has led to establishment of the $PM_{2.5}$ standards as a better indicator of certain health effects, and it is the natural outcome of such research that has enabled EPA to separate the effect of total particulate matter into two fractions with distinct effects.

The commenter added that given that the definition of particulate matter includes a vast conglomeration of solids and liquids, the finding of differing effects should not come as a surprise. The commenter explained that as is the case of different pollutants having similar effects that are, nonetheless, treated as separate pollutants, the same concept should apply to a range or fraction of particulate matter found to have different effects in establishing it as another indicator and not a different pollutant.

The commenter did not disagree with the specific numerical increments proposed by EPA under Option 1, but did have concerns with the potential consequences of the section 166(a) approach. The commenter's primary concern was the proposal to allow states to substitute other measures in the place of uniform national increments for $PM_{2.5}$. (This is discussed further in section V.C.5 of this preamble.) Another commenter also expressed this concern.

Another commenter who opposed the section 166(a) approach believes that the legal and congressional history regarding the establishment of PM increments shows that Congress added section 166(f) to the Act based on the conviction that without it, EPA had no authority to revise the PM increments for PM_{10} (citing and quoting from S. Rep. No. 228, 101st Cong., 2nd Sess. 75 (1990), reprinted in 1990 U.S.C.C.A.N. 3385, 3461). The commenter

concluded that EPA did not have authority in 1987 under section 166(a) to adopt PM_{10} increments, and does not have authority now under section 166(a) to adopt $PM_{2.5}$ increments.

We read section 166(a) to authorize EPA to promulgate pollutant-specific PSD regulations meeting the requirements of sections 166(c) and 166(d) for any pollutant for which EPA promulgates a NAAQS after 1977. Most of the pollutants identified in section 166(a) (NO_x, photochemical oxidants, carbon monoxide) are pollutants for which EPA had established NAAQS in 1977 when Congress adopted section 166 of the Act. There was no need for Congress to list other criteria pollutants, SO_2 and PM, in section 166(a) because Congress had already established increments for these pollutants in section 163 of the Act. In addition to requiring regulations for the enumerated pollutants, we conclude that under section 166 of the Act Congress intended to authorize EPA to establish additional pollutant-specific PSD regulations, potentially containing increments, for any additional pollutants for which EPA promulgated a NAAQS under section 109 of the Act. Furthermore, because the Act refers to pollutants for which EPA promulgates NAAQS after 1977, and does not use the phrase "additional pollutants," section 166(a) provides authority for EPA to promulgate new increments after revising an existing NAAQS (including NAAQS first promulgated before 1977), when we find that such action is appropriate.

Moreover, any new increments developed pursuant to section 166(a) have no effect on existing increments, as there is no indication therein that an existing increment should be revoked or replaced when additional increments are promulgated. This was the situation following the promulgation of new NAAQS for PM in 1987 when EPA replaced the old NAAQS based on TSP with new ones based on PM_{10}. Had Congress not added new section 166(f) in 1990, increments for PM_{10} could have been developed pursuant to section 166(a) of the Act, but such increments would have had no effect on the original statutory increments for PM (based on TSP). Consequently, seeing no basis for retaining the original increments, Congress added section 166(f) which explicitly provides for the replacement of the existing increments with PM_{10} increments.

One commenter asserted that if EPA establishes increments for $PM_{2.5}$ under the authority of section 166(a) on the basis that $PM_{2.5}$ is a new pollutant, then it must also establish PM_{10} increments under section 166(a) because (according to the commenter's analysis) PM_{10} is also a new pollutant. In the same analysis, the commenter concluded that EPA must adopt new measures to prevent significant deterioration from coarse PM based on section 166(a).

In this final rule, EPA is not setting or amending any increments for PM_{10} or otherwise taking action with respect to

PM_{10} increments. The preexisting annual and 24-hour increments for PM_{10} are being retained. See section V.H. Similarly, EPA is not taking any action with respect to coarse PM in this rule. For these reasons, the commenter's arguments on what authority must be used to set increments for PM_{10} and/or coarse PM, and that EPA has some obligation to take action with respect to coarse PM, are not on point for this rule. Thus, no substantive response to this comment is needed. Nevertheless, as mentioned earlier, Congress provided explicit authority under section 166(f) of the Act to address increments for PM_{10}, because it intended for such increments to be substitute increments for the original statutory increments for PM measured as TSP. Thus, the PM_{10} increments legally supersede the original statutory increments for PM. Had the PM_{10} increments been developed under section 166(a), which prior to the 1990 Act Amendments was the only authority available for developing new increments, then the original statutory PM increments would have remained in effect in addition to the PM_{10} increments.

One commenter expressed general objections to EPA's legal rationale for the $PM_{2.5}$ increments proposal, asserting that we failed to expressly state and support our legal authority for the $PM_{2.5}$ increments, offering two possible sources of authority ("contingent safe harbor," "equivalent substitution," or possibly a combination of the two) but never stating our legal

position with clarity. The commenter agreed with EPA's assessment that the $PM_{2.5}$ increments should and must fulfill the legal requirements of the Act (72 FR 54121), and added that it is the government's burden of proof to establish its legal authority for action. The commenter stated that it would be arbitrary and capricious to promulgate these regulations for which EPA has not stated legal authority.

We do not disagree that the 2007 NPRM described two different legal authorities for the two different options for establishing increments, but we disagree that these discussions did not clearly present the alternative legal bases that the Agency was considering for taking action in this rule. In particular, we clearly described our legal authority for developing the 24-hour and annual $PM_{2.5}$ increments under section 166(a) of the Act, which is the basis on which we are taking final action in this rule.[7] First, we expressly stated that Option 1 was based on the statutory authority of section 166(a) of the Act. See 72 FR 54123 (Under the first option, "we would use the authority of section 166(a) of the Act to develop new increments for $PM_{2.5}$"). Second, we provided a discussion of this authority both in general (see 72 FR 54118 - 54119 and 54120 -

[7] We also believe that we sufficiently described how section 166(f) might provide alternative authority for establishing increments for $PM_{2.5}$ (see, e.g., 72 FR 54120 - 54121), but will not address that in detail here because the increments in this rule are not based on section 166(f) authority.

54123), and how it would be applied to establish increments for $PM_{2.5}$ (see 72 FR 54119-120 and 54123-136).

We now believe that section 166(a) provides the most straightforward approach for developing increments for a pollutant or pollutant indicator for which no increments have yet been established. Our position is also consistent with the comments we received which supported the delay in implementation of the $PM_{2.5}$ increments, opposed the potential for two sets of definitions for "major source baseline date" and "trigger date" for the $PM_{2.5}$ increment system, and highlighted the complexities involved with having to establish and maintain two sets of emissions inventories for the 24-hour and annual $PM_{2.5}$ increments. (See further description of relevant comments in section VIII of this section.)

C. EPA's Interpretation of the Requirements under Sections 166(a)-(d) of the Act

In section 166(a) of the Act, Congress directed EPA to develop pollutant-specific regulations to prevent significant deterioration of air quality. Congress further specified that such regulations meet specific requirements set forth in sections 166(c) and 166(d) of the Act. We stated in the 2007 NPRM that because we believed that section 166(a) could be applied to the development of increments for $PM_{2.5}$, we would follow the interpretation of sections 166(a)-(d) that the Agency

adopted in its most recent NO_2 increments rule. 70 FR 59582, October 12, 2005. That particular interpretation and application was upheld in Environmental Defense v. EPA, 489 F.3d 1320 (D.C. Cir. 2007).

The EPA's interpretation of these provisions is grounded on five principles and conclusions. First, we read section 166 of the Act to direct EPA to conduct a holistic analysis that considers how a complete system of regulations will collectively satisfy the applicable criteria, rather than evaluating one individual part of a regulatory scheme in isolation. Second, we use a "contingent safe harbor" approach which calls for EPA to first determine an increment that is at least as effective as the increments in section 163 of the Act, as required under section 166(d) and then to conduct further analysis to determine if additional measures are necessary to fulfill the requirements of section 166(c). Third, we interpret section 166(c) of the Act to identify eight statutory factors that EPA must apply when promulgating pollutant-specific regulations to prevent significant deterioration of air quality. Fourth, where these factors are at odds with each other, we interpret the statute to require EPA to use its judgment to balance the conflicting factors. Fifth, we recognize that the requirements of section 166 may be satisfied by adopting other measures besides an increment and that EPA may allow states to demonstrate that

alternatives to increments contained in a SIP meet the requirements of sections 166(c) and 166(d). Below is a brief discussion of each of these five principles and conclusions. A more detailed description of each of these is contained in the 2007 NPRM at 72 FR 54121 - 54123.

1. Regulations as a Whole Should Fulfill Statutory Requirements

Section 166(a) of the Act directs EPA to develop pollutant-specific regulations to prevent the significant deterioration of air quality. Sections 166(c) and 166(d) provide detail on the contents of those regulations, but do not necessarily require the same type of increment system Congress created in section 163 of the Act. The EPA interprets section 166 to require that the entire system of PSD regulations (the framework and details, as described in section V.D of this preamble) for a particular pollutant must, as a whole, satisfy the criteria in sections 166(c) and 166(d) of the Act.

2. Contingent Safe Harbor Approach

Section 166(c) of the Act describes the kinds of measures to be contained in the regulations to prevent significant deterioration of air quality called for in section 166(a) and specifies that these regulations are to "fulfill the goals and purposes" set forth in sections 160 and 101 of the Act. Section 166(d) of the Act directs EPA to "fulfill such goals and

purposes" by providing "specific measures at least as effective as the increments established in section 163 …." Thus, EPA reads section 166(d) to require that the Agency identify "safe harbor" pollutant-specific PSD regulations adopted under section 166.

The EPA reads section 166(c) to require that the Agency conduct further review to determine whether, based on the criteria in section 166(c), EPA's pollutant-specific PSD regulations under section 166 should contain measures that are different from the "safe harbor" identified under section 166(d). The EPA construes section 166(d) to require that the measures be "at least as effective" as the statutory increments set forth in section 163.

To apply the "contingent safe harbor" approach for $PM_{2.5}$, we first identified "safe harbor" increments for each area classification (Class I, II, or III), using: (1) equivalent percentages of the NAAQS as the percentages used for developing the statutory increments; (2) the same pollutant as the NAAQS, i.e., $PM_{2.5}$, and (3) the same time (averaging) periods as were used for the $PM_{2.5}$ NAAQS. We concluded that this approach would ensure that the increments would be "at least as effective as the increments established in section 163," as required by section 166(d). Second, EPA conducted further review to determine whether the "safe harbor" increments, in conjunction

with existing elements of the PSD program or additional measures proposed under section 166 to augment the increments, sufficiently fulfill the criteria in subsection (c) of section 166.

In this review, we weighed and balanced the criteria set forth in subsection (c) (and, as provided in subsection (c), the incorporated goals and purposes of the Act in section 101 and the PSD program in section 160) to determine whether additional measures might be needed to satisfy the criteria in subsection (c). See section V.E.6 of this preamble for further discussion of our evaluation, comments on the evaluation, and our response to them.

3. The Statutory Factors Applicable under Section 166(c)

The EPA interprets section 166(c) of the Act to establish eight factors to be considered in the development of PSD regulations for the pollutants covered by this provision. These eight factors included the three criteria stated in section 166(c) and the five goals and purposes identified in section 160 of the Act (which, as noted below, also cover the goals and purposes set forth in section 101). The three stated criteria in section 166(c) indicate that PSD regulations for specific pollutants should provide: (1) specific numerical measures for evaluating permit applications; (2) a framework for stimulating improved control technology, and (3) protection of air quality

values. The five goals and purposes in section 160 are incorporated into the analysis by virtue of the fourth criterion in section 166(c), which directs that EPA's pollutant-specific PSD regulations "fulfill the goals and purposes" set forth in sections 160 and 101 of the Act. We construed the term "fulfill the goals and purposes," as used in section 166(c), to mean that EPA should apply the goals and purposes listed in section 160 as factors applicable to pollutant-specific PSD regulations established under section 166. The Agency's view is that PSD measures that satisfy the specific goals and purposes of section 160 also satisfy the more general purposes and goals identified in section 101 of the Act. See 72 FR 54122.

One commenter disagreed with our interpretation that the goals and purposes of section 160 also satisfy all of those in section 101. This commenter asserted that although there is some overlap between the two sections, they are not identical. As an example, the commenter noted that section 101 expressly states that a primary goal of the Act is to promote pollution prevention — a goal not stated in section 160. The commenter asserted that, although the proposed increments would limit some pollution increases, there was no provision in the proposal that would require or promote pollution prevention.

We disagree with the commenter and continue to believe that measures that satisfy the specific goals and purposes of section

160 also satisfy the more general purposes and goals identified in section 101 of the Act. As we stated in the 2005 NO_2 increment rulemaking, the overall goals and purposes of the Act listed in sections 101(b) and 101(c) are general goals regarding protecting and enhancing the nation's air resources and controlling and preventing pollution. Because these broad goals are given more specific meaning in section 160, EPA does not believe it is necessary to consider them in detail when evaluating whether PSD regulations satisfy the criteria in section 166(c). 70 FR 59587 FN 3.

Regarding pollution prevention specifically, we believe that this general goal is encompassed in, and given more specific meaning by, sections 160(1), 160(2), and 160(4) of the Act. These sections spell out the specific purposes under the PSD program for the general section 101 goals of controlling and preventing pollution. We believe that any requirement to limit or reduce emissions serves to promote pollution prevention, which is often the most cost effective means of lowering pollutant emissions.

In addition to citing the purposes set out in section 160, section 166(c) includes the criterion that pollutant-specific PSD regulations should provide a framework for stimulating improved control technology. As discussed subsequently in sections V.D.1 and V.D.6 of this preamble, we believe that this

criterion is fulfilled by the system of increments for $PM_{2.5}$ and by the requirement for PSD permittees to apply BACT to minimize $PM_{2.5}$ emissions. In stimulating improved control technology generally, these elements of the PSD program also promote pollution prevention. As noted previously, pollution prevention is often the most cost effective means of control, particularly for new sources and new process lines at existing sources. In addition, because BACT is a case-by-case determination that considers cost and collateral environmental impacts, pollution prevention, where technically feasible, often fairs well in BACT analyses because it is typically free from the negative environmental impacts that result from the use of add-on air pollution control devices.

4. Balancing the Factors Applicable under Section 166(c)

While the eight factors in section 166(c) are generally complementary, there are circumstances where some of the objectives may be in conflict with each other. In these situations, some degree of balance or accommodation is inherent in the requirement to establish regulations that satisfy all of these factors. As first discussed in our 2005 NO_2 increments rulemaking (70 FR 59582 at 59587), we believe this balancing test derives primarily from the third goal and purpose set forth in section 160: to insure economic growth consistent with the preservation of existing clean air resources. A more detailed

discussion of how the balancing of factors should be interpreted is contained in the 2007 NPRM at 72 FR 54122 – 54123.

One commenter claimed that EPA "incorrectly and repeatedly asserts" that a goal of section 160 of the Act is to insure economic growth. The commenter claimed that neither section 160 nor section 101 of the Act uses language to support a goal of promoting or maximizing opportunities for economic growth. Instead, the commenter asserted that both sections state only that any growth that does occur must be consistent with protection of air quality. The commenter concluded that "EPA's notion that the need to satisfy the other requirements of Section 166 and other goals and purposes in Sections 101 and 160 can never preclude additional emissions from economic growth unlawfully elevates such growth over all other statutory factors."

The language in section 160(3) provides that one of the purposes of the PSD program is "to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources." The commenter suggests that this language can only be read as if the statutory phrase "economic growth" actually said "any economic growth that does occur" such that section 160(3) says "to insure that any economic growth that does occur will occur in a manner consistent with the preservation of existing clean air resources." We disagree; the

phrasing used by Congress is "to insure that economic growth will occur." Thus, we believe the plain language of the statute supports EPA's reading that section 160(3) requires a balancing of the goals of (1) economic growth and (2) preservation of existing clean air resources. At a minimum, if the language were to be considered ambiguous enough to allow the commenter's reading, then the Agency's interpretation is also a reasonable reading of the statutory language.

5. Authority for States to Adopt Alternatives to Increments

While section 166 of the Act authorizes EPA to promulgate increments for pollutants listed under section 166(a), we have also interpreted the section to allow states to employ approaches other than increments to prevent significant deterioration of air quality, so long as such an approach otherwise meets the requirements of sections 166(c) and 166(d). This interpretation was explained in the 2005 NO_2 increment rulemaking (70 FR 59611 - 59612), in which we amended the PSD regulations at 40 CFR 51.166 by adding new paragraph (c)(2) to codify this statutory authority. Under the existing provision in 40 CFR 51.166(c)(2), states may seek EPA approval of SIPs that use an alternative approach to increments if the state can demonstrate that the alternative program satisfies the requirements of sections 166(c) and 166(d). However, the current language at paragraph (c)(2) states the authority for

states to adopt alternative measures only with respect to increments for NO_2. To clarify our interpretation that the authority to adopt alternative measures covers any pollutant listed in section 166(a), we are revising 40 CFR 51.166(c)(2) to make it inclusive to all applicable pollutants rather than just NO_2.

Two commenters supported our proposal to revise paragraph (c)(2) to include $PM_{2.5}$, while four state/local agency commenters expressed opposition. An environmental commenter agreed that the Act allows for other approaches, but believes that such approaches must be in addition to the national increments. Specifically, this commenter stated that "although EPA can provide for states to adopt approaches in addition to increments in order to fulfill the statutory purposes, the agency must make clear that states cannot adopt approaches that are less protective that the national increments." This commenter further stated that "to the extent that EPA is suggesting that it can allow states to adopt PSD programs that do not include the minimum federal increments, that position is contrary to the statute."

As in the 2005 NO_2 increment rulemaking, we are codifying the basic principle that states can seek to use alternative measures without defining any specific type of alternative program that would be approved or otherwise creating standards

beyond the requirements of sections 166(c) and 166(d). Instead, we plan to make determinations on a case-by-case basis when a state submits a specific alternative approach for EPA to approve as part of a SIP. In making those determinations, we will address the specific alternative measures as states propose them to the Agency in light of the requirements of sections 166(c) and 166(d), including whether the alternative program is "at least as effective as the increments established in section 163," as required in section 166(d).

The four state/local agency commenters opposing the revision to 40 CFR 51.166(c)(2) expressed the importance of using uniform national increments for $PM_{2.5}$. One commenter argued that a nationally inconsistent approach to $PM_{2.5}$ in attainment areas could result in a patchwork of state PSD regulations — and the exact kinds of economic repercussions that Congress wished to avoid. The same commenter argued that varying increment-equivalent measures could also result in an uneven playing field for industry and could exacerbate difficulties between states experiencing transport problems.

Another opposing commenter was concerned that allowing states to adopt alternatives to increments would likely lead to a "mish-mash" of state approaches which defeats the intention of Congress that there be uniformity in PSD rules to avoid economic dissimilarities from state to state that could allow interstate

competition for industry based upon which state offers the best (least expensive) environmental compliance regulations. Another commenter objected to allowing the use of alternatives to increments by stating that such alternative allowances undermine the desired national consistency, and EPA has failed to even identify any Act programs which would benefit from this approach.

While we acknowledge the potential problems identified by the commenters associated with allowing states to adopt alternative approaches to the numerical increments that we are establishing, we also note that section 166(d) expressly gives EPA some latitude in promulgating regulations that will be at least as effective as the increments in section 163, by stating that such regulations "may contain air quality increments, emission density requirements, or other measures." Thus, EPA is authorized to provide that states may consider alternatives to the increments established in this rule. That said, the statutory authority is not a blank check for states to do as they please, but enables states to consider options that may provide a meaningful way for them to manage their air resources within the framework allowed by the statutory PSD requirements.

D. Framework for Pollutant-Specific PSD Regulations for $PM_{2.5}$

In the 2007 NPRM, we proposed to apply the same basic framework for pollutant-specific PSD regulations for $PM_{2.5}$ that

we used in our 2005 NO_2 increments regulations. Specifically, we proposed adopting an increment and area classification system for $PM_{2.5}$ and applying the statutory AQRV review process to $PM_{2.5}$ as well. We also indicated that while some of the factors applicable under section 166(c) are fulfilled by using this type of framework for pollutant-specific PSD regulations under section 166(a) of the Act, this framework of regulations also needs to satisfy the other applicable factors. Thus, the details of our regulations (such as the characteristics of the increments themselves) are important, and we evaluated the effectiveness of the framework in conjunction with more detailed elements of our regulations. As discussed in the following subsections, we believe our obligations under section 166(c) of the Act are satisfied when the PSD regulations collectively satisfy the factors applicable under 166(c) of the Act.

1. Increment System

An increment-based program satisfies the requirements under 166(c) to provide "specific numerical measures against which permit applications may be evaluated." An increment is the maximum allowable level of ambient pollutant concentration increase that is allowed to occur above the applicable baseline concentration in a particular area. As such, an increment defines "significant deterioration." Establishing an increment system for $PM_{2.5}$ will fulfill two of the factors applicable under

section 166(c): (1) providing specific numerical measures to evaluate permit applications, and (2) stimulating improved control technology.

First, under section 165(a)(3) of the Act, a permit applicant must demonstrate that emissions from the proposed construction and operation of a facility "will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant …." Once the baseline date associated with the application for the first new major stationary source or major modification in an area is established, the new emissions from that source consume a portion of the increment in that area, as do any subsequent emissions increases that occur from any source in the area. When the maximum pollutant concentration increase defined by the increment has been reached, additional PSD permits cannot be issued until sufficient amounts of the increment are "freed up" via emissions reductions that may be required by the reviewing authority. Thus, an increment is a quantitative value that establishes a "maximum allowable increase" for a particular pollutant. It functions, therefore, as a specific numerical measure that can be used to evaluate whether an applicant's proposed project will cause or contribute to air pollution in excess of allowable levels.

Increments also satisfy the second factor in section 166(c)

by providing "a framework for stimulating improved control technology." Increments establish an incentive to apply improved control technologies in order to avoid violating the increment and to "free up" available increment to promote continued economic growth. These control technologies may become the basis of BACT determinations elsewhere, as the technologies become more commonplace and the costs tend to decline.

One commenter stated that, although increments may encourage the use of existing control technologies, EPA has not cited any evidence that increments actually stimulate the development of improved technologies. Moreover, the commenter asserted that even if increments provide the incentive asserted by EPA, any encouragement of improved control technology is wholly incidental and hardly amounts to a "framework" whose purpose is to stimulate such technology.

We continue to believe that the total program, encompassing increments and BACT, does provide an appropriate framework to stimulate BACT in such a way that it is not simply "wholly incidental," as the commenter claims. The fact that economic growth in an area must occur within a defined amount of allowable air quality deterioration should logically lead to the application of improved pollution control technology as the amount of deterioration increases, and should not be regarded as

an incidental consequence. As stated in the 2007 NPRM, Congress envisioned that the increments they originally established would serve as an incentive: "the incremental ceiling should serve as an incentive to technology, as a potential source may wish to push the frontiers of technology in a particular case to obtain greater productive capacity with the limits of the increments." S. Rep. 95-127 at 18, 30 (3 LH at 1392, 1404). We, too, believe that as the available increment in an area becomes smaller, and as states try to preserve some of the remaining increments for future growth, it will be necessary to require sources to install more stringent controls in that area. Such levels of control ultimately must be considered in subsequent BACT evaluations in other PSD areas throughout the country. Admittedly, the increasing stringency of control technologies over time, as observed in EPA's BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse, supports but cannot in itself conclusively demonstrate that the PSD program has already stimulated development of improved control technology; there are undoubtedly a number of factors that could cause such trends. Nevertheless, even the need to require a more stringent BACT determination in only a few PSD areas (due to dwindling increment availability) necessitates consideration of that level of control for all other PSD sources wherever they may decide to locate. In any event, while the commenter generally questions

the effectiveness of the increments as an incentive for tightening BACT, they provided no evidence that more stringent BACT is not related to the increment system established as an integral part of the PSD program.

2. Area Classifications

In this final rule, EPA is establishing the same three-tiered area classification system for $PM_{2.5}$ that is applicable to the increments for NO_2 and other pollutants under the PSD program and the Act. Accordingly, areas that are currently Class I for other pollutants will also be Class I for $PM_{2.5}$ and all other areas will be Class II for $PM_{2.5}$ unless we redesignate the area based on a request by a state or tribe pursuant to the process in section 164 of the Act and EPA's regulations at 40 CFR 51.166(g) and 52.21(g).

As explained earlier in section IV.E.1, Class I areas are areas where very clean air is most desirable. In contrast, Class III areas are designed as those areas in which a state wishes to permit the highest relative level of industrial development, and thus allow the largest incremental increase in pollution. Areas that are not especially sensitive and where states have not provided for a higher level of industrial growth are classified as Class II. When Congress established this three-tiered scheme for SO_2 and PM, it intended that Class II areas be subject to an increment that allows "moderately large

increases over existing pollution." H.R. Rep. 95-294, 4 LH at 2609.

Establishing increments at different levels for each of the three area classifications helps to fulfill two of the factors applicable under section 166(c) of the Act. First, establishing the smallest increments in Class I areas helps fulfill EPA's obligation to establish regulations that "preserve, protect, and enhance the air quality" in parks and special areas. Class I areas are primarily the kinds of parks and special areas covered by section 160(2) of the Act. Second, by providing for two additional area classifications with increment levels that are higher but still protective, the area classification system helps satisfy the goal in section 160(3) of the Act that EPA "insure that economic growth will occur in a manner consistent with preservation of clean air resources." In those areas where clean air resources may not require as much protection, more growth is allowed. By employing an intermediate level (Class II areas) and higher level (Class III areas), this classification scheme helps ensure that growth can occur where it is needed (Class III areas) without putting as much pressure on existing clean air resources in other areas where some growth is still desired (Class II areas).

By requesting that EPA redesignate an existing Class II area to Class III, states may accommodate economic growth and

air quality in areas where the Class II increment is too small to allow the siting of new or modified sources. The procedures specified by the Act for such a redesignation require a commitment by the state government to create such an area, extensive public review, local government participation in the SIP area redesignation process, and a finding that the redesignation will not result in the applicable increment being exceeded in a nearby Class I or Class II area. See sections 164(a) and (b) of the Act. (No state has yet requested a Class III redesignation.) The EPA believes that the three-tiered classification system has allowed for economic growth, consistent with the preservation of clean air resources.

However, an area classification system alone may not completely satisfy the factors applicable under section 166(c) of the Act. The increment that is employed for each class of area is also relevant to an evaluation of whether the area classification system achieves the goals of the PSD program. We briefly discuss the characteristics of increments in section V.E.5.

One commenter took issue with our assessment of the two factors that we believe a classification system helps to fulfill. As discussed previously in section V.C.4, the commenter asserted that EPA has unlawfully interpreted section 160(3) of the Act to elevate economic growth over all other

statutory factors. As explained in greater detail in section V.C.4, we disagree that our interpretation elevates economic growth over other factors, and believe that the plain language of the statute supports EPA's reading that section 160(3) requires a balancing of the goals of (1) economic growth and (2) preservation of existing clean air resources.

The commenter also stated that EPA has failed to demonstrate that the classification system and safe harbor increments, in combination with the other elements of the regulatory framework, will "preserve, protect, and enhance the air quality" in parks and special areas as required under section 160(2) of the Act. These comments and our response to them are found in section V.E.6 of this preamble where we discuss our evaluation of the safe harbor increments.

3. Permitting Procedures

Two of the factors applicable under section 166(c) are fulfilled by the case-by-case permit review procedures that are built into our existing PSD regulations. The framework of our existing PSD regulations employs the preconstruction permitting system and procedures required under section 165 of the Act. These requirements are generally reflected in 40 CFR 51.166 and 52.21 of EPA's PSD regulations. These permitting and review procedures, which apply to construction of new major sources and to major modifications, fulfill the goals set forth in sections

160(4) and 160(5) of the Act. These goals require that PSD programs in one state not interfere with the PSD programs in other states and that PSD programs assure that any decision to permit increased air pollution is made after careful evaluation and public participation in the decision-making process. For the same reasons discussed in our proposal for the pollutant-specific NO_2 increments regulations (70 FR 8896, February 23, 2005), we believe these factors are also fulfilled for $PM_{2.5}$ by employing the permit review procedures.

4. AQRV Review by Federal Land Manager and Reviewing Authority

In this final rule, we apply the existing requirements to evaluate impacts on AQRVs in Class I areas (see existing 40 CFR 51.166(p) and 52.21(p)) to $PM_{2.5}$. The existing requirements for an AQRV review, which Congress applied to SO_2 and TSP, provide Federal land managers (FLMs) with the responsibility to review source impacts on site-specific AQRVs in Class I areas and to bring any alleged adverse impacts to the attention of the reviewing authority. Under an increment approach, we consider this review to be an additional measure that helps satisfy the factors in sections 166(c) and 160(2) which require EPA's pollutant-specific PSD regulations to protect (1) air quality values, and (2) parks and other special areas, respectively.

Two state/local agency commenters supported our proposal to apply the requirements to evaluate impacts on AQRV in Class I

areas to $PM_{2.5}$ review. However, one commenter indicated that FLM review does not and cannot assure the prevention of all significant $PM_{2.5}$-related deterioration because it applies only to the construction or modification of very large stationary sources (e.g., factories and power plants) affecting Class I areas. This commenter pointed out that Class I areas do not include Bureau of Land Management wilderness and wilderness study areas (encompassing more than 15 million acres), 341 of the nation's 390 national park units (only 49 national parks are Class I), and many U.S. Forest Service lands (including a number of wilderness areas). The commenter added that FLM review does not help to fulfill section 160(2)'s goal of preserving and protecting air quality in "other areas of special national or regional natural, recreational, scenic, or historic value," such as state and local parks, wildlife refuges, recreation areas, lakes, and historic areas, none of which are Class I areas. In addition, the commenter noted that FLM review does not apply to emissions increases from sources of $PM_{2.5}$ and precursor pollution other than major stationary sources, such as motor vehicles and non-major industrial sources (which are sources that emit substantial amounts of $PM_{2.5}$ and precursors). Alabama Power v. Costle, 636 F.2d 323, 362 (D.C. Cir. 1979) (Alabama Power) (expressly recognizing that "[s]ignificant deterioration may occur due to increased emissions from unregulated minor

sources.”).

The commenter also asserted that FLM review is of limited reach even where it does apply. Under the current PSD regulations, a state must consider an FLM’s objections and must justify its decision in writing when it disagrees with those objections, but the state can still issue a PSD permit over those objections unless emissions are predicted to cause an exceedance of the applicable increment. The commenter believes that, given these limitations, EPA cannot plausibly claim that the existing provision for FLM review ensures the preservation, protection, and enhancement of air quality for parks and natural areas throughout the nation as required by section 160(2) of the Act.

In our rulemakings addressing PSD for NO_x, EPA extended the AQRV review procedures set forth in 40 CFR 51.166(p) and 52.21(p) to cover NO_2. These AQRV review procedures were established based on section 165(d) of the Act, and they were originally applied only in the context of the statutory increments for PM and SO_2. However, because they also address many of the factors applicable under section 166(c) of the Act, EPA also applied them to NO_x through regulation. In this final rule, we are amending the existing PSD regulations to extend, as proposed, the AQRV review procedures to include $PM_{2.5}$ by explicitly including $PM_{2.5}$ in the regulatory text that now simply

references "particulate matter." See new 40 CFR 51.166(p)(4) and 52.21(p)(5).

Section 165(d) creates a scheme in which the FLM and reviewing authority must review the impacts of a proposed new or modified source's emissions on AQRVs. The Act assigns to the FLM an "affirmative responsibility" to protect the AQRVs in Class I areas. This is in notable contrast to the reviewing authority's responsibility for protecting the increments — including Class I increments. The FLM may object to or concur in the issuance of a PSD permit based on the impact, or lack thereof, that new emissions may have on any affected AQRV that the FLM has identified and for which information is available to the general public. If the proposed source's emissions are shown not to cause or contribute to a violation of a Class I increment, the FLM may still prevent issuance of the permit by demonstrating to the satisfaction of the reviewing authority that the source or modification will have an adverse impact on AQRVs. Section 165(d)(2)(C). On the other hand, if the proposed source is shown to cause or contribute to a violation of a Class I increment, the reviewing authority (state or EPA) shall not issue the permit unless the owner or operator demonstrates to the satisfaction of the FLM that there will be

no adverse impact on AQRVs.[8] Thus, the showing of compliance with the increment determines whether the FLM or the permit applicant has the burden of satisfactorily demonstrating whether or not the proposed source's emissions would have an adverse impact on AQRVs.[9] In any event, the FLM plays an important and material role by raising these issues for consideration by the reviewing authority, which in the majority of cases will be the state.

Extending the AQRV review procedures of the PSD regulations to $PM_{2.5}$ helps to provide protection with respect to potential adverse effects from $PM_{2.5}$ for parks and special areas (which are generally the Class I areas subject to this review) not afforded by the increment system alone. As discussed later, we believe

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[8] Even if such a waiver of the Class I increment is allowed upon a finding of no adverse impact, the source must comply with such emissions limitations as may be necessary to ensure that alternative increments specified in the rules for SO_2 or PM are not exceeded. The alternative increments are generally at the level of the Class II increments, with the lone exception being a more restrictive 3-hour increment for SO_2. Section 165(d)(2)(C)(iv). The EPA made this provision applicable to the PSD provisions for NO_x at the level of the NO_2 Class II increment (53 FR 3704; 53 FR 40656) and substituted the PM_{10} Class II increments for the statutory alternative PM increments, which were based on TSP (58 FR 31622). This final rule expands this provision to include the $PM_{2.5}$ Class II increments as well. See 40 CFR 51.166(p)(4) and 52.21(p)(5).

[9] In response to concerns that Class I increment would hinder growth in areas surrounding the Class I area, Congress established Class I increments as a means of determining where the burden of proof should lie for a demonstration of adverse effects on AQRVs. See Senate Debate, June 8, 1977 (3 LH at 725).

the factors applicable under section 166(c) of the Act can be fulfilled when the review of AQRVs is applied in conjunction with increments and other aspects of our PSD regulations. In those cases where the increment is not violated and the reviewing authority agrees that a proposed project will adversely affect AQRVs, the parks and other special areas will be protected by denying issuance of the permit or by requiring the applicant to modify the project to alleviate the adverse impact.

We read the legislative history to show that Congress intended the AQRV review provisions of section 165(d) to provide a special layer of protection, beyond that provided by increments. The Senate committee report stated the following:

> A second test of protection is provided in specified federal land areas (Class I areas), such as national parks and wilderness areas; these areas are also subjected to a review process based on the effect of pollution on the area's air quality related values."

S. Rep. 95-127, at 17, 4 LH at 1401.

As we stated in the NO_2 increment rule, we believe the term "air quality values" should be given the same meaning as "air quality related values." Legislative history indicates that the term "air quality value" was used interchangeably with the term

"air quality related value" (AQRV) regarding Class I lands.[10]

The commenter is correct that the FLM (or AQRV) review applies only to Class I areas, and not to other "special" areas such as the numerous state and local parks and some other areas that could be seen as being covered by the protective purposes of section 160(2) of the Act. This level of coverage by FLM review to protect AQRVs was established by Congress when it enacted the PSD program, including the purposes set out in section 160(2). Thus, we conclude that Congress believed that the special areas not designated as Class I areas were properly addressed by the other elements of the PSD program. As discussed further in the next section, one such element is the requirement for sources to conduct an "additional impacts analysis," which includes an analysis of the impacts on visibility, soils, and vegetation of the proposed source and associated growth, regardless of the classification of the area

[10] See S. Rep. 95-127, at 12, reprinted at 3 LH at 1386, 1410 (describing the goal of protecting "air quality values" in "Federal lands – such as national parks and wilderness areas and international parks," and in the next paragraph and subsequent text using the term "air quality related values" to describe the same goal); id. at 35, 36 ("The bill charges the Federal land manager and the supervisor with a positive role to protect air quality values associated with the land areas under the jurisdiction of the [FLM]" and then describing the statutory term as "air quality related values"). H.R. Report 95-564 at 532 (describing duty of Administrator to consider "air quality values" of the tribal and state lands in resolving an appeal of a tribal or state redesignation, which is described in the final bill as "air quality related values").

impacted by the source. Note also that states have the option under the Act of designating additional areas as Class I areas and providing for AQRV review for these state Class I areas if they believe that there are areas within their borders that merit such protection.

The commenter is not correct in saying that the review to protect AQRVs does not apply to emissions increases from sources other than major stationary sources. While it is generally true that a major stationary source may trigger the analysis as part of the required PSD review for new major stationary sources and major modifications where such source's emissions increase may affect a Class I area, the review itself includes the impacts on an AQRV of other emissions in the area, including emissions from non-major sources. In addition, states may adopt requirements in their state implementation plans to require certain minor sources seeking a permit to undergo an AQRV analysis if they choose to do so.

We agree with the commenter that the AQRV review has certain limitations in that a state can, under some circumstances, issue a PSD permit over the objection of the FLM. Here again, Congress enabled this outcome when it provided that a permit would not be issued when the FLM demonstrates "to the satisfaction of the State" that the source will have an adverse impact on AQRVs in a Class I area. Section 165(d)(2)(C)(ii).

We read this provision to reflect Congress's judgment on the appropriate balance between state and FLM discretion in the reach of AQRV review. That said, when a reviewing authority declines to follow a determination of adverse impact by the FLM, the reviewing authority is expected to provide a rational basis for doing so, and a reviewing authority's rejection of an FLM's finding may not be arbitrary and capricious. As stated by EPA's Environmental Appeals Board in In the Matter of: Hadson Power 14 - Buena Vista, 4 E.A.D. 258, 1992 WL 345661 (October 5, 1992)(in Section II.A):

> States do not have unfettered discretion to reject an FLM's adverse impact determination. If a state determines that an FLM has not satisfactorily demonstrated an adverse impact on AQRVs from the proposed facility, the state must provide a "rational basis" for such a conclusion, "given the FLMs' affirmative responsibility and expertise regarding the Class I areas within their jurisdiction." 50 FR 28549, July 12, 1985. Arbitrary and capricious rejections of adverse impact determinations are not sustainable. (citations omitted).

In sum, the commenter correctly enumerated some of the limitations of the AQRV review under the Act. However, such review is only one element of the full PSD program, which must be evaluated against the statutory requirements in their entirety. We continue to believe, as previously stated, that under an increment approach, FLM review for AQRV impacts is an additional measure that helps satisfy the factors in sections 166(c) and 160(2) of the Act (which require EPA's pollutant-

specific PSD regulations to protect (1) air quality values, and (2) parks and other special areas, respectively) in balance with the other statutory factors. We add that the AQRV review requirements of the existing regulations mirror these requirements in the Act, which reflect Congress' judgment of how AQRV review should properly be used to promote the purposes of the program as set out in section 160 of the Act.

5. Additional Impacts Analysis

The "additional impacts analysis" requirements set forth in our part 51 and 52 PSD regulations also help fulfill the criteria and goals and purposes in sections 166(c) and 160. The additional impacts analysis involves a case-by-case review of potential harm to visibility, soils, and vegetation in Class II and III areas that could occur from the construction or modification of a PSD source.

Sections 51.166(o)(1) and 52.21(o)(1) of the PSD regulations require that a permit provide the following analysis:

> an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification. The owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

This requirement was based on section 165(e)(3)(B) of the Act, which provides that EPA establish regulations that require "an

analysis of the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility at the site of the proposed major emitting facility and in the area potentially affected by emissions from such facility ….”

As mentioned in the previous section, one commenter argued that the provisions for protection of Class I areas are of no help in fulfilling the goal set forth in section 160(2) of the Act to preserve and protect air quality in the countless “other areas of special national or regional natural, recreational, scenic, or historic value” such as state and local parks, wildlife refuges, recreation areas, lakes and historic areas, none of which were originally defined by Congress as Class I areas.

We acknowledge that the special provisions for protecting Class I areas are not applicable for protecting areas that are not designated as “Class I.” However, we believe that the “additional impacts analysis” provisions are especially helpful for satisfying the requirements of section 166(c) in Class II and Class III areas, including the types of areas described by the commenter, that are not Class I areas but are worthy of special protection beyond what might be provided by the NAAQS and increments. 40 CFR 51.166(o) and 52.21(o). These areas are not subject to the special AQRV review that applies only in Class I areas. While the additional impacts analysis is not as

intensive a review as the AQRV analysis required in Class I areas, the requirement to consider impairments to visibility, soils, and vegetation through the additional impacts analysis contributes to satisfying the factors applicable under section 166(c) of the Act in all areas, including Class II and Class III areas.

6. Installation of BACT

The requirement that new sources and modified sources subject to PSD apply BACT is an additional measure that helps to satisfy the factors in sections 166(c), 160(1), and 160(2) of the Act. This requirement, based on section 165(a)(4) of the Act, is already included in EPA's PSD regulations for all pollutants generally and thus, in the 2007 NPRM we considered it to be a part of the regulatory framework for the Agency's pollutant-specific regulations for $PM_{2.5}$. 40 CFR 51.166(j) and 52.21(j). Our existing regulations define "best available control technology" as "an emission limitation … based on the maximum degree of reduction for each pollutant subject to regulation under the Act … which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source through application of production processes or available methods, systems, and techniques …." 40 CFR 51.166(b)(12) and 52.21(b)(12). This pollutant control

technology requirement, in practice, has required significant reductions in the pollutant emissions increases from new and modified sources while also stimulating the on-going improvement of control technology. The control of $PM_{2.5}$ emissions through the application of BACT helps to protect air quality values, public health and welfare, and parks and other special areas.

E. Final $PM_{2.5}$ Increments

Based on our evaluation of the effects of $PM_{2.5}$ and a balancing of the criteria in section 166(c) of the Act (and the incorporated goals and purposes of the Act contained in section 101 and the statutory PSD program in section 160 of the Act), EPA has concluded that the "safe harbor" increments for $PM_{2.5}$ (which satisfy section 166(d) of the Act) are sufficient to fulfill the criteria in section 166(c) when combined with the other measures described earlier that we apply to $PM_{2.5}$. Since several of the eight factors applicable under section 166(c) are satisfied by adopting the framework and other measures described earlier, our development of these increments for $PM_{2.5}$ was guided by the four remaining factors that may not be fully satisfied by the framework and other measures: (1) protecting AQRVs; (2) protecting the public health and welfare from reasonably-anticipated adverse effects; (3) protecting the air quality in

parks and special areas, and (4) insuring economic growth.[11] In accordance with the "contingent safe harbor" approach, to determine the specific characteristics of the proposed increments, we first established safe harbor increments representing the level of effectiveness necessary to satisfy the "at least as effective as" requirement in section 166(d) of the Act and then conducted further analysis to determine if additional measures are necessary to fulfill the requirements of section 166(c).

1. Identification of Safe Harbor Increments

Using the percentage-of-NAAQS approach under proposed Option 1, as explained in section V.C.2 of this preamble, we derived the following safe harbor increments for $PM_{2.5}$:

Averaging Period	NAAQS ($\mu g/m^3$)	Increments ($\mu g/m^3$)		
		Class I	Class II	Class III
Annual	15	1	4	8
24-hour	35	2	9	18

The table shows $PM_{2.5}$ NAAQS levels (primary and secondary NAAQS) at 15 $\mu g/m^3$ for the annual averaging time and 35 $\mu g/m^3$ for the 24-hour averaging time. See 40 CFR 50.7. From these NAAQS levels, we calculated the safe harbor increments based on the same percentages that were used by Congress to establish the

[11] We have paraphrased these factors here and in other sections to facilitate the explanation of our reasoning. However, we recognize, as we did in our regulation for NO_x, that the statutory language is broader than the shorthand we use here for convenience.

original PM increments (measured as TSP) in section 163 of the Act, i.e., 6.6 percent of the NAAQS for Class I areas, 25 percent of the NAAQS for Class II areas, and 50 percent of the NAAQS for Class III areas. We have concluded that increments with these characteristics are sufficient to satisfy the requirement in section 166(d) that we adopt increments (or other PSD regulations) that are "at least as effective as" the increments established in section 163 of the Act. See EDF v. EPA, 898 F.2d at 188, 190.

Nine commenters supported proposed Option 1, either explicitly or implicitly supporting our method of calculating the safe harbor increments used to develop increments for $PM_{2.5}$. One of these commenters, while agreeing with the safe harbor increment approach under Option 1, disagreed with our analysis of the adequacy of the safe harbor increments, as discussed in other sections of this preamble. One commenter who opposed Option 1 (based on the belief that section 166(a) of the Act is not the appropriate basis for $PM_{2.5}$ increments) nevertheless supported the percentage-of-NAAQS approach for developing $PM_{2.5}$ increments under the statutory authority at section 166(f).

A commenter who opposed our proposal to calculate increments using percentages of the NAAQS argued that this approach for setting the $PM_{2.5}$ increments is not scientifically supported. This commenter indicated that basing the $PM_{2.5}$

increments on the same percentage of the NAAQS that were used to set PM_{10} increments based on the TSP NAAQS ignores the relationship between PM_{10} and $PM_{2.5}$ emissions, which may be much different than the relationship between TSP and PM_{10} emissions. The commenter argued that, because the ratio of $PM_{2.5}$ to PM_{10} emissions is 0.8, it appears that using the percentages proposed by EPA would indirectly restrict PM_{10}/TSP emissions and air quality impacts to proportionally lower levels than the PM_{10} increments in order to avoid exceeding the $PM_{2.5}$ increments. The commenter conceded that using the 0.8 factor to set $PM_{2.5}$ increments may seem too high, but asserted that using the safe harbor approach would set increments for $PM_{2.5}$ that are too low.

We conclude that the commenter is mistaken in saying that the $PM_{2.5}$ increments use the same percentage of the NAAQS that were used to set the PM_{10} NAAQS. We adopted the PM_{10} increments using the "equivalent substitution" approach set forth under section 166(f) of the Act. Under that approach, rather than calculating the PM_{10} increments as specific percentages of the PM_{10} NAAQS (using the same percentages that Congress used for setting the statutory increments for PM and SO_2), EPA determined the levels of the PM_{10} increments that could represent an equivalent amount of increment consumed, as if the TSP increments were still in effect. See 58 FR 31622, June 3, 1993, at 31626 - 31627. Nevertheless, the commenter is correct that,

in cases where the ratio of $PM_{2.5}$ to PM_{10} emissions is 0.8 for an individual source, the source may have to reduce its PM_{10} emissions more than would otherwise be necessary to meet the PM_{10} increments in order to control its $PM_{2.5}$ emissions sufficiently to meet the safe harbor $PM_{2.5}$ increments.[12] This is because the safe harbor $PM_{2.5}$ increments are less than 80 percent of the PM_{10} increments. For example, the Class II 24-hour $PM_{2.5}$ safe harbor increment (9 $\mu g/m^3$) is only 30 percent of the corresponding PM_{10} increment (30 $\mu g/m^3$).

The underlying reason that the safe harbor $PM_{2.5}$ increments are so much less than the PM_{10} increments is that the $PM_{2.5}$ NAAQS are much less than the PM_{10} NAAQS.[13] This is the result of the evolution in our knowledge about the health and welfare effects of PM, in particular the effects of the fine PM represented by $PM_{2.5}$. We believe that it is fitting for $PM_{2.5}$ increments to reflect our greater knowledge about $PM_{2.5}$ effects (as embodied in the NAAQS), rather than to simply maintain the control level required by the PM_{10} increments as suggested by the commenter. If this results in $PM_{2.5}$ increments that are more limiting than PM_{10} increments, we believe that this outcome is appropriate in light of our statutory requirement to prevent significant

[12] Note that the PM_{10} increment may still be more limiting in areas where much of that increment has already been consumed.

[13] The 24-hour $PM_{2.5}$ NAAQS (35 $\mu g/m^3$) is about 23 percent of the 24-hour PM_{10} NAAQS (150 $\mu g/m^3$).

deterioration of air quality as it relates to $PM_{2.5}$.

2. Data Used by EPA for the Evaluation of the Safe Harbor Increments for $PM_{2.5}$.

We evaluated whether measures other than the safe harbor increments are necessary by analyzing primarily the scientific and technical information on the health and welfare effects of $PM_{2.5}$ contained in the June 2005 OAQPS Staff Paper which accompanied the last full review of the PM NAAQS completed in 2006.[14]

Section 166(a) of the Act provides that EPA establish pollutant-specific PSD regulations, such as increments, after the establishment of a NAAQS for the applicable pollutants. The Act provides that EPA will promulgate new PSD regulations under section 166, including new increments if appropriate, within 2 years from the promulgation of any NAAQS after 1977. Within that time frame, the health and welfare information used for the setting of the NAAQS would also be "current" for purposes of establishing pollutant-specific PSD regulations. We believe this timing reflects congressional intent that EPA consider the same body of information concerning a pollutant's health and welfare effects when it promulgates the NAAQS and subsequent PSD increments (or other measures) defining significant air quality

[14] The review completed in 2006 updated the previous review, which began in 1994 and resulted in revised standards for PM in 1997.

deterioration for the same pollutant. However, when we used that same information as the basis for our proposed pollutant-specific PSD regulations, we evaluated that information under the legal criteria in section 166 of the Act rather than the criteria in section 109 applicable to the promulgation of NAAQS. See EDF v. EPA, 898 F.2d at 190.

At the time of our proposal of $PM_{2.5}$ increments, we had just completed a review of the $PM_{2.5}$ NAAQS. Thus, the information used in the NAAQS review was current and timely for purposes of establishing pollutant-specific PSD regulations for $PM_{2.5}$. On October 17, 2006, based primarily on considerable new data on the air quality and human health effects for $PM_{2.5}$ directly, EPA revised the primary and secondary NAAQS to provide increased protection of public health and welfare by retaining the level of the annual standard and tightening the level of the 24-hour standard from 65 to 35 $\mu g/m^3$ while retaining the 24-hour PM_{10} NAAQS and revoking the annual PM_{10} NAAQS. The information contained in both the 2004 Criteria Document and 2005 Staff Paper that was used for the latest review of the PM NAAQS was also considered for the purpose of evaluating the $PM_{2.5}$ increments that we have established in this final rule.

The 2004 Criteria Document and 2005 Staff Paper are the products of a rigorous process that is followed to validate and interpret the available scientific and technical information,

and provided the basis for recommending the $PM_{2.5}$ NAAQS. In accordance with the Act, the NAAQS process begins with the development of "air quality criteria" under section 108 for air pollutants that "may reasonably be anticipated to endanger public health or welfare" and that come from "numerous or diverse" sources. Section 108(a)(1). For each NAAQS review, the Administrator must appoint "an independent scientific review committee composed of seven members of the National Academy of Sciences, one physician, and one person representing state air pollution control agencies," known as the Clean Air Scientific Advisory Committee (CASAC). Section 109(d)(2)(A). The CASAC is charged with recommending revisions to the criteria document and NAAQS, and advising the Administrator on several issues, including areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised NAAQS. Section 109(d)(2)(B),(C).

"Air quality criteria" must reflect the latest scientific knowledge on "all identifiable effects on public health or welfare" that may result from a pollutant presence in the ambient air. Section 108(a)(2). The scientific assessments constituting air quality criteria generally take the form of a "criteria document," a rigorous review of all pertinent scientific studies and related information. The EPA also develops a "staff paper" to "bridge the gap" between the

scientific review and the judgments the Administrator must make to set standards. See Natural Resources Defense Council v. EPA ("NRDC"), 902 F.2d 962, 967 (D.C. Cir. 1990). Both documents undergo extensive scientific peer review as well as public notice and comment. See, e.g., 62 FR 386542.

3. Scope of Effects Considered

The effects of ambient $PM_{2.5}$ concentrations may include effects from secondarily-formed $PM_{2.5}$. Thus, when we analyzed the data in this rulemaking, we evaluated the health and welfare effects of both direct $PM_{2.5}$ and secondarily-formed $PM_{2.5}$ that may result from the transformation of other pollutants such as SO_2 and NO_x. This was consistent with the approach we described for addressing these effects in the review of our pollutant-specific NO_2 increments regulations. 70 FR 59590.

4. Evaluation of the Health and Welfare Effects of $PM_{2.5}$

Airborne PM is not a specific chemical entity, but rather is a mixture of liquid and solid particles from different sources and of different sizes, compositions, and properties. Particle size distributions show that atmospheric particles exist in two classes: fine particles and coarse particles. The indicator for fine particles is $PM_{2.5}$, which represents that population of particles that is mostly less than 2.5 micrometers in size. The indicator for thoracic coarse particles is "$PM_{10-2.5}$," which represents particles sized between 2.5 and 10

micrometers. In the last two reviews of the PM NAAQS, EPA concluded that these two indicators, because of their different sources, composition, and formation processes, should be treated as separate subclasses of PM pollution for purposes of setting ambient air quality standards.

Fine PM is derived directly from combustion material that has volatilized and then condensed to form primary PM or from precursor gases, such as SO_2 and NO_x, reacting in the atmosphere to form secondary PM. Major components of fine particles are sulfates, strong acid, ammonium nitrate, organic compounds, trace elements (including metals), elemental carbon, and water. Primary and secondary fine particles have long lifetimes in the atmosphere (days to weeks) and travel long distances (hundreds to thousands of kilometers). They tend to be uniformly distributed over urban areas and larger regions, especially in the eastern United States. As a result, they are not easily traced back to their individual sources.

a. Health Effects

The EPA reported important progress since the last PM NAAQS review in advancing our understanding of potential mechanisms by which ambient $PM_{2.5}$, alone and in combination with other pollutants, is causally linked to a number of key health effects. The more extensive and stronger body of evidence used by EPA to study the health effects of $PM_{2.5}$ in our latest review

identified a broader range of effects than those previously documented, involving premature mortality and indices of morbidity (including respiratory hospital admissions and emergency room visits, school absences, work loss days, restricted activity days, effects on lung function and symptoms, morphological changes, and altered host defense mechanisms) associated with both long-term and short-term exposure to $PM_{2.5}$. A more detailed discussion of the health effects associated with $PM_{2.5}$ is contained in the 2007 NPRM. 72 FR 54127 – 54128. In addition, an overview of the scientific and technical evidence considered in the 2004 Criteria Document and 2005 Staff Paper can be found in our proposed rule for revising the NAAQS for PM (71 FR 2619, January 17, 2006).

b. Welfare Effects

Ambient PM alone, and in combination with other pollutants, can have a variety of effects on public welfare. While visibility impairment is the most noticeable effect of fine particles present in the atmosphere, both fine and coarse particles can have other significant welfare-related effects, including effects on vegetation and ecosystems, materials (e.g., soiling and corrosion), and climate change processes.

In reaching our decision in 2006 to revise the suite of PM secondary standards, EPA factored in several key conclusions from the scientific and technical information contained in the

2004 Criteria Document and 2005 Staff Paper. These conclusions included the following: (1) PM-related visibility impairment is principally related to fine particle levels, and most directly related to instantaneous levels of visual air quality associated with short-term averaging periods; (2) $PM_{2.5}$ concentrations can be used as a general surrogate for visibility impairment in urban areas; (3) any secondary NAAQS for visibility protection should be considered in conjunction with the regional haze program as a means of achieving appropriate levels of protection against PM-related visibility impairment in urban, non-urban, and Class I areas nationwide; (4) the available evidence is not sufficient to support distinct secondary standards for fine or coarse particles for any non-visibility related welfare effects; and (5) the secondary standards should be considered in conjunction with protection afforded by other programs intended to address various aspects of air pollution effects on ecosystems and vegetation, such as the acid deposition program and other regional approaches to reducing pollutants linked to nitrate or acidic deposition.

In this rulemaking, EPA has reviewed the scientific and technical information concerning welfare related effects considered in the 2004 Criteria Document and 2005 Staff Paper to determine whether there is any basis for modifying the safe harbor increments developed for $PM_{2.5}$ to satisfy the criteria

under sections 166(c) and 160 of the Act. Our review included information on visibility impairment, and effects on vegetation and other ecosystem components, materials and soiling, and climate changes. A detailed discussion of the various welfare effects we considered for evaluating the safe harbor increments for $PM_{2.5}$ is contained in the 2007 NPRM. 72 FR 54128 – 54133.

5. Fundamental Elements of Increments

As we have previously noted, under the model established in the Act and prior EPA regulations, the function of an increment is not like that of the NAAQS in that an increment is not intended to set a uniform ambient pollutant concentration "ceiling" across the United States. See 70 FR 59600. Instead, while both increments and NAAQS generally serve to limit ambient air pollution levels, increments are designed to allow a uniform amount of pollutant concentration increase for each area in the United States having a particular classification, i.e., Class I, II, or III. The amount of the allowable increase is measured against a baseline air quality level that is typically different for each particular area.[15] Because the baseline air quality level varies from one location to another, and is not established for a particular area until a source proposing to

[15] It should be noted, however, that an increment does not allow air pollution levels in an area to increase beyond the ambient concentration of a pollutant that would exceed the level allowed by the NAAQS.

construct in that area submits a complete PSD permit application, it is not possible to determine what the maximum ambient pollutant concentration attainable will be for a given area (to be used to determine the protection afforded by an increment against potential adverse environmental effects) until the specific baseline air quality level is known.

For the reasons described in our NO_2 increments rule, our objective is to establish uniform increments, consistent with the increments for SO_2 and PM originally established by Congress, that allow the same level of deterioration for each area of the country having the same classification. 70 FR 59601. It is important to understand that increments are not intended to reduce ambient concentrations of an air pollutant below existing baseline levels in each area, but rather to define a level of allowable increase in pollutant concentrations above baseline levels, and to identify the level at which "significant" deterioration occurs for each area, in accordance with its specific classification. 70 FR 59600.

6. Evaluation of the Safe Harbor Increments

As indicated earlier (in section V.E.2 of this preamble), mindful of the considerations made about the fundamental characteristics of the increments, we reviewed the scientific and technical evidence available for the 2005 review of the NAAQS for PM in order to determine whether, and to what extent,

the "safe harbor" increments might need to be modified in order to protect air quality values, health and welfare, and parks while insuring economic growth consistent with the preservation of clean air resources in accordance with sections 166(c) and 160 of the Act. As we did in our evaluation of the safe harbor NO_2 increments (70 FR 59603 – 59606), we relied on an approach that evaluates how protective the safe harbor $PM_{2.5}$ increments are by comparing the marginal pollutant concentration increases allowed by the safe harbor increment levels against the pollutant concentrations at which various environmental responses occur.

We analyzed the available evidence from both a quantitative and qualitative perspective to reach a decision about whether we should modify the contingent safe harbor $PM_{2.5}$ increments and whether we have sufficient information to select a specific alternative level, averaging time, or pollutant indicator for the increments. As a result of our analysis, we proposed to conclude that it was not necessary to modify the safe harbor increments to protect human health, address non-visibility welfare effects, or further protect visibility. This analysis is described in detail in the 2007 NPRM.

After considering the comments on our evaluation of the safe harbor increments and the conclusions we reached in the 2007 NPRM (summarized in the following paragraphs), we continue

to believe that the safe harbor increments for $PM_{2.5}$ (which satisfy section 166(d) of the Act) are sufficient to fulfill the criteria in section 166(c) of the Act (and the incorporated goals and purposes of the Act in section 101 and the PSD program in section 160) when combined with the other measures described earlier that we apply to $PM_{2.5}$. Consequently, this final rule establishes the $PM_{2.5}$ increments at the level of the proposed safe harbor increments.

An environmental group submitted extensive comments arguing that the $PM_{2.5}$ safe harbor increments are not sufficient to meet the Act's requirements for PSD and that our analysis was inadequate, and two other commenters submitted more narrowly targeted comments in this area. A summary of the major comments, along with our responses, follows. A more detailed treatment of the comments can be found in the Response to Comments document for this rulemaking, which is available in the rulemaking docket.[16]

The environmental group commenter stated that EPA has not complied with section 166(c) of the Act because the Agency has not made a finding or demonstrated that the $PM_{2.5}$ PSD rules will (as required by section 160(2) of the Act) preserve, protect, and enhance the air quality in parks and special areas. The

[16] Docket No. EPA-HQ-OAR-2006-0605 can be accessed on line at www.regulations.gov.

commenter asserted that EPA offered only vague assertions that the proposed increments would "satisfy" the statutory factors and that they, along with other programs, would "help" to fulfill the statutory purposes. The commenter went on to argue that EPA sought to excuse its failure to show fulfillment of the statutory purposes by asserting that it cannot develop a uniform, quantitative, dose-response relationship between fine particle levels and certain ecosystem impacts (citing 72 FR 54134), but that, even if true, such a claim does not excuse the agency from satisfying its statutory duty under section 166(c).

We conclude that the 2007 NPRM demonstrated that the safe harbor increments, in combination with the other aspects of the regulatory framework, fulfill the statutory requirements despite the scientific uncertainties. We reiterate that finding today. The fact that we did not, in the 2007 NPRM, explicitly state this as a finding does not diminish the demonstration made there and reiterated in this preamble.

The environmental group commenter believes that the relationship between $PM_{2.5}$ and adverse effects can be quantified to a greater extent than stated by EPA. Regarding acid rain and other adverse ecological impacts, the commenter asserted that critical loads can be established as a way of quantifying and limiting the $PM_{2.5}$ contribution to degradation, and noted that critical loads are now used by authorities in Europe, have been

endorsed by leading North American scientists, and have been used by federal land management agencies. To comply with section 166(c), the commenter believes that EPA must establish a mechanism to supplement the nationally uniform increments with additional measures, including a requirement to establish area-specific critical loads or equally protective limits, where necessary to protect and enhance air quality in specific parks and natural areas.

With regard to the critical load concept, we agree conceptually with the commenter that critical loads could be used to supplement the existing increments, especially as a means of protecting the known sensitive ecosystems within Class I areas. While we disagree that the critical loads concept can be used as an effective replacement to increments for limiting air quality degradation, we believe that the concept offers considerable promise in helping to protect sensitive receptors in specific Class I areas. However, we do not believe that it would be appropriate at this time to establish a requirement for area-specific critical loads under the PSD program. In our 2005 PSD rule for NO_2 increments, we indicated that states could propose using information on critical loads as part of their approach for managing air quality in their individual SIP-approved PSD programs, but sufficient information was not yet available for EPA to incorporate the use of critical loads into

the national PSD program. See 70 FR 59613.

The concept of critical loads is useful for estimating how much pollution a particular ecosystem can experience on a prolonged basis without showing adverse effects. In addition to addressing the opportunity for using critical loads under its NO_2 increment rule, EPA has addressed the concept of critical loads in the last review of the PM NAAQS and currently in the secondary NO_2/SO_2 NAAQS review.[17] To date in the United States, critical loads have had their primary application in the area of atmospheric deposition of sulfur (S) and nitrogen (N). In the last review of the PM NAAQS, EPA found that ambient PM was contributing to the total load of pollutants entering the U.S. ecosystem annually. However, the review also concluded that there were "insufficient data for the vast majority of U.S. ecosystems that differentiate the PM contribution to total N [nitrate] or S [sulfate] deposition to allow for practical application of this approach as a basis for developing national standards to protect sensitive U.S. ecosystems from adverse effects related to PM deposition." The 2005 Staff Paper for the PM NAAQS, in reaching this conclusion, addressed various

[17] In the 2005 OAQPS Staff Paper reviewing the NAAQS for PM, EPA cited the following accepted definition of "critical load": "quantitative estimate of an exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge." See page 6-45.

important factors, including (1) the lack of a long-term, historic database of annual speciated PM deposition rates to establish relationships between PM deposition and ecosystem responses; (2) uncertainty in predicting the amount of PM deposited to sensitive receptors from measured concentrations of PM in the ambient air; and (3) the unique nature of each ecosystem and the current inability to extrapolate with confidence any effect from one ecosystem to another. The 2005 Staff Paper recommended that EPA give serious attention to the critical load concept and recommended the collection of data from a "greater variety of ecosystems over longer time scales to determine how ecosystems respond to different loading rates over time." 2005 Staff Paper at page 7-19.

The review of the secondary NAAQS for NOx and sulfur oxides (SOx), which is currently underway, is evaluating ecological effects due to the atmospheric deposition of NO_x and SOx. The two main targeted effects are acidification and nutrient enrichment in both aquatic and terrestrial ecosystems. This review is attempting to use critical loads to evaluate the impact of current depositional loads and alternative loads in several case study areas. However, as mentioned earlier, the estimation of ecosystem critical loads expressed in terms of PM requires long-term ecosystem-level data on speciated PM deposition rates for which an adequate database is currently

lacking for most sites in the United States.

The environmental group commenter also asserted that the safe harbor increments would allow $PM_{2.5}$ air quality to deteriorate to the level of the NAAQS in many locations. According to the commenter's analysis, at 55 percent of the locations with $PM_{2.5}$ monitors that were not already exceeding the $PM_{2.5}$ NAAQS, 24-hour $PM_{2.5}$ concentrations would be allowed to increase up to the level of the NAAQS. In addition, the analysis showed that for 84 percent of locations not already exceeding the NAAQS, the 24-hour $PM_{2.5}$ concentrations would be allowed to increase to a level of 30 $\mu g/m^3$ or more. The commenter believes that allowing such levels would not be protective of public health, given that we stated in the 2007 NPRM that we had previously found that $PM_{2.5}$ concentrations less than a range of 30 - 35 $\mu g/m^3$ (24-hour average) were protective of public health (citing 72 FR 54128).

The environmental group commenter's analysis showed similar results for the proposed annual $PM_{2.5}$ increments. The commenter asserted that $PM_{2.5}$ concentrations would be allowed to increase up to the level of the annual NAAQS in 55 percent of the locations that are currently in attainment, and that 87 percent of these sites would be allowed $PM_{2.5}$ concentrations of 12 $\mu g/m^3$ or higher. Again, the commenter believes that allowing annual concentrations at or above 12 $\mu g/m^3$ would not be protective of

public health, based on our statement in the 2007 NPRM that we had previously found that $PM_{2.5}$ concentrations less than a range of 12 - 15 $\mu g/m^3$ (annual average) were protective of public health (citing 72 FR 54128).

We do not believe that increments must be set at levels that ensure that the full amount of increment will be available in all locations. The statutory provisions in the PSD program have always been clear that a source must demonstrate that it will comply with both the NAAQS and increments for any pollutant. Consistent with congressional intent, the PSD program does not allow a source to violate the NAAQS just because its emissions will not cause the increments to be exceeded. If the increments were to be developed in such a way that all areas, taking into account current ambient air quality status, would be able to utilize the full amount of increment, then the increment levels would have to be unnecessarily stringent in areas that are substantially cleaner than levels allowed by the NAAQS.

Congress recognized that all areas of the country might not be able to utilize the full amount of increment when they provided provisions within the Act requiring that both the NAAQS and increments must continue to be met at all times. In areas where the full amount of increment is not available due to levels of pollution approaching the NAAQS, states may need to

require emissions reductions at existing sources to accommodate the desired amount of economic growth. Hence, we do not believe it is reasonable to unduly restrict economic growth in cleaner areas by setting more restrictive increments to help maintain air quality levels below the NAAQS in areas which are currently only marginally attainment.

In addition, we disagree with the commenter's assertion that the increments will not protect public health. In setting the $PM_{2.5}$ NAAQS at 35 µg/m^3 (24-hour) and 15 µg/m^3 (annual), EPA concluded that these levels protect public health with an adequate margin of safety. Regardless of the level at which the increments are set, no source is permitted to cause the NAAQS to be exceeded. That is, as noted previously, the upper bound on the permissible concentration of $PM_{2.5}$ is determined by the increment or the NAAQS, whichever is more restrictive in each particular case. Thus, the entire framework of the $PM_{2.5}$ regulations, including the safe harbor increments, is protective of public health. In asserting otherwise, the commenter has misconstrued our statements in this regard.

In the 2007 NPRM section on the health effects of $PM_{2.5}$ (72 FR 54127 – 54128), we discussed the fact that we considered setting the 24-hour NAAQS in the range of 30 to 35 µg/m^3 and the annual NAAQS in the range of 12 to 15 µg/m^3. However, we concluded in setting the NAAQS that 35 µg/m^3 (24-hour) and 15

$\mu g/m^3$ (annual) are protective of public health with an adequate margin of safety. We did not say, nor do we believe, that $PM_{2.5}$ concentrations must be below 30 $\mu g/m^3$ (24-hour average) or 12 $\mu g/m^3$ (annual average) to protect public health.

The environmental group commenter believes that there is a quantifiable relationship between visibility impairment and $PM_{2.5}$ levels, citing the 2007 NPRM discussion (72 FR 54135) as well as the most recent Criteria Document and Staff Paper for $PM_{2.5}$. The commenter pointed out that in the 2007 NPRM (72 FR 54135), EPA observed that the proposed Class II short-term safe harbor increment of 9 $\mu g/m^3$, if combined with the estimated daily background levels in most areas (i.e., 10 $\mu g/m^3$), would be below the minimum values recommended in the 2005 Staff Paper for the secondary short-term standard for $PM_{2.5}$ (which was 20 $\mu g/m^3$). Rather than supporting the adequacy of 9 $\mu g/m^3$ as an increment level to protect visibility, the commenter believes that this shows that the safe harbor increment is inadequate because consumption of an increment of 9 $\mu g/m^3$ combined with background levels alone would cause an area to reach within 1 $\mu g/m^3$ of the staff-recommended value of 20 $\mu g/m^3$. The commenter added that most areas would have $PM_{2.5}$ pollution from motor vehicles and stationary sources in concentrations substantially greater than background levels, easily placing these areas above 20 $\mu g/m^3$ (citing the 2005 Staff Paper at 2-77).

The environmental group commenter went on to assert that the safe harbor $PM_{2.5}$ increments will not be sufficient to protect visibility in parks and other natural areas. In the 2007 NPRM, we stated that a 24-hour average $PM_{2.5}$ concentration of 20 $\mu g/m^3$ correlates to a visual range of approximately 25 to 35 kilometers. 72 FR 54129. The commenter asserted that this visual range distance falls far short of what the National Park Service considers to be good visibility for national parks, adding that the National Park Service has stated that visibility used to be 90 miles (145 km) on average in eastern parks, and 140 miles (225 km), on average in western parks.[18] The commenter stated that the safe harbor increments would allow parks and other natural areas to experience $PM_{2.5}$ pollution that is correlated with a 25–35 km visual range.

The visibility impairment issue is more complex than suggested by the environmental group commenter. In addition to predicting what the maximum ambient change in air quality is for a particular area, a visibility impairment assessment considers such things as the frequency, magnitude, and duration of visibility impacts in order to conclude that an adverse impact will occur.

In addition, the environmental group commenter misconstrued

[18] The commenter cited http://www.nps.gov/shen/naturescience/visibility and haze.htm for historic visibility in national parks.

the illustration we included in the 2007 NPRM. We noted that the lowest level we considered as a secondary $PM_{2.5}$ NAAQS was 20 $\mu g/m^3$, which was considered to address visibility issues in urban areas. We also noted that in most areas, the estimated 98th percentile of daily background concentrations is less than 10 $\mu g/m^3$. In adding the Class II safe harbor increment (9 $\mu g/m^3$) to the 98th percentile of background levels, we were simply showing that even in the worst case, the combination of the safe harbor increment and background $PM_{2.5}$ would not exceed the most stringent level we considered for the secondary $PM_{2.5}$ NAAQS. The commenter presented this rough, worst-case calculation as if it represented the typical situation that would result from the safe harbor increments. In addition, the environmental group commenter's statements do not apply to parks and special areas that are classified as Class I areas because the safe harbor increments for such areas are much lower.

Another commenter stated that the proposed 24-hour Class I increment (2 $\mu g/m^3$) would not be protective of AQRVs, particularly visibility. This commenter noted that the National Park Service uses a 5 percent change in light extinction from estimated natural conditions as the threshold for "adverse impacts" to Class I visibility. The commenter indicated that depending on the constituents of the ambient $PM_{2.5}$ and the humidity, a concentration of 2 $\mu g/m^3$ in a typical Class I area

would result in a change in light extinction ranging from 13 to 80 percent in the Western United States and from 8 to 50 percent in the Eastern United States and, therefore, would likely constitute "adverse impacts" to Class I visibility. While acknowledging that the FLM may still determine that the visibility in the Class I area is adversely affected by an increase in concentration that is less than the increment, this commenter pointed out that we stated in the 2007 NPRM that "generally speaking an increment should not be so large that it routinely results in substantially more pollution in Class I areas than is generally acceptable under the AQRV approach" (citing 72 FR 54135). The commenter concluded that the proposed 24-hour $PM_{2.5}$ increment does not meet this test and recommended that EPA set a lower $PM_{2.5}$ 24-hour increment.

This commenter appears to have identified a worst-case scenario in terms of increment concentrations, and although we agree with the visibility impacts related to those concentrations discussed in the comment, we do not believe the proposed increment level compromises the protection of visibility or other AQRVs. Although the "AQRV test" uses 5 percent light extinction as a screening threshold, the determination of adverse impact is made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairment and how these

factors correlate with visitation to the Class I area. The suggestion that the 5 percent threshold is routinely exceeded by PSD sources or that an absolute worst-case scenario is occurring to the geographic extent, intensity, duration, and frequency that would warrant an adverse impact determination is unsupported, especially considering the relatively few adverse impact determinations that have been made in the past. It is, however, important to note that the AQRV analysis is independent of the PSD increment analysis; whether or not the increment is projected to be exceeded does not determine the need for an AQRV analysis. The determination that a facility does or does not cause an adverse impact on a Class I area is not solely contingent upon the PSD increment, so we do not believe that lowering the proposed increment is necessarily more protective of the AQRV.

With respect to these two commenters' concerns about visibility protection, we continue to believe that the increments cannot be expected to be the sole means of protecting various welfare concerns. In the 2007 NPRM, we stated that "visibility protection in Class I areas is more adequately provided by the AQRV process." Congress defined AQRVs to specifically include visibility and left it for the FLMs to define other special attributes of Class I areas that warranted special protection. We also noted that Congress has established

several visibility programs that target emissions reductions to achieve desired visibility benefits. See 72 FR 54135. Collectively, these protective programs, along with the totality of the PSD program, offer an effective means of addressing unique local problems that cannot be addressed solely by uniform national increments.

However, the environmental group commenter asserted that these other programs will not fulfill the statutory purposes. As discussed previously in sections V.D.4 and 5, the commenter does not believe that FLM review in the AQRV process and the air quality impacts analysis required by section 165(a) of the Act are adequate. We disagree; see sections V.D.4 and 5 for more detail on the comments and our responses.

The environmental group commenter also noted that we cited the regional haze program as a justification for adopting less protective PSD rules (referring to 72 FR 54135), but the commenter pointed out that the haze program applies only to Class I areas and does not apply at all to the majority of the nation, which is Class II. The commenter further noted that we stated in the 2007 NPRM that "some State and local governments have also developed programs to improve visual air quality in specific urban areas" (citing 72 FR 54135), and pointed out that we gave no specific information on such programs, nor any information about the visibility protection that they provide

beyond that provided by the proposed increments. The commenter asked that we identify the specific state and local programs, and that we specify how much visibility protection such programs are providing.

The commenter is correct that the regional haze program directly addresses only Class I areas. As we have discussed before, these are the areas that Congress defined as deserving of the most protection under PSD, including the visibility protection provisions in subpart 2 of title I, part C of the Act, which is the statutory basis for the regional haze program. While Class I areas are the target for the regional haze program, we believe that many areas of the nation will receive collateral visibility benefits from this program. As emissions of the pollutants that cause regional haze are reduced, many areas in the paths of transport will benefit. In addition, as discussed previously in section V.D.5 of this preamble, PSD applicants must prepare an analysis of "other impacts," including visibility impacts, in areas other than Class I areas.

Regarding state and local visibility programs, in the 2005 Staff Paper EPA described several existing programs to improve visual air quality in urban areas. These programs were located in Denver, CO; Phoenix, AZ; and Lake Tahoe, CA. Also, the states of California and Vermont have each established standards to protect visibility. See the 2005 Staff Paper, pages 6-17

through 6-23.

The environmental group commenter cited the 2007 NPRM (72 FR 54135) where we said that the use of "distinct PM increments for visibility protection is not the most effective means of addressing the visibility problem." The commenter believes that this claim is based on false premises, including the idea (discussed previously) that other programs effectively protect visibility nationwide, and the idea that the only option is a "distinct" PM increment for visibility protection. As to the latter, the commenter stated that EPA can strengthen the safe harbor increment to ensure visibility protection and need not adopt a separate "visibility" increment. In addition, the commenter asserted that EPA has ignored the statutory mandate that the PSD rules fulfill the statutory goals and purposes, and that we cannot shirk that statutory duty merely because we claim some other type of action would be "more effective."

We continue to believe that Class I area visibility protection under the PSD program is appropriately addressed via the AQRV process. As mentioned previously, Congress explicitly included "visibility" as an AQRV for which FLMs would have an affirmative responsibility to protect in Class I areas under their jurisdictions. Where the FLM successfully demonstrates that there would be an adverse impact on the AQRV (e.g., visibility), a state cannot issue a PSD permit, even when the

source's emissions do not violate the $PM_{2.5}$ increments. In addition, we continue to believe that the analysis of other impacts, including visibility, in non-Class I areas is the appropriate means of addressing visibility protection in these areas, as envisioned by Congress when it enacted the PSD provisions of the Act.

As a result, we do not believe it is necessary to create a distinct increment (e.g., with a different averaging period) or to lower the safe harbor increments to protect visibility in urban, non-urban, or Class I areas across the United States. We reach this conclusion in proper consideration of the other, more direct approaches being used to address visibility problems in the United States. The primary such approach, the regional haze program, is within the PSD framework for $PM_{2.5}$. Note that part C of title I of the Act, "Prevention of Significant Deterioration of Air Quality," includes subpart 2, which is the statutory basis for the regional haze program. Regarding our consideration of other state and local visibility protection measures that are outside the PSD framework, we do not believe it is reasonable to disregard these area-specific measures that focus on the preferences of individual communities where a uniform national increment for visibility protection generally cannot.

The environmental group commenter also stated that the

proposed PSD rules fail to ensure fulfillment of the "enhancement goal" set out in the Act. The commenter noted that section 101(a) states as the Act's first purpose: "to protect and enhance the quality of the Nation's air resources," while section 160(2) states that the purpose of the PSD program is to "preserve, protect, and enhance" air quality in parks and other special areas. The commenter asserted that the proposed rule did not address these enhancement requirements or explain how the proposed increments would fulfill those requirements.

This same issue was raised in the 2005 PSD rule affirming the NO_2 increments. At that time we expressed our belief that the goal to enhance air quality in national parks and wilderness areas is implemented through the regional haze program while the PSD program focuses on preserving and protecting air quality in these areas. However, when a PSD increment violation is identified, we agree that EPA may require a state to revise its SIP to correct the violation. See 40 CFR 51.166(a)(3). Otherwise, we do not interpret these PSD provisions to authorize us to direct states in their SIPs to achieve reductions in emissions from existing sources for PSD purposes.

We recognized at that time, and continue to believe, that the growth management goals of PSD may also be fulfilled when the states adopt controls on existing sources that would reduce emissions and allow growth from new sources and major

modifications to existing sources without causing significant deterioration. Under the increment approach, we have interpreted the PSD rules to allow states to require reductions from existing sources in order to expand the allowable increments and, thereby, allow for more growth under the PSD program. However, we have never required states to do so because, in the absence of an increment violation, we do not believe section 166 and other provisions in part C of title I of the Act give us the legal authority to mandate such reductions for PSD purposes.

Another commenter stated that the $PM_{2.5}$ increments should be twice the recommended levels because scientific studies do not support the need for such low levels for protection of health and welfare. The commenter believes that increments at the proposed levels would jeopardize the goal of providing opportunities for economic growth. The commenter expressed concern over EPA's use of epidemiologic studies and questioned the ability of such studies to provide a reliable evaluation of health risks. The commenter claimed that epidemiologic studies are capable of finding association between a substance or exposure and a health effect but rarely capable of determining if there is causation, while toxicological studies using randomized trials are specifically designed to determine causation. The commenter added that other factors providing

evidence for causation include dose-response relationships, consistency, and repeatability of studies, which the commenter said are not present in the studies cited by EPA. The commenter specifically referred to two studies, acknowledged by EPA to show no evidence of a dose-response relationship gradient between $PM_{2.5}$ and specific health related effects.

We disagree with the commenter's recommendation that the increments should be twice the proposed (and final) levels. The scientific studies to which the commenter referred pertain to studies that EPA used to determine the health-based NAAQS for $PM_{2.5}$, and we do not believe it is relevant to this rule to respond to comments related to the setting of the NAAQS. The NAAQS are designed to protect public health and welfare; increments then are intended to insure that air quality in clean areas is not allowed to deteriorate significantly, and the PSD regulations insure that any such deterioration does not lead to air pollution levels that exceed the levels defined by the NAAQS.

As discussed previously, we are finalizing this rulemaking using the safe harbor approach under section 166(a) of the Act. Using this approach, we calculated the "safe harbor" increments as percentages of the NAAQS comparable to the percentages that Congress used to establish the original statutory increments for PM and SO_2. These values represent the level of effectiveness

necessary to satisfy section 166(d) of the Act, and could be tightened if necessary based on further analysis to determine if additional measures are necessary to fulfill the requirements of section 166(c) of the Act. Thus, under this approach and on this record, we do not conclude that it is appropriate to finalize increments at levels any less stringent than the safe harbor increments, as the commenter recommends.

7. Compliance Determinations for the $PM_{2.5}$ Increments

a. Modeling Compliance with $PM_{2.5}$ Increments

Section 163(a) of the Act provides that "In the case of any maximum allowable increase … for a pollutant based on concentrations permitted under the national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year [emphasis added]." Accordingly, the existing PSD rules allow one exceedance per year of each short-term increment defined by the rules. See 40 CFR 51.166(c) and 52.21(c). With the addition of the $PM_{2.5}$ increments to the list of maximum allowable concentrations in the PSD rules, the existing provision allowing one exceedance per year applies equally to the 24-hour $PM_{2.5}$ increments as well. Thus, when modeling increment compliance, the highest value of the second-highest modeled increase in estimated $PM_{2.5}$ concentrations at each model receptor for the 24-hour averaging

time should be less than or equal to the maximum allowable increase for $PM_{2.5}$. For the annual increments, the modeled annual averages should not exceed the annual maximum allowable increase for $PM_{2.5}$. See EPA's "Guideline on Air Quality Models" at 40 CFR part 51 appendix W, section 10.2.3.3

We did not expressly state in the 2007 NPRM the implications of adding $PM_{2.5}$ increments to the existing list of increments in 40 CFR 51.166(c) and 52.21(c) of the PSD regulations. Nevertheless, it should have been clear at the time that, in the absence of alternative language for $PM_{2.5}$, the existing provision allowing one exceedance for the short-term increments would apply to the increments for $PM_{2.5}$ along with the increments already listed. We did not receive any comments either supporting or opposing these methods for determining compliance with the $PM_{2.5}$ increments.

We recognize that the above approach for determining compliance with the 24-hour $PM_{2.5}$ increments differs from the approach contained in guidance that we provided in a March 23, 2010 memo titled "Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS," which sets forth a procedure designed to demonstrate compliance with a statistically based standard that is met when the 98th percentile 24-hour concentration is less than or equal to 35 ug/m3. A similar dichotomy exists for the 24-hour PM_{10} increments and NAAQS, where

compliance with the 24-hour PM_{10} NAAQS is based on an expected exceedance form of the standard.

b. Condensable PM

Initially, the EPA will not require PSD applicants under the federal PSD program to consider condensable PM in emissions calculations to determine whether a proposed project is subject to the PSD requirements. In addition, we will not require the condensable portion to be considered in the required $PM_{2.5}$ air quality analyses. In our May 2008 $PM_{2.5}$ NSR Implementation Rule, we announced that we would not require that states address condensable PM in establishing enforceable emissions limits for either PM_{10} or $PM_{2.5}$ in NSR permits until the completion of a transition period. Further, we indicated that the transition period would end January 1, 2011 unless EPA advanced the date through the rulemaking process. We also indicated that such rulemaking would involve the assessment and possible revision of test methods for measuring condensable emissions and taking comment on an earlier closing date for the transition period in the NSR program if we are on track to meet our expectations to complete the test methods rule much earlier than January 1,

2011.[19] In addition, states that have developed the necessary tools are not precluded from acting to include condensable PM emissions in NSR permit actions prior to the end of the transition period, especially if it is required in an applicable SIP. See 73 FR 28334 - 28336.

c. $PM_{2.5}$ Precursors

In the 2007 NPRM, we proposed to add SILs for $PM_{2.5}$ to the PSD regulations at 40 CFR 51.166 and 52.21. (The SILs are described more fully in section VI of this preamble.) Accompanying these SILs, we proposed to add a new paragraph to the regulations explaining that the requirements for a source impact analysis for $PM_{2.5}$ would be considered to be satisfied, without further air quality modeling, if it were to be shown that the increase in direct $PM_{2.5}$ emissions from the source or modification will cause air quality impacts less than the prescribed SILs for $PM_{2.5}$. The reasoning at the time was that state-of-the-art modeling would not be available to adequately account for secondary $PM_{2.5}$ impacts resulting from emissions of precursors of $PM_{2.5}$, e.g., SO_2 and NO_x. Nevertheless, the existing PSD rules currently define potential precursors of

[19] We proposed test methods for measuring PM_{10} and $PM_{2.5}$, including condensable PM emissions, from stationary sources on March 25, 2009 (74 FR 12970). In the same notice, we sought comments on whether to end the NSR transition period for condensable PM earlier than January 1, 2011. We anticipate publication of a final rule announcing our decision on the NSR transition period in July 2010.

$PM_{2.5}$. Based on the proposed language, the required compliance demonstration for the $PM_{2.5}$ NAAQS and the $PM_{2.5}$ increments (when promulgated) would be limited by regulation to an analysis of direct $PM_{2.5}$ emissions, and would not include consideration of emissions of $PM_{2.5}$ precursors for comparing the modeled source impacts to the prescribed SILs for $PM_{2.5}$.

The impacts of $PM_{2.5}$ precursors on ambient concentrations of $PM_{2.5}$ cannot be determined from the dispersion models that EPA has currently approved for modeling individual PSD sources. Such models are not designed to consider chemical transformations that occur in the atmosphere after the precursor emissions have been released from the source. Consideration of these transformations is necessary to be able to add precursor impacts into the total modeled ambient $PM_{2.5}$ concentrations for comparison to the SILs for $PM_{2.5}$.

The technical tools needed to complete a comprehensive analysis of all emissions that contribute to ambient concentrations of $PM_{2.5}$ are only in the developmental stage; nevertheless, we believe that it would be inappropriate to restrict the regulatory language in such a way that future regulatory amendments would be required to enable the inclusion of precursor impacts in the $PM_{2.5}$ analysis as the necessary technical tools become available. Estimating techniques are being developed that will be able to be applied to the $PM_{2.5}$

analysis in the near future, which could not be required if the regulatory language precluded them. We acknowledge the concerns that have been expressed by some commenters about the shortcomings of not considering the impacts of $PM_{2.5}$ precursors under the $PM_{2.5}$ air quality analyses. Accordingly, we believe that the new provision for applying the SILs for $PM_{2.5}$ to the required analyses for the NAAQS and increments should not be self-limiting by specifying the use of only direct $PM_{2.5}$ emissions. Instead, the new provision contained in this final rule provides that the test will be based on whether "the emissions increase … would cause … air quality impacts less than [the $PM_{2.5}$ SILs]." See new 40 CFR 51.166(k)(2) and 52.21(k)(2). We believe that it would be more effective to rely on interim policy and guidance as appropriate to help determine the best methods available to make the required assessment of source impacts on ambient $PM_{2.5}$ resulting from any emissions.

F. Final Action on Trigger and Baseline Dates for $PM_{2.5}$ Increments

In the 2007 NPRM, we proposed as part of Option 1 to require the implementation of the $PM_{2.5}$ increment system (annual and 24-hour increments) with new baseline areas, baseline dates, and trigger date. Specifically, we proposed that the major source baseline date and trigger date, both fixed dates, would be defined as the effective date of the final rule and would

reflect a date 1 year from the date of promulgation, in accordance with section 166(b) of the Act. In contrast, under Option 2 (both 2A and 2B), we proposed to establish new baseline dates for the 24-hour $PM_{2.5}$ increments, but to retain the existing baseline areas and dates for the annual $PM_{2.5}$ increments because the annual increments would be equivalent substitutes for the existing annual PM_{10} increments.

In light of the then-current and expected trends in $PM_{2.5}$ concentrations, our judgment was that starting with new baseline dates on or after the effective date of this rule would make the PSD increments for $PM_{2.5}$ more protective. We proposed that any emissions reductions occurring prior to the effective date of this rule would lower the baseline concentration rather than be used for expanding the $PM_{2.5}$ increment. If a retroactive baseline date were to apply, emissions reductions occurring prior to the effective date of this rule would serve to expand the available increments, enabling more new pollution than would otherwise be allowed to occur.

We also expressed our belief that starting with different baseline dates to implement increments for $PM_{2.5}$ would be appropriate because Option 1 treats $PM_{2.5}$ essentially as a "new" pollutant for purposes of PSD and section 166 of the Act. We continue to believe that establishing a new baseline also overcomes significant implementation concerns that would

otherwise exist if the existing PM baseline were maintained. In particular, if we were to require sources and reviewing authorities to conduct $PM_{2.5}$ increment analyses based on the minor source baseline dates previously established years or even decades ago under the TSP or PM_{10} program, they would have to attempt to recreate the $PM_{2.5}$ emissions inventory as of the minor source baseline date in order to determine the baseline $PM_{2.5}$ concentration for the area. For early minor source baseline dates in particular (e.g., 1976 in some areas of the United States), establishing the emissions inventory for $PM_{2.5}$ would be extremely difficult, cumbersome, and potentially inaccurate because historic emissions inventories did not include $PM_{2.5}$ emissions. For all of these reasons, we proposed Option 1 as our preferred option and requested comment on this contingent safe harbor approach for annual and 24-hour $PM_{2.5}$ increments under Option 1.

Under Option 1, we proposed that the $PM_{2.5}$ increments would be subjected to a 1-year delay consistent with the procedures under section 166(b) of the Act, which provides in general that these rules "shall become effective one year after the date of promulgation." Alternatively, we sought comment on a 60-day delay as part of our proposal under Option 1. In the proposal we requested comment on the argument that, while the Act includes a 1-year implementation delay for new increments, the

same provision calls for EPA to promulgate new increments within 2 years of the promulgation of the NAAQS. Given that these $PM_{2.5}$ increments are being promulgated more than 2 years after promulgation of the NAAQS, we expressed our belief that the overall congressional intent reflected in section 166 of the Act could possibly be met by setting the effective date of the $PM_{2.5}$ increments earlier than the "one year after the date of promulgation" provided in section 166(b) of the Act.

Twelve commenters supported our proposal under Option 1 to establish new trigger and baseline dates for $PM_{2.5}$, regardless of the particular increment option that they otherwise supported. These commenters generally saw new dates as being the best approach because of various problems that would result from retaining existing trigger and baseline dates. Some commenters claimed that it would be technically difficult to try to reconstruct old inventories to determine the amount of $PM_{2.5}$ emitted by sources in the past.

One commenter stated that establishing $PM_{2.5}$ increment inventories using existing PM_{10} baseline dates would be "extremely difficult, cumbersome, and necessarily inaccurate and unreliable as historic emissions did not speciate $PM_{2.5}$ emissions." A state/local agency commenter said that it would be "virtually impossible for States to calculate the $PM_{2.5}$ component of previously consumed PM_{10} increments because data on

the fine and coarse fractions of source emissions are largely unavailable."

Yet another commenter claimed that "resurrecting $PM_{2.5}$ inventories based on the PM_{10} baseline dates would be insurmountable." Similar comments were echoed by several commenters who supported the use of legal authority set forth in section 166(f) ("equivalent substitution" approach) for developing the numerical values for the $PM_{2.5}$ increments. One of these commenters stated that he did not "believe the establishment of new baseline dates for $PM_{2.5}$ would abandon past cases of increment consumption for PM_{10}, because the 24-hour PM_{10} increments would still be in effect …."

One commenter suggested that "EPA establish the trigger date as of the date when it officially established the non-attainment and attainment areas for $PM_{2.5}$; that is, April 5, 2005." The commenter explained that this approach is consistent with the PSD regulations from their inception and partially mitigates EPA's delays in implementing the PSD program for $PM_{2.5}$. The commenter believes "that States should be required to use the baseline areas previously established for their PSD program, unless the process for redefining these areas strictly follow procedures in the PSD regulations and EPA policy." The commenter claimed, "this will minimize any inconsistent applications of the regulations for $PM_{2.5}$."

One commenter noted that our proposed $PM_{2.5}$ increments were very low and "facilities may find themselves immediately out of compliance with the $PM_{2.5}$ increments upon promulgation of the rule, based on a January 1975 or 1977 baseline date."

One commenter indicated that the historic TSP/PM_{10} baseline dates should be retained. This commenter favored the equivalent substitution approach under section 166(f) and, consistent with that approach, retention of the existing baseline dates.

Having considered all the comments, we believe that the most reasonable approach for addressing the relevant dates associated with the $PM_{2.5}$ increments is to start anew with the baseline date concept. As already mentioned, the commenters have identified difficulties that would occur if the $PM_{2.5}$ emissions inventory for increment analyses had to be created for an earlier period of time, and the existence of these difficulties supports the approach under Option 1 to establish new dates for implementing the $PM_{2.5}$ increments. Also, these new baseline dates for $PM_{2.5}$ increments will not undo the current protection provided by the existing increments for PM because we are not revoking the 24-hour or annual PM_{10} increments under this new rule. Accordingly, this final rule establishes independent $PM_{2.5}$ increments using a "trigger date" and "major source baseline date" that are separate from the dates defined for the PM_{10} increments. Consequently, new minor source baseline dates

and the corresponding baseline areas will be used for the annual and 24-hour $PM_{2.5}$ increments, and will be established when a source applies for a PSD permit any time on or after the new trigger date for $PM_{2.5}$. (See also the discussion about changes to the definition of "baseline area" in section V.G of this preamble.)

The "major source baseline date" for $PM_{2.5}$ is being set as **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** — the date of publication of this final rule. The setting of this date differs from previous major source baseline dates which were set as the date of publication of the proposed rule, but is similar to the major source baseline date set for the other increments in that the date precedes the effective date for implementing the increments, and thereby requires that certain major source emissions increases that occur before the trigger date retroactively count toward the amount of increment consumed.

The "trigger date" is being set at **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, which is 1 year after the date of promulgation of this final rule. We are using this approach to define the date on which the $PM_{2.5}$ increments become effective as 1 year from the date of publication, consistent with the 1-year delay required under section 166(b) of the Act. This date for the "trigger date" separates the effective date of the $PM_{2.5}$ increments from the

effective date of this final rule in general, but also ensures that the "minor source baseline date" for $PM_{2.5}$ for any particular $PM_{2.5}$ attainment or unclassifiable area cannot be established until after the increments become effective in this final rule. The implementation of these dates as part of the $PM_{2.5}$ increment system is discussed in greater detail in section VIII of this preamble.

We recognize that some may still have a concern about our decision to set the major source baseline date as the date of publication of this final rule in light of the fact that the $PM_{2.5}$ NAAQS have been in place since 1997; however, we believe that the selection of possible earlier dates would require states to retroactively establish $PM_{2.5}$ emissions inventories for increment analyses during a period when sources were generally not required to conduct $PM_{2.5}$ air quality analyses. Hence, given the lack of information, and considering the technical difficulties in doing so, we do not believe that it would be appropriate to require states and sources to retroactively account for $PM_{2.5}$ increment consumption by setting the major source baseline date at an earlier date than the date we have selected.

G. Definition of "Baseline Area" for $PM_{2.5}$

No changes were proposed with respect to the definition of "baseline area" for $PM_{2.5}$ increments. One commenter, however,

noted that fact in claiming that we did not adequately account for significant impacts of $PM_{2.5}$ for purposes of defining the "baseline area" for the $PM_{2.5}$ increments. Under the existing regulations, the establishment of a baseline area for any PSD increment results from the submittal of the first complete PSD application, and is based on both the location of the proposed source and the impact of the source's emissions on the area. In accordance with the definition, the attainment or unclassifiable area in which the proposed source would construct is always part of the baseline area in which the minor source baseline date is established and the increment analysis is conducted. In addition, the definition provides that any surrounding attainment or unclassifiable area in which the proposed source's impact is greater than 1 $\mu g/m^3$, annual average, would also become part of the baseline area, assuming the area had not already been established as a baseline area by a previous application for a PSD permit. See 40 CFR 51.166(b)(15) and 52.21(b)(15).

As explained in the preamble for the 1980 PSD regulations, EPA selected an impact of 1 $\mu g/m^3$, annual average, for the definition of "baseline area" because that value was considered the level of significance for both SO_2 and PM when the definition

was originally established.[20] There was no mandate at that time that a 1 μg/m^3 impact be used to determine the baseline area for increments for other pollutants; however, the use of a 1 μg/m^3 impact in the definition of "baseline area" was not changed when EPA developed increments for NO_2 in 1988 because EPA also defined "significant" for NO_2 using the same annual average concentration of 1 μg/m^3. The EPA has determined, however, that "significant" for $PM_{2.5}$ ambient impacts should be considered to occur at a lower concentration than 1 μg/m^3. Elsewhere in this preamble, we have indicated that the SIL for $PM_{2.5}$ in this final rule is 0.3 μg/m^3, annual average. Consequently, although no change to the definition of "baseline area" was proposed in this rule, we believe it is necessary and appropriate to define in this final rule a level of significance of 0.3 μg/m^3, annual average, for establishing a new baseline area for purposes of $PM_{2.5}$ increments. See revised 40 CFR 51.166(b)(15)(i) and 52.21(b)(15)(i).

Had we established the SIL at 1 μg/m^3, annual average, as proposed under Option 1 for SILs, then the definition of "baseline area" would not need to be revised. However, the revised definition in this final rule is consistent with our

[20] "A source will be considered to impact an area if it has an impact of 1 μg/m^3 or more of SO_2 or PM on an annual basis. This figure has been selected because it corresponds to levels of significance used in previous Agency determinations for SO_2 and PM. 45 FR 52716.

decision to establish a SIL of 0.3 µg/m^3, annual average, for $PM_{2.5}$. We consider this action to be a logical outgrowth of our decision to establish a SIL for $PM_{2.5}$ and the comment concerning the effect of that action on the definition of "baseline area." Thus, we believe that our failure to initially propose this change to the definition of "baseline area," based on the possibility of selecting Option 3 for defining the SIL for $PM_{2.5}$, does not warrant a reproposal.

H. No Final Action with Respect to the Proposed Revocation of PM_{10} Annual Increments

In the 2007 NPRM, we proposed to either revoke or replace the annual increments (Class I, II, and III) for PM_{10} to conform to the earlier revocation of the annual PM_{10} NAAQS. We proposed to revoke the annual increments, based on the same technical evidence that led us to revoke the annual PM_{10} NAAQS, if we decided to use Option 1 for adopting $PM_{2.5}$ increments, and discussed our authority and rationale for doing so. 72 FR 54136.

As an alternative, under Options 2A and 2B we proposed to replace the existing annual PM_{10} increments with equivalent substitute $PM_{2.5}$ increments using the authority under section 166(f) of the Act. After further analysis and consideration of the comments on this issue, we have decided not to take any final action on our proposal to revoke the existing increments

for PM_{10} as part of this rulemaking. The effect of not taking final action with respect to the PM_{10} annual increments is to leave those increments in place and unchanged.

Three commenters agreed with EPA's proposal to "adopt the 24-hour and annual $PM_{2.5}$ increments and to revoke the annual PM_{10} increments." One commenter stated, "counting and tracking increment is confusing enough without adding the confusion of potentially overlapping PM standards." The commenter noted that the "cleanest approach is to establish a single new $PM_{2.5}$ increment and work from there." The commenter suggested that EPA first "develop a coarse fraction increment, once EPA establishes coarse PM NAAQS." The commenter added that the removal of the PM_{10} annual increment is supported by the removal of the "health based standard for annual PM_{10}."

One of the commenters agreed, "it makes no sense for EPA's regulations to contain an annual increment for PM_{10} even though an annual PM_{10} NAAQS no longer exists." The commenter added, "EPA is without authority under Section 166(f) to retain the PM_{10} annual increment if it adopts a $PM_{2.5}$ annual increment." This commenter explained, "EPA is compelled by law to eliminate the PM_{10} annual increment."

We agree with this commenter that section 166(f) is a "substitution" approach; however, as we stated in our 2007 NPRM, we expressed some concern about using section 166(f) to

substitute $PM_{2.5}$ increments for PM_{10} increments. In fact, some commenters challenged our authority under section 166(f) to replace the PM_{10} increments. In our response to the following comments, we address the legal issues that we believe prevent us from simply revoking the PM_{10} increments.

One environmental commenter claimed, "the agency has no authority to repeal an existing PM_{10} increment without at the same time restoring the corresponding TSP increment." The commenter noted, "Congress established the TSP increments by statute and gave EPA no authority to revoke them," and "instead, Congress gave EPA only limited authority to substitute PM_{10} increments for TSP increments under the conditions specified in Section 166(f)." The commenter explained, "EPA cannot revoke the annual PM_{10} increments, either by "replacing" them with $PM_{2.5}$ increments or otherwise, unless EPA at the same time restores the annual TSP increment." The commenter noted, "retention of the PM_{10} annual increment is also entirely compatible with the statutory purposes, notwithstanding EPA's revocation of the annual PM_{10} NAAQS." The commenter further noted the following examples/evidence that retention of the annual PM_{10} increments is important to achieving the goals of the Act's PSD provisions:

- "While EPA attributes the visibility impairing impacts of PM pollution primarily to elevated short term fine particle concentrations, EPA recognizes that PM_{10} plays a significant

role in the other welfare related impacts of PM pollution." 72 FR 54136.

- "EPA also states that the most significant PM-related ecosystem-level effects result from long term cumulative deposition … that exceeds the natural buffering or storage capacity of the ecosystem and/or affects the nutrient status of the ecosystem." 72 FR 54131.

Five state/local agency commenters opposed the revocation of PM_{10} annual increments "until EPA makes a determination on a PM-coarse NAAQS" and/or "establishes equivalent increments for PM-coarse." One of these commenters added, "it is prudent to maintain the PM_{10} increments until EPA makes a determination on the health and environmental effects of the coarse fraction of PM." The commenter claimed that, "if EPA retains the annual PM_{10} increments" "then the determination of $PM_{2.5}$ increments can complement the continuation of PM_{10} increment determinations without any discontinuities or unwanted degradation concerns."

Another one of these commenters stated, "the basis for dismissing the annual PM_{10} NAAQS by the substitution of fine particle NAAQS to address certain health and welfare effects does not provide a basis for dismissing a PSD increment which is meant to stop significant degradation of air quality." The commenter noted, "as refinements are made to estimation of fine particle emissions or in instances where these are deemed not to

be a major component of particulate emissions, the PM_{10} annual increment could prevent long term deterioration of air quality associated with the coarse component."

One state/local agency commenter noted, "EPA also proposes to replace the PM_{10} annual increment with the corresponding $PM_{2.5}$ increment under the Section 166(f) options 2A and 2B as well, but does not provide a substantive basis for such an action." The commenter does "not see the tension noted by EPA between Sections 166(a) and (f) with respect to reaching a holistic solution if EPA views $PM_{2.5}$ as a new indicator of PM, as we believe it can." The commenter explained, "under this approach, if EPA determines that coarse particle levels are necessary to protect the public from certain exposures not addressed by $PM_{2.5}$, then it will be appropriate for EPA to define complementary increments for coarse particulates as another indicator of PM." The commenter also asserted that the 24-hour increments for $PM_{2.5}$ must be based on section 166(f) authority, but believes that the $PM_{2.5}$ increment need not replace the PM_{10} increment for this averaging period.

One commenter requested that EPA "keep the PM_{10} PSD program (especially the increments) in place until the full $PM_{2.5}$ program is adopted and in place."

One commenter "does not support revoking the annual PM_{10} increments," because the commenter feels that "there are too

many uncertainties regarding $PM_{2.5}$." The commenter provided the following example: "the program has been dragging for years, analytical methods are not formulated, the NSR part of the implementation rule has not issued, condensables are not yet included, and the impact of precursors has not been definitively explored." The commenter explained that "under these conditions, nothing concerning PM_{10} should be revoked until the reasons for doing so are clearly understood and the overall impact on ensuring clean air and the public health and welfare have been fully explored." The commenter suggested, "PM_{10} increments and NAAQS should remain in effect until these issues have been resolved to the satisfaction of the Administrator." This commenter believed that Options 2A and 2B must be based entirely on section 166(f) of the Act, but that the presence of increments for both PM_{10} and $PM_{2.5}$ can be supported under this section because the two sets of increments complement each other. The commenter indicated that the problem will be resolved when sufficient data are available to revoke the PM_{10} NAAQS and increments and/or PM_{10} is replaced by $PM_{10-2.5}$.

One state/local agency association commenter recommended that "EPA can and should continue both the 24-hour and annual average PM_{10} PSD increment program until $PM_{10-2.5}$ standards are promulgated." The commenter explained that "EPA has the discretion to accomplish this under CAA §166(f)" and "at a

minimum, the agency should continue the 24-hour PM_{10} increments in conjunction with the continuation of the 24-hour PM_{10} NAAQS."

As stated previously, in this rule we are taking no final action on our proposal to revoke the annual PM_{10} increments even though the annual PM_{10} NAAQS has been revoked. Based on comments and our own legal analysis of the PM_{10} increments, we have concluded that there is a strong legal basis for not revoking the annual increments at this time. The PM_{10} increments were promulgated on June 3, 1993 (58 FR 31622) as replacement increments for the then existing statutory increments for PM measured as TSP. The fact that EPA promulgated the PM_{10} increments as "equivalent" replacements for the TSP increments under the authority of section 166(f) of the Act is important in that EPA does not have authority to simply remove the TSP increments that were explicitly defined within the PSD program requirements in the Act. Accordingly, we believe that the annual TSP increments would be restored by default should we decide to revoke the annual PM_{10} increments as proposed. However, even if the original annual TSP increments were not restored, there is no basis for automatically revoking the annual PM_{10} increments simply because we have revoked the annual PM_{10} NAAQS, because annual increments are not contingent upon the existence of annual NAAQS. This is clear from the court's decision in the earlier NO_2 increment litigation stating that

increments for a particular pollutant do not necessarily need to match the averaging periods that have been established for NAAQS for the same pollutant. EDF v. EPA, at 189-190 ("… the 'goals and purposes' of the PSD program, set forth in § 160, are not identical to the criteria on which the ambient standards are based.").

I. Other Comments on Increments

Ten commenters (including state/local agencies and industry commenters) supported section 166(f) of the Act as the basis for $PM_{2.5}$ increments. These commenters typically voiced the belief that when Congress enacted section 166(f), it authorized EPA to update PM increments when another indicator was defined, and that section 166(f) allows EPA to continue do so as long as these increments are of equal stringency to the prior increments. Some of these commenters believe that section 166(f) is the only legitimate approach under the Act, while others indicated simply that it is preferable to section 166(a). Some of the commenters believe that section 166(f) authority can be used to add $PM_{2.5}$ increments to the existing PM_{10} increments. Others believe that $PM_{2.5}$ increments finalized under section 166(f) must fully replace the existing PM_{10} increments, and recommended doing so.

For the reasons discussed previously in this preamble, EPA has decided to finalize the $PM_{2.5}$ increments under the authority

of section 166(a) of the Act. With respect to the potential creation of $PM_{2.5}$ increments under section 166(f) (as discussed in the 2007 NPRM at 72 FR 54120 – 54121), we have not reached any final conclusion as to whether that approach is authorized by the statute, but believe that such an approach raises significant legal issues. Because the Agency is not relying on section 166(f) in this rulemaking, we do not address these issues in this preamble, though some additional discussion is included in the Response to Comments document for this rule.

One industry association that supported the Option 1 approach based on section 166(a) authority also acknowledged that EPA is authorized to use the Option 2 approach based on section 166(f) authority. An industry commenter indicated that 2007 NPRM's arguments regarding the alternative legal authorities under section 166(a) and (f) were not compelling; the commenter recommended setting the $PM_{2.5}$ increments at the levels proposed as Option 2B because they would have the lowest economic impact.

As noted previously, we have decided to finalize Option 1 based on section 166(a) authority because we believe that provision provides the clearest statutory authority for purposes of developing increments based on $PM_{2.5}$. We would point out, however, that any conclusion as to which option would yield increments that "have the lowest economic impact" must include a

consideration of not only the levels of the increments but also the associated baseline dates that define when emissions changes must be considered to affect the amount of increment consumed. Under Options 2 and 3, the $PM_{2.5}$ increments would be regarded as replacement increments for the PM_{10} increments and, as such, would include amounts of increment (based upon the $PM_{2.5}$ component) already consumed under the existing PM_{10} increment system. Thus, portions of the substitute $PM_{2.5}$ increments could have already been consumed by previous PSD sources that emit PM. If, in fact, a portion of the $PM_{2.5}$ increments had already been consumed by the prior PM_{10} increment consumption process, than there would be a basis to conclude that less additional economic growth would be allowed under a set of replacement $PM_{2.5}$ increments as compared to $PM_{2.5}$ increments based on separate, independent baseline dates.

One industry commenter suggested that EPA develop geographic area-specific increments (and SILs and SMCs) that take local conditions into account. The commenter pointed out that $PM_{2.5}$ levels in PSD areas proximate to international borders may be elevated by sources outside the legal and practical control of the United States and state authorities. The commenter also noted that $PM_{2.5}$ levels may be elevated by natural conditions, such as drought, fires, geologic formations (sandy or fine-grained surface features), high winds, etc., leading to

excessively dusty ambient conditions over which the local area has no control. The commenter indicated that local area baselines must reflect these PM emissions, though they are not reflected in the local area's emissions inventory. The commenter urged EPA not to penalize such PSD areas by imposing uniform national PSD increments (or SILs or SMCs) where the conditions of concern are not capable of control.

As previously discussed, this final rule establishes an area classification system with prescribed, uniform $PM_{2.5}$ increments for each class. We do not believe that it is necessary to develop different increments (or SILs or SMC) for different areas of the country. Emissions from natural conditions such as those described by the commenter would not consume increment due to their natural and temporary nature. In addition, if a state wishes to disregard new emissions from sources outside the United States, the state's PSD program may provide that such emissions do not consume increment (see 40 CFR 51.166(f)(1)(iv)).

VI. Final Action on $PM_{2.5}$ SILs

A. EPA's Determination on SILs for $PM_{2.5}$

It is EPA's longstanding policy to allow the use of the SILs as de minimis thresholds under the NSR programs at 40 CFR 51.165(b) and part 51, Appendix S, to determine whether the predicted ambient impact resulting from the emissions increase

at a proposed major new stationary source or modification is considered to cause or contribute to a violation of the NAAQS. We have also allowed the SILs under the PSD program to determine: (1) when a proposed source's ambient impacts warrant a comprehensive (cumulative) source impact analysis; (2) the size of the impact area within which the air quality analysis is completed, and (3) whether the emissions increase from a proposed new major stationary source or major modification is considered to cause or contribute to a violation of any NAAQS.

We proposed three separate options for setting SILs for $PM_{2.5}$. The first option relied upon the same approach we proposed for PM_{10} in the 1996 NSR Reform proposal. This set included Class I SILs set at 4 percent of the Class I $PM_{2.5}$ increments. For class II and III areas, we proposed to codify the SIL values that already existed for PM_{10}, i.e., 1.0 $\mu g/m^3$ (annual) and 5.0 $\mu g/m^3$ (24-hour). Options 2 and 3 relied on scaling the PM_{10} SILs, as codified in 40 CFR 51.165(b), by a particular ratio. Specifically, for Option 2, the multiplier was the emissions ratio of $PM_{2.5}$ to PM_{10} for point sources in the 1999 NEI; for Option 3 the multiplier was the ratio of the $PM_{2.5}$ NAAQS to the PM_{10} NAAQS. The resulting SILs were proposed as follows:

Option	**Proposed SILs ($\mu g/m^3$)**					
	Class I		Class II		Class III	
	Annual	24-hr	Annual	24-hr	Annual	24-hr

1	0.04	0.08	1.0	5.0	1.0	5.0
2	0.16	0.24	0.8	4.0	0.8	4.0
3	0.06	0.07	0.3	1.2	0.3	1.2

We have decided to finalize the $PM_{2.5}$ SILs proposed under Option 3. As explained earlier, these values will be used in the federal PSD preconstruction review process consistent with our proposal. See 72 FR 54138-41 and 54143.

States are not required to adopt SILs in their NSR or PSD programs; the analyses for $PM_{2.5}$ required by each applicable regulation can be carried out without using a SIL.[21] Therefore, we do not intend for any specific deadlines to apply under the regulations at 40 CFR 51.165(b), 51.166, or part 51, Appendix S for states to submit SILs for $PM_{2.5}$, should they choose to do so, as part of their revisions to incorporate the final rules for $PM_{2.5}$ into SIPs. Nonetheless, we believe that the availability of SILs as a screening tool greatly improves PSD program implementation by streamlining the permit process and reducing labor hours necessary to submit and review a complete permit application where the projected impact of the proposed source is de minimis in the relevant area. For these reasons, we are

[21] We note that, under the 2007 NPRM, we proposed that the SILs for $PM_{2.5}$ would not be treated as a minimum program element for state PSD programs; however, the proposed regulatory language at 40 CFR 51.166(k)(2) incorrectly stated the "the plan shall provide that," which would indicate that the use of the SILs for $PM_{2.5}$ was required in the state plan. This final rule corrects this error.

including the $PM_{2.5}$ SILs in the federal PSD regulations at 40 CFR 52.21 to screen proposed projects concerning the need for a cumulative source impact analysis for $PM_{2.5}$.

B. Response to Comments Concerning the SILs

The primary purpose of the SILs is to identify a level of ambient impact that is sufficiently low relative to the NAAQS or increments that such impact can be considered trivial or de minimis. Hence, the EPA considers a source whose individual impact falls below a SIL to have a de minimis impact on air quality concentrations that already exist. Accordingly, a source that demonstrates that the projected ambient impact of its proposed emissions increase does not exceed the SIL for that pollutant at a location where a NAAQS or increment violation occurs is not considered to cause or contribute to that violation. In the same way, a source with a proposed emissions increase of a particular pollutant that will have a significant impact at some locations is not required to model at distances beyond the point where the impact of its proposed emissions is below the SILs for that pollutant. When a proposed source's impact by itself is not considered to be "significant," EPA has long maintained that any further effort on the part of the applicant to complete a cumulative source impact analysis involving other source impacts would only yield information of trivial or no value with respect to the required evaluation of

the proposed source or modification.

While some commenters opposed all of the proposed options for $PM_{2.5}$ SILs, most commenters generally supported the use of a SIL as a screening tool for $PM_{2.5}$ air quality analyses. Commenters who supported one of the proposed options for the SILs were divided as to their support of a particular approach for selecting the SIL value, with each option receiving some support. Commenters also tended to agree that the SILs should not be used for determining significant impacts on AQRVs in Class I areas.

Those commenters supporting the concept of the SILs, yet opposing all proposed options, believed that all options yielded SILs that were too low. Another commenter, an environmental group, presented extensive legal and policy arguments against the SILs concept in general. Some of the significant comments and our responses to them are addressed herein, while others are covered in the Response to Comments document which we have placed in the docket for this rulemaking.

1. Legal Basis for SILs

One commenter opposed all three proposed options on both legal and policy grounds claiming that EPA has no legal authority to promulgate SILs and that the de minimis doctrine endorsed by the court does not apply to increment analyses, where Congress has expressly directed that the letter of the law

applies in all circumstances, as it has in this case. (The commenter's policy concerns about SILs are discussed later in this section of this preamble.) The commenter stated that "Congress codified increments in section 163 of the Act, directing that SIPs contain measures assuring that the increments shall not be exceeded." According to the commenter, "The Act plainly provides that no major source may be constructed unless it meets this requirement, and may not contribute to an exceedance 'for any pollutant in any area.'" The commenter further stated that "the de minimis doctrine is inapplicable because it applies only where the regulations will yield a gain that is demonstrably trivial or zero."

We disagree with this commenter's claim that there is no legal basis for SILs. As stated in the 2007 NPRM, the concept of a SIL is grounded on the de minimis principles described by the court in Alabama Power at 323, 360. In this case reviewing EPA's 1978 PSD regulations, the court recognized that "there is likely a basis for an implication of de minimis authority to provide exemption when the burdens of regulation yield a gain of trivial or no value." Alabama Power at 360. See the 2007 NPRM for more on how we have applied the de minimis principle in the past. See also, Sur Contra La Contaminacion v. EPA, 202 F.3d 443, 448-49 (1st Cir. 2000) (upholding EPA's use of SILs to allow permit applicant to avoid full impact analysis.)

2. Levels of the SILs

Several commenters opposed all three proposed options on the grounds that all yielded levels of SILs that are too low. One of these commenters argued that the proposed SILs "imply a level of monitoring and modeling sophistication that is currently absent in our regulatory scheme." This commenter recommended that EPA "rethink the level of the proposed SILs and select concentrations less likely to be within the level of error inherent in current monitoring and modeling methods."

We disagree with these commenters' concerns about all the proposed SILs being too low. While we did not select the Option 1 levels, the Class II and III SILs for $PM_{2.5}$ under that option were the same ambient concentration levels that are used for the SILs for the other criteria pollutants under 40 CFR 51.165(b), and those existing SILs values are associated with NAAQS that are considerably higher than the NAAQS for $PM_{2.5}$. Clearly, it would have been inappropriate to select Class II and III SILs for $PM_{2.5}$ that represent relatively higher values than the existing SIL values for other pollutants in light of the more stringent NAAQS levels that exist for $PM_{2.5}$. We also disagree that the SILs should be consistent with current monitoring capabilities for $PM_{2.5}$. The SILs are a screening tool used in comparison with modeled predictions — not monitored concentrations — of $PM_{2.5}$. Monitoring accuracy is not a relevant

concern in predicting with air quality dispersion models the concentrations of a pollutant that a source will cause if its construction and operation are allowed to occur.

Two commenters expressed concern about national de minimis values. One stated that "the idea that a single national number can define 'trivial' is flawed, given that even very small impact can be of great significance in an area that is close to an increment or NAAQS." The other commenter recommended that EPA "develop geographic area-specific … levels that take local conditions into account." This commenter reasoned that some PSD areas "should not be 'penalized' by a single, national PSD increment, significant impact levels and significant monitoring level, where the conditions of concern are not capable of control."

With regard to the first of these commenters, our longstanding policy has been that when a source has a de minimis impact on an existing air quality problem, that source should not necessarily be required to bear the burden of addressing its small contribution to a problem caused primarily by other sources. However, notwithstanding the existence of a SIL, permitting authorities should determine when it may be appropriate to conclude that even a de minimis impact will "cause or contribute" to an air quality problem and to seek remedial action from the proposed new source or modification.

We do not agree with the second of these comments concerning the development of regional SILs based on a concern that some amounts of $PM_{2.5}$ in a particular area are "not capable of control." The $PM_{2.5}$ SILs define a threshold level for determining whether a predicted ambient impact by a proposed major stationary source or major modification of $PM_{2.5}$ needs to undergo a more thorough analysis of the $PM_{2.5}$ NAAQS or increments. This value is not directly affected by the total amounts of $PM_{2.5}$ that may exist in an area or by what causes the existing $PM_{2.5}$ concentrations, rather by the impact of a single source relative to the levels of the NAAQS and increments that must be protected. Therefore, we do not see why the SILs should be influenced by the geographic area of concern, or how different levels of SILs for the same pollutant and averaging period would be necessary.

With regard to the commenters that supported at least one of the proposed SILs options, they generally did not prefer the entire suite of SILs (Class I, II, and III SILs) from a single option, but instead supported parts of different options, primarily divided by drawing a distinction between the Class I SILs and the SILs for Class II and III areas. Consistent with the way that commenters addressed the Class I, II, and III SILs, we will address the comments separately herein as well.

a. Class I SILs

Support and opposition for the proposed $PM_{2.5}$ SILs for Class I areas was fairly evenly divided. The $PM_{2.5}$ SILs for Class I areas proposed under Option 2 received the support of some commenters, but also received an equal amount of opposition. Option 1, which yielded the lowest (most restrictive) values for the Class I area SILs for $PM_{2.5}$ (annual and 24-hour averages), was supported by some commenters, including a federal agency that serves as a FLM for federal Class I areas under the PSD program, but was equally opposed. Finally, comments supporting the Class I SILs proposed under Option 3 (from which we derived the values included in the final rules) were matched by comments that opposed the Class I SILs under Option 3.

One commenter opposing the Option 3 SILs for Class I areas said that the values "appear to be unrealistically low and, if selected, would point to the need for EPA to conduct an economic impact analysis." We disagree that adopting the Option 3 SILs for Class I areas (and Class II and III areas) will result in economic impacts significant enough to warrant an economic impact analysis. Under the Paperwork Reduction Act, EPA is required to analyze, and receive approval from the Office of Management and Budget (OMB) for, the recordkeeping and reporting burden imposed by its regulations (referred to as the "Information Collection Request" or "ICR" for the regulation). For the PSD program, this includes the burden associated with

the entire permitting process, including any required modeling analyses. In our analysis for this rulemaking, we have concluded that the number of PSD permits issued annually will be unchanged (at an estimated 274 per year), while the total burden across all PSD permit applicants of adding $PM_{2.5}$ analyses will increase by a total of approximately 29,000 hours per year at a cost of approximately $2.8 million per year. This total annual impact on industry is a small fraction of the threshold ($100 million per year) that is considered "significant" under Executive Order 12866 (Regulatory Planning and Review) and the Unfunded Mandates Reform Act. See sections X.B and X.D of this preamble for more on the Paperwork Reduction Act and the Unfunded Mandates Reform Act, respectively. Our analysis of the recordkeeping and reporting burden of this rulemaking can be found in the docket for this ICR.[22]

Another commenter stated that the use of a NAAQS-based ratio under Option 3 for the proposed SILs does not "translate back to the emissions point level when comparing PM_{10} and $PM_{2.5}$." This commenter continued, "this is an invalid method of proceeding because EPA has not shown that there is a correlation between the NAAQS and direct $PM_{2.5}$ since there is no accounting

[22] See "Information Collection Request (ICR) for the Prevention of Significant Deterioration for $PM_{2.5}$ - Increments, Significant Impact Levels and Significant Monitoring Concentration," Docket No. EPA-HQ-OAR-2007-0628.

for precursors and EPA does not have a quantifiable sense of the portion of $PM_{2.5}$ that is condensable for various industries."

We disagree with the commenter's concern that the use of NAAQS-based ratios is an invalid method for developing the $PM_{2.5}$ SILs. The purpose of using the NAAQS ratio with the PM_{10} SILs to develop $PM_{2.5}$ SILs is to establish values that have a comparable relationship between ambient concentrations of PM_{10} and $PM_{2.5}$ and their respective NAAQS levels. Whether a particular ambient concentration of $PM_{2.5}$ results from direct $PM_{2.5}$ emissions or from precursor emissions is not relevant to this particular approach. The $PM_{2.5}$ SILs in this final rule are intended to be compared to the ambient concentrations of $PM_{2.5}$ that are predicted by modeling the emissions of a proposed new project. Ambient concentrations of $PM_{2.5}$ can be the result of direct $PM_{2.5}$ emissions, which may include condensable particulate matter, as well as precursor emissions, e.g., SO_2 and NO_x.

We note that the 2007 NPRM included proposed regulatory language providing that demonstrations of whether the air quality impact of a major new source or modification would be less than the $PM_{2.5}$ SILs be based on direct $PM_{2.5}$ emissions from the proposed project. The intent of this was to recognize the technical limitations associated with modeling precursor emissions to predict ambient $PM_{2.5}$ impacts. However, in this final rule we have removed that limitation by removing the

reference to "direct" $PM_{2.5}$ emissions.

One commenter, who did not support any of the proposed SILs options, was especially critical of the Class I SILs for $PM_{2.5}$ under Option 1, stating that multiplying the proposed $PM_{2.5}$ increment by 4 percent is without legal or practical merit. The commenter stated that just because "4 percent may have been a reasonable multiplier to use in establishing a significant emission rate threshold does not mean that the multiplier should be used for a completely different regulatory purpose." The commenter added that if the $PM_{2.5}$ SILs for Class I areas under Option 1 were codified, emissions from even the most well-controlled coal-fired electric generating station located as far away as 300 km from a Class I area could well exceed the threshold.

In contrast, the federal agency commenter supporting the $PM_{2.5}$ SILs for Class I areas under Option 1 explained that they analyzed the effectiveness of the three sets of proposed SILs by modeling four different coal-fired power plant scenarios using an EPA-approved long-range transport model. The modeled plants included a large 1,500 megawatt (MW) facility, a moderate-sized 500 MW facility, and two medium 800 MW facilities. Based on this modeling analysis, the commenter concluded that the proposed levels of the Class I 24-hour SILs based on Option 1 and Option 3 are "more appropriately protective of the proposed

Class I $PM_{2.5}$ increment and impacts to visibility than the level obtained under Option 2." This commenter supported the consistency of using 4 percent of the Class I increments that was used by EPA in proposing Class I SILs for SO_2, NO_x, and PM_{10} in 1996.

We chose the Class I SILs under Option 3 because we believe that this option yields the most appropriate combination of SILs for all area classifications. Whether a particular source will have a significant impact on an area is determined to some extent by the amount of its emissions, but also by other factors such as the height of release, pollutant transport distance, terrain features, and meteorological factors. Thus, we did not select SILs values to address a certain size source or the degree of control of that source, but the ambient impact of that source relative to the NAAQS and increments that will result from the source's emissions. While the annual Class I SIL under Option 3 represents a level that is somewhat greater than 4 percent of the $PM_{2.5}$ annual increment for Class I areas, it is sufficiently close (as derived from a ratio of the $PM_{2.5}$ NAAQS to the PM_{10} NAAQS) so as to provide a reasonable threshold for defining de minimis for purposes of conducting a Class I increment analysis. We had proposed the use of 4 percent of the existing Class I increments to develop SILs for pollutants in the 1996 NSR Reform proposal; however, that particular component

of the proposal was never finalized. See 61 FR 38250 beginning at 38291. We will further discuss our rationale for selecting the SILs under Option 3 in the discussion which follows for the Class II and III SILs.

b. Class II and III SILs

While many commenters tended to favor Option 2 with regard to the proposed Class I increments, they tended clearly to support Option 1 for defining Class II and III SILs for $PM_{2.5}$. These particular SILs for $PM_{2.5}$ were proposed so as to be equal to the existing Class II and III SILs for the existing pollutants. In all, six commenters supported Option 1. One of these commenters stated that Option 1 SILs for Class II and III areas are "sufficiently stringent and fully consistent with the de minimis justification for SILs." The commenter added that "when conducting an air quality impact analysis … most applicants assume all coarse PM_{10} to be $PM_{2.5}$." The commenter claimed that this assumption is conservative and "overestimates the amount of fine particles being emitted and renders the effective SIL thresholds for $PM_{2.5}$ lower than those written into the regulations."

We strongly disagree that the SILs proposed under Option 1 as applied to $PM_{2.5}$ are sufficiently stringent. The application of such values as SILs for $PM_{2.5}$ would result in ambient concentrations of $PM_{2.5}$ that consume a much larger portion of

both the $PM_{2.5}$ NAAQS and increments than either of the other two options proposed for $PM_{2.5}$ in light of the correspondingly more stringent levels of the $PM_{2.5}$ NAAQS and increments than those for the other pollutants. We believe that of the 3 options proposed, the $PM_{2.5}$ SILs based on Option 3 represent values that are more closely aligned percentage-wise with the SILs that have been or are being used for other forms of PM when compared to their respective NAAQS and increments.

We also disagree with the commenter's suggestion that the development of the SILs for $PM_{2.5}$, or any other pollutant, should in any way be influenced by the possibility that some sources may use conservative techniques for estimating a source's emissions rate. Such conservative techniques may be needed to the extent that technical issues associated with the determination of $PM_{2.5}$ emissions are identified, and can certainly be used at any time as a simplified methodology for estimating $PM_{2.5}$ emissions. But when such an overly conservative approach fails to yield de minimis results, the source may find it necessary to rely upon more accurate techniques for determining the amount of $PM_{2.5}$ that the source will emit.

Finally, one commenter, objecting to all of the proposed SILs, stated that EPA must assure that SILs are truly de minimis and must also include limitations on the use of SILs as necessary to prevent air quality from significantly

deteriorating. We acknowledge that we did not conduct any new modeling or other types of analyses of the proposed SILs in order to explicitly show that the final $PM_{2.5}$ SILs values in this final rule are de minimis. Instead, we have relied on past actions regarding the setting of de minimis levels to illustrate that the $PM_{2.5}$ values selected via Option 3 represent values that are as stringent as the previous levels that have been established to define de minimis for PM_{10} and TSP. See 45 FR 52706-708 (using modeling and representative data).

Using the 24—hour and annual NAAQS ratios of $PM_{2.5}$ to PM_{10}, and multiplying them by the corresponding existing PM_{10} SILs, we conclude that the $PM_{2.5}$ SILs define de minimis for the $PM_{2.5}$ NAAQS in the same way as the PM_{10} SILs do for PM_{10} NAAQS. Using the increments as a basis for comparison provides further support for our conclusion. The annual and 24-hour $PM_{2.5}$ SILs represent about 7.5 and 13 percent of the annual and 24-hour $PM_{2.5}$ increments, respectively. By comparison, the annual and 24-hour PM_{10} SILs represent about 5 and 17 percent of the annual and 24-hour PM_{10} increments, respectively. We believe the $PM_{2.5}$ SILs fall into a comparable relative range with the PM_{10} SILs and can be considered de minimis.

In EPA's 1980 final rule for PSD, EPA adopted SERs for the pollutants then subject to regulation under the PSD requirements. The SER adopted for PM (then measured as TSP) was

25 tpy, which represented an emissions rate for which EPA modeled impacts that represented about 4 percent of the TSP 24-hour NAAQS and about 28 percent of the 24-hour TSP increment. Thus, EPA considered it acceptable under the de minimis assessment for PM that a source of particulate matter capable of consuming around 28 percent of the applicable 24-hour TSP increment could be exempted from the requirements to complete a comprehensive source impact analysis for the PM NAAQS and increments. 45 FR 52708.

In looking at the amount of increment that could be consumed by a source that is ultimately exempted from having to complete a comprehensive modeling analysis, it should be pointed out that the maximum modeled concentration typically occurs in a relatively limited area, as compared to the entire modeling domain. In particular, for the short-term averaging periods, such as the 24-hour averaging period, modeled concentrations across the modeled area generally show that ground level impacts are reduced significantly from the peak value as the pollutant travels a relatively short distance from the source, so that the peak modeled concentrations represent the source's impact at only a relatively few receptors within the modeled area. In addition, it is important to note that the temporal and spatial conditions which lead to a maximum impact by one source are seldom the same for other sources, such that maximum impacts of

individual sources do not typically occur at the same location or at the same time.

Thus, in an area where several sources can demonstrate that their modeled impacts are de minimis, it generally should not be assumed that their individual maximum (albeit de minimis) impacts on the increment are additive. For example, four sources with de minimis $PM_{2.5}$ impacts, each consuming 12 percent of the 24-hour $PM_{2.5}$ increment, would not necessarily consume 48% of the 24-hour increment. Increment consumption is determined by the cumulative impact of source emissions on each individual receptor or modeling point in the area of impact within the baseline area defined for the affected PSD sources.

The preamble for the 1980 final rule for PSD included a description of a modeling analysis that EPA conducted to illustrate that a number of major sources each making a de minimis emissions increase for SO_2 could locate in an area (in that case, the Dayton area) and not cause a violation of either the applicable SO_2 increment or NAAQS. In that particular case, the modeling indicated that the maximum aggregate increment consumption for 37 sources emitting 40 tpy of SO_2 (the de minimis emissions rate for SO_2) would have a cumulative impact at any location of less than 1.5 $\mu g/m^3$ on a 24-hour basis — well below the NAAQS and increments for SO_2. 45 FR 52708.

With regard to the commenter's recommendation that we place limitations on the use of SILs, we earlier provided an example of when it might be appropriate to require a modified source to mitigate its contribution to a violation of a NAAQS or increment even when the predicted ambient impact of the proposed emissions increase would result in what is normally considered to be de minimis. In addition, we have historically cautioned states that the use of a SIL may not be appropriate when a substantial portion of any NAAQS or increment is known to be consumed. We have indicated elsewhere in this preamble that states are not required to adopt the SILs for $PM_{2.5}$ in this final rule. At their discretion they may choose not to rely on SILs to screen applicants or they may establish more stringent values.

Finally, it should be noted that while a source having only de minimis impacts may not be required to complete a comprehensive source impact analysis, the emissions from such sources are still considered to consume increment and would be counted as part of the next increment analysis required to be completed by a PSD applicant in that same area, or by the state under a periodic increment review.

3. Relationship Between SILs and AQRVs

While commenters generally supported EPA's position that the SILs should not be used in any way to determine effects of emissions increases on the AQRVs in a Class I area, two

commenters urged that the de minimis concentration be used for analyzing Class I area impacts under certain circumstances. That is, they believed that the SILs should be used to determine the need for a Class I area air quality analysis when an FLM has not identified a specific AQRV related to the pollutant under evaluation or obtained ambient monitoring data to confirm that predicted concentrations from air dispersion models are representative of actual AQRV impacts in the Class I area. The commenters claimed that without this flexibility, applicants would be required to conduct complex and extensive Class I air dispersion modeling without any clear objective, and regulatory agencies would have to review the modeling with limited information to determine if the emissions could cause an "adverse" impact or if potentially costly controls should be required.

These commenters appear to be suggesting that an FLM may needlessly call for an analysis of a particular Class I area, involving "complex and extensive Class I area dispersion modeling" despite the fact that no AQRV has been identified for that Class I area. We agree that a Class I analysis in the absence of any known AQRVs would be unnecessary because any demonstration of an adverse impact must be made with respect to a pollutant adversely affecting an AQRV. We believe, however, that such analyses would be avoided under the procedures set

forth in section 165(d)(2)(C) of the Act which require that a notice be filed alleging that a proposed source may cause or contribute to adverse effects, and identifying the adverse impact. Insofar as the FLM must also demonstrate "to the satisfaction of the State that emissions from such facility will have an adverse impact on the air quality related values," it would be difficult to require the source to undertake any kind of detailed analysis in the absence of an AQRV on which such adverse impacts must be demonstrated. Thus, we have concluded that it is not necessary to use the SILs as a safeguard against unnecessary Class I area analyses. Instead, we believe that the need for a Class I analysis, other than the required analysis of the NAAQS and Class I increments (for both of which the SILs are intended to be used), should be based on the potential for adverse effects on an AQRV that the FLM has identified and believes could be affected by a pollutant that would be emitted by the proposed project.

4. Form of the SILs

One commenter stated that "the Proposal does not indicate how the proposed $PM_{2.5}$ SILs are to be interpreted." This commenter believed that "the form of the SILs should be consistent with the form of the $PM_{2.5}$ NAAQS" adding that "the current $PM_{2.5}$ NAAQS requires that compliance with the 24-hour and annual standards be determined using 3-year averaging."

Specifically, "The annual standard is calculated based upon the 3-year average of annual mean $PM_{2.5}$ concentrations, and the 24-hour standard is based on the 3-year average of the 98th percentile (or highest-8th high value) of 24-hour concentrations."

In a March 23, 2010 EPA memorandum titled "Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS," we provided guidance for using the SILs in conjunction with the 24-hour and annual $PM_{2.5}$ NAAQS, which takes into account the statistical form of the NAAQS. Following promulgation of the $PM_{2.5}$ increments in this final rule, we intend to provide guidance for interpreting the SILs for their use with the 24-hour and annual $PM_{2.5}$ increments as well.

5. SILs for Other Pollutants

In proposing Option 1, we noted that many who commented on the 1996 NSR Reform proposal supported this approach and believed that the proposed PM_{10} SIL values would serve as appropriate de minimis values. In fact, we are aware that many states have been using these proposed SILs for PM_{10} as screening tools since 1996 or earlier.

Regarding the proposed Class I SILs under Option 1, we expressed our belief that where a proposed source consumes less than 4 percent of the Class I increment, the source's impact is sufficiently low so as not to warrant requiring the source to

carry out a detailed analysis of the combined effects of the proposed source and all other increment-consuming emissions in the area. 72 FR 54140. We previously used a similar rationale to establish the SERs for PSD applicability purposes, concluding in part that emissions rates that resulted in ambient impacts less than 4 percent of the 24-hour standards for PM and SO_2 were sufficiently small so as to be considered de minimis. 45 FR 52707-8.

The original SIL values of 1.0 and 5.0 $\mu g/m^3$ for TSP and PM_{10} were interpreted by EPA as representing the minimum amount of ambient impact that is significant. This formed the basis for the proposed Option 1 $PM_{2.5}$ SIL values of 1.0 and 5.0 $\mu g/m^3$ for the annual and 24-hour averaging periods for Class II and III areas.

The SILs currently appear in EPA's regulations at 40 CFR 51.165(b). That particular NSR regulation provides that states must include a preconstruction review permit program for any new major stationary source or major modification that proposes to locate in an attainment or unclassifiable area and would cause or contribute to a violation of the NAAQS. These values, added to 40 CFR 51.165(b) on July 1, 1987, have previously been referred to as "significant ambient impact concentrations" and are used to enable a source to determine whether its emissions would cause or contribute to a NAAQS violation at "any locality

that does not or would not meet the applicable national standard." 52 FR 24672, April 2, 1985, at 24688.

In 1985, when EPA proposed to add "significant ambient impact levels" for PM_{10}, we also indicated that for PSD purposes the requirements under section 51.165(b)[23] "would be applied to all applicable PSD requirements." The EPA has since applied these values in other analogous circumstances under the PSD program. Based on EPA interpretations and guidance, SILs have also been widely used in the PSD program as a screening tool for determining when a new major source or major modification that wishes to locate in an attainment or unclassifiable area must conduct a more extensive air quality analysis to demonstrate that it will not cause or contribute to a violation of the NAAQS or PSD increment in the attainment or unclassifiable area. The SILs are also used to define the extent of the Significant Impact Area where, using air dispersion models and ambient monitoring data, a cumulative source impact analysis accounting for emissions changes from affected sources is performed.[24] See the 2007 NPRM for additional information on the history of EPA's

[23] In 1985, the requirements now contained in 40 CFR 51.165(b) were contained in 40 CFR 51.18(k), which was later part of a major restructuring of the part 51 SIP requirements.

[24] In the case of a NAAQS compliance analysis, all sources in the area are considered to contribute to the air quality levels; for increments, however, "all" refers only to those sources whose emissions, in whole or in part, consume PSD increment for a particular pollutant.

guidance related to SILs (72 FR 54138-39).

In the 1996 NSR Reform proposal, we proposed to add the SILs for PM_{10} and other pollutants already contained in 40 CFR 51.165(b)(2) directly into the PSD regulations at 40 CFR 51.166 and 52.21. Because the SILs in 40 CFR 51.165(b) did not include thresholds for Class I areas, we proposed to set Class I SILs at the level of 4 percent of the respective Class I increments. Thus, for PM_{10}, the proposed Class I SILs were 0.2 $\mu g/m^3$ (annual) and 0.3 $\mu g/m^3$ (24-hour), and the proposed Class II and III SILs were 1.0 $\mu g/m^3$ (annual) and 5.0 $\mu g/m^3$ (24-hour). The EPA has not yet taken final action on the 1996 proposal on SILs for pollutants other than $PM_{2.5}$; therefore, we rely upon our longstanding policy to use those values, as codified in 40 CFR 51.165(b)(2), for PSD permitting.

VII. Final Action on the $PM_{2.5}$ SMC

A. EPA's Determination on the $PM_{2.5}$ SMC

As with the increments and SILs for $PM_{2.5}$, we proposed three different options for establishing an SMC for $PM_{2.5}$. The first option, referred to as the "lowest detectable concentration" approach, relied on the method we used in 1980 to develop the SMCs for the pollutants then subject to PSD. This particular method focused on development of the SMC value based on the current capability of providing a meaningful measure of the pollutants. See relevant discussion later in this section and

at 45 FR 52710. Options 2 and 3, called the "$PM_{2.5}$ to PM_{10} emissions ratio" and the $PM_{2.5}$ to PM_{10} NAAQS ratio," respectively, used the SMC for PM_{10} as the base for multiplying the emissions and NAAQS ratios to derive an SMC for $PM_{2.5}$. See 72 FR 54141. The three proposed options yielded the following numerical levels for the SMC:

- Option 1: 10 µg/m^3, (24-hour average);
- Option 2: 8.0 µg/m^3 (24-hour average); and
- Option 3: 2.3 µg/m^3 (24-hour average).

We are taking final action on the SMC for $PM_{2.5}$ using the "lowest detectable concentration" approach (Option 1). However, we have determined that the SMC value that is calculated under this methodology is lower than the proposed value of 10 µg/m^3 to reflect "current capability" with respect to the measurement and collection of ambient $PM_{2.5}$ concentrations. The result of such revised calculation is that the SMC value in this final rule is different from (more stringent than) the proposed level. The revised value is 4 µg/m^3 (24-hour average). Our basis for the revised calculation and the resulting lower value is described in greater detail later in this section.

The EPA and its delegated reviewing authorities will use the $PM_{2.5}$ SMC to determine when it may be appropriate to exempt a proposed new major stationary source or major modification from the ambient monitoring data requirements under the PSD rules.

Similarly, states with EPA-approved PSD programs that adopt the SMC for $PM_{2.5}$ may use the SMC, once it is part of an approved SIP, to determine when it may be appropriate to exempt a particular major stationary source or major modification from the monitoring requirements under their state PSD programs (see 40 CFR 51.166(i)(5)).

B. Response to Comments Concerning the SMC

1. Legal Issues

Under the Act and EPA regulations, an applicant for a PSD permit is required to gather preconstruction monitoring data in certain circumstances. Section 165(a)(7) of the Act calls for "such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any areas which may be affected by emissions from such source." In addition, section 165(e) of the Act requires an analysis of the air quality in areas affected by a proposed major facility or major modification and calls for gathering 1 year of monitoring data unless the reviewing authority determines that a complete and adequate analysis may be accomplished in a shorter period. These requirements are codified in EPA's PSD regulations at 40 CFR 51.166(m) and 52.21(m).

In 1980, EPA adopted regulations that included pollutant-specific SMCs as a screening tool for sources to determine

whether they should conduct site-specific preconstruction ambient monitoring.[25] We explained our position that it was appropriate to exempt sources from preconstruction monitoring requirements for a pollutant if the source could demonstrate that its ambient air impact was less than a value known as the Significant Monitoring Concentration or SMC. At the time the SMCs were adopted, EPA described them as "air quality concentration de minimis level[s] for each pollutant [that were available] for the purpose of providing a possible exemption from monitoring requirements." 45 FR 52676, 52707 (August 7, 1980). The EPA explained that it believed there was "little to be gained from preconstruction monitoring" where a source could show that its projected impact of a pollutant within the affected area was below the de minimis concentration for that pollutant. 45 FR at 52710.

One commenter opposed our proposed establishment of any SMC for $PM_{2.5}$, claiming that SMCs in general are contrary to the Act. The commenter stated that "in Section 165(e) Congress mandated a full year of continuous air quality monitoring for each major source subject to the PSD program." With this in mind, the commenter indicated that there are no exceptions, other than the

[25] The provision for the monitoring exemption was originally promulgated at 40 CFR 51.24(i)(8) and 52.21(i)(8); it should be noted, however, that this provision is now found at 40 CFR 51.166(i)(5) and 52.21(i)(5).

limited statutory provisions, discussed above, which allow for less than a year's worth of monitoring based on a determination that a complete and adequate analysis of such purposes may be accomplished in a shorter period. The commenter then argued that "the allowance for a 'shorter period' hardly amounts to authority to waive monitoring entirely, which is what EPA's SMC proposal would do."

As with the SMCs adopted by EPA in 1980, the SMCs that we proposed for $PM_{2.5}$ are supported by the de minimis doctrine set forth in the Alabama Power opinion. Like the other pollutants for which EPA has promulgated SMCs, EPA believes there is little to be gained from preconstruction monitoring of $PM_{2.5}$ concentrations that cannot be accurately measured.

Therefore, in developing the three proposed options for an SMC, EPA sought to use methods that would identify levels representing a de minimis or insignificant impact on $PM_{2.5}$ ambient air quality that makes the collection of additional monitoring data extraneous.

2. Level of the SMC

As indicated earlier, the SMC for $PM_{2.5}$ in this final rule is 4 $\mu g/m^3$, 24-hour average. This value may be used by permitting authorities to determine when they may exempt a proposed major stationary source or major modification for $PM_{2.5}$ from the air quality monitoring requirements for $PM_{2.5}$ under 40

CFR 51.166. The EPA and its delegated state/local programs will also use this new value under the federal PSD program at 40 CFR 52.21.

We proposed three options for developing the SMC for $PM_{2.5}$; each option yielded a different concentration value. In choosing between the three options, EPA proposed to select the option that reflected the degree of ambient impact on $PM_{2.5}$ concentrations that could be considered truly de minimis and used to justify exempting a source from the requirement to gather 1 year of ambient monitoring data for $PM_{2.5}$. Ultimately, we have selected the "lowest detectable concentration" approach (Option 1) that relies directly upon ambient monitoring measurement sensitivity and precision. That is, if either the predicted source impact or estimated existing air quality in an area is below a concentration that can be accurately measured, then it would not be reasonable to require a source to attempt to collect such ambient data.

In 1980, EPA determined the SMCs based on the then current capability of providing a meaningful measure of ambient pollutant concentrations. The EPA promulgated values that represented five times the lowest detectable concentration in ambient air that could be measured by the instruments available for monitoring the pollutants. 45 FR 52710. The factor of "five" took into account the measurement errors associated with

the monitoring of these low pollutant levels or small incremental changes in concentration. These measurement errors were said to arise from various sources, such as sample collection, analytical measurement, calibration, and interferences. See May 20, 1980 EPA memorandum from Rehme, K. A., to Warren Peters, contained in the docket for this rulemaking. Accordingly, in the 2007 NPRM for $PM_{2.5}$, we voiced our belief that this was a reasonable approach, since it was also used for PM_{10} and TSP. 72 FR 54141.

Eight commenters expressed support for the SMC based on Option 1, albeit at the higher level as originally proposed. In some cases, it is not clear whether these commenters supported the particular approach (i.e., an SMC linked to the lowest detectable level) or the fact that the calculated value was simply the highest value of the values proposed under the three options. Clearly, some of the commenters indicated their support for the approach because it is consistent with the approach used for setting the original SMCs in 1980. Two commenters opposed Option 1 because it resulted in an SMC value that was too high. These latter commenters noted that the SMC derived via Option 1 (10 $\mu g/m^3$, 24-hour average) was greater than the proposed 24-hour $PM_{2.5}$ increment for Class II areas and argued that such an outcome is inappropriate. We believe that this important concern is adequately addressed by the level of

the SMC for $PM_{2.5}$ that is established in this rulemaking.

Several commenters supported the levels derived from either Option 2 or Option 3, but were concerned that the justification for choosing either of these values would need to be further explained. Some of these commenters were specifically concerned about the use of a 0.8 $PM_{2.5}$-to-PM_{10} emissions ratio which, they argued, relied on inventory data that did not adequately address all sources that would likely affect ambient concentrations of $PM_{2.5}$ in an area.

We conclude that Option 1 is the appropriate option for defining the SMC for $PM_{2.5}$. The ability to accurately measure ambient $PM_{2.5}$ concentrations is not related to a ratio of $PM_{2.5}$ to PM_{10} either directly in terms of emissions or as expressed by the respective NAAQS, which were used to define the SMC for $PM_{2.5}$ under Options 2 and 3, respectively. Our original concern was that, while Option 1 linked the SMC directly to the concept of a minimum detectable concentration (in order to identify de minimis monitoring circumstances), the value originally derived from that approach in the 2007 NPRM was high in relationship to the concentrations of $PM_{2.5}$ defined by the existing NAAQS and increments for $PM_{2.5}$.

In considering the use of Option 1 for developing the SMC in the final rules, however, we recognized after publication of the proposed rule that it was necessary to re-examine the

assumptions that we relied upon in 1980 to develop the numerical values for the original SMCs so that we could most accurately reflect current monitoring techniques for $PM_{2.5}$. Our re-examination for this final rule utilized the most current information concerning the physical capabilities of the $PM_{2.5}$ Federal Reference Method Samplers, and addresses uncertainties introduced to the measurement of $PM_{2.5}$ due to variability in the mechanical performance of the $PM_{2.5}$ samplers and the micro-gravimetric analytical balances that weigh filter samples.

The minimum detection limit (MDL) of 2 $\mu g/m^3$, originally used in 1980 for the SMC for PM and promulgated for $PM_{2.5}$ in 1997 (see 40 CFR part 50, Appendix L, section 3.1), has been reaffirmed by 9 years of field blank data collected by EPA through the $PM_{2.5}$ Performance Evaluation Program. However, we found that new data exist to "indicate a conservative estimate of the aggregate uncertainty factor is no greater that '2' at the concentration equal to the MDL of 2 $\mu g/m^3$."[26] Accordingly, the lowering of the uncertainty factor from "five" to "two" under Option 1 yields an SMC of 4 $\mu g/m^3$ $PM_{2.5}$, 24-hour average, rather than the proposed concentration of 10 $\mu g/m^3$.

We conclude that the modified level of 4 $\mu g/m^3$ $PM_{2.5}$, 24-hour

[26] This information is contained in a March 12, 2009 internal EPA memorandum from Dennis Crumpler to Raj Rao, titled "PSD Monitoring De Minimis Concentration for $PM_{2.5}$," which has been placed in the docket for this rulemaking.

average, for the SMC under Option 1, based upon a more current understanding of monitoring precision for PM, especially fine PM, addresses commenter support for the use of a method that is consistent with the way other SMCs were developed and most directly reflects monitoring capability for the pollutant of concern, while at the same time responding to the concern of other commenters that a value in the lower range of proposed SMC values is most reasonable considering the levels of the NAAQS and increments for $PM_{2.5}$.

C. Correction of Cross Reference in PSD Ambient Monitoring Requirements

In the 2007 NPRM, we proposed to take final action to correct a cross reference contained in paragraph (i) of the part 51 and 52 PSD regulations. Specifically, at the time of the proposal, paragraphs (ii) and (iii) in 40 CFR 51.166(i)(5), and paragraph (ii) in 40 CFR 52.21(i)(5), each referred to concentrations listed in paragraph (i)(8)(i) of both regulations. However, there is no paragraph (i)(8)(i) in existing 40 CFR 51.166, and no concentration values are contained in existing section (i)(8)(i) of 40 CFR 52.21. The cross reference in these provisions was intended to reference the SMCs in paragraph (i)(5)(i) of the two PSD regulations, but EPA failed to make this change when the paragraphs were renumbered in an earlier rulemaking. We did not receive any

comments concerning this proposed corrective action. We made the necessary correction as part of the May 16, 2008 final $PM_{2.5}$ NSR Implementation Rule (see 73 FR 28348 and 28349); therefore it is not necessary to take any further action in this final rule with regard to the proposed correction.

VIII. Dates Associated With Implementation of the Final Rule

This section describes the key dates that we have established for implementing the final rule. In the 2007 NPRM, we indicated that different dates appeared to be appropriate for implementing the $PM_{2.5}$ increments, each date depending on the legal authority that we relied upon to promulgate it. We described and took comment on some alternative effective dates for increments, as well. In addition, we discussed and took comment on potential implementation dates for the SILs and SMC components of the proposed rule, which we indicated were not subject to the same statutory considerations as the increments.

We received a number of comments on the different proposed dates. We carefully considered these comments in selecting the dates described below for the final rule. Some of the significant comments and our responses to those comments are provided below. The remaining comments and our responses are contained in the Response to Comments document included in the docket for this rulemaking.

A. Effective Date of the Final Rule

In the 2007 NPRM, we took comment on the effective date of the final rule by presenting the different options available for implementing the $PM_{2.5}$ increments. Under Option 1 for developing the increments, we stated that section 166(b) of the Act specifies that increments promulgated pursuant to section 166(a) are to become effective 1 year following their promulgation. In contrast, there is no such 1-year delay or any other date prescribed for increments promulgated in accordance with section 166(f) of the Act, upon which we based Options 2 and 3 for the annual $PM_{2.5}$ increments. Thus, increments promulgated under Option 1, which relies on the procedural provisions of section 166(b) of the Act, would normally be subject to a 1-year delay in implementation, while increments promulgated under either Option 2 or 3, relying on section 166(f) of the Act, could follow a 30- or 60-day effective date, typical of the effective date for most new rules in general. In either case, our consideration of the effective date for the $PM_{2.5}$ increments assumed that the selected date would also be the effective date of the final rule.

In the 2007 NPRM, we took comment on some alternative approaches to establishing the effective date for $PM_{2.5}$ increments. Specifically, while proposing a 1-year effective date under Option 1, we requested comment on whether we could promulgate these increments under section 166(a) of the Act with

an effective date of only 60 days. See 72 FR 54142.

Nine commenters supported our proposal to establish the effective date of the part 51 and 52 PSD regulations for $PM_{2.5}$ as 1 year from the date of publication. Alternatively, two commenters encouraged us to apply the 60-day effective date, while three other commenters supported other effective dates, as described in this section.

Seven industry and industry association commenters supported our proposal to make the final rule for $PM_{2.5}$ increments effective 1 year after promulgation. Most of these commenters cited the additional time necessary to develop the needed $PM_{2.5}$ inventories needed for implementation of the $PM_{2.5}$ PSD program. Two of the commenters urged EPA to allow state programs sufficient time to adopt increments, particularly if condensable particulate matter is included in the increment and its analysis. These commenters stated that the federal rule should not be effective for 1 year. (They also stated that states should have 3 years for the associated SIP revisions.) These same commenters added that this delay would provide time for sources that have permits in the pipeline or are just about to submit an application to be able to complete the permitting process without undue delay. One of the commenters specifically voiced support for Option 1 for the effective date of the final rule (1 year) and Option 2B for the period granted for SIP

revisions (3 years). This commenter also explained that this additional time may give the Agency time to promulgate better measurement methods for sources of condensable particulate matter.

Another of these commenters noted that, at the time of the proposal, the NSR portion of the CAFPIR had not yet been promulgated, and that states would need time to incorporate that rule as well as the requirements of the proposal into their SIPs. This commenter added that making the $PM_{2.5}$ increments effective before states and sources have had a reasonable opportunity to begin, let alone complete, the SIP process for the two related rulemakings would unnecessarily complicate an already-complex regulatory process.

In contrast, the two commenters supporting the shorter effective date encouraged us to apply the 60-day period for the effective date under whatever option is finalized. One of these commenters urged us to take measures to expedite the implementation of the $PM_{2.5}$ final rule and suggested that we choose the shortest of the proposed effective dates which are allowed under any of the applicable regulations. This commenter indicated that in light of the excessive delay in the implementation of the $PM_{2.5}$ PSD program since the NAAQS were promulgated, the 60-day effective date should be applied under EPA's preferred option.

In light of our decision to promulgate $PM_{2.5}$ increments under the authority of section 166(a) of the Act (proposed Option 1), we are faced with the decision as to how to most effectively implement the long-awaited $PM_{2.5}$ increments, recognizing that the Act provides for a 1-year implementation delay. We have concluded that it is most appropriate to follow the plain language of the Act which calls for a 1-year effective date for implementing increments developed under section 166(a) of the Act. We agree with the commenters who suggested that a shortened implementation delay was desirable because of the substantial delay in the promulgation of measures to prevent significant air quality deterioration with respect to $PM_{2.5}$. Nevertheless, we believe it would be inappropriate in this action to disregard the statutory language which plainly calls for a 1-year delay. Accordingly, we are setting the effective date of the $PM_{2.5}$ increments at 1 year from the date of promulgation of this final rule. We are doing this by setting the "trigger date" for $PM_{2.5}$ as **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. See new 40 CFR 51.166(b)(14)(i)(c) and (ii)(c), and new 40 CFR 52.21(b)(14)(i)(c) and (ii)(c). At the same time, we are establishing an effective date for the other provisions, i.e., the SILs and SMC for $PM_{2.5}$, in this final rule as **[INSERT DATE 60 DAYS FROM THE DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

This will enable the implementation of these key elements of this rule under the federal PSD program as soon as possible.

1. State PSD Programs

In this final rule, we are establishing the final $PM_{2.5}$ increments as minimum program elements for all state PSD programs. Accordingly, states must submit for EPA's approval revised SIPs that incorporate the final $PM_{2.5}$ increments or alternative measures that can be demonstrated to EPA's satisfaction to provide an equivalent level of protection as the $PM_{2.5}$ increments. In accordance with section 166(b) of the Act, we are requiring states to submit revised implementation plans to EPA for approval within 21 months of promulgation, that is, by **[INSERT DATE 21 MONTHS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Section 166(b) also specifies that we must approve or disapprove these revisions within 25 months of promulgation (4 months from the statutory deadline for SIP submittal). We regard these statutory deadlines as maximum allowed timeframes for action. Moreover, we do not believe that the Act restricts our ability to approve SIP revisions requested by a state at any time before these deadlines. In this final rule, we are amending the regulatory provisions at 40 CFR 51.166(a)(6)(i) to articulate the deadline set forth by the statute for the SIP submittals involving the $PM_{2.5}$ increments pursuant to section 166(a) of the Act.

It is very unlikely that states will be able to revise their SIPs and submit them to EPA for approval prior to the effective date of the $PM_{2.5}$ increments in this final rule, which is **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Therefore, there is likely to be a period of time after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]** when state laws will not require PSD applicants otherwise subject to PSD for $PM_{2.5}$ to complete an increment analysis for the $PM_{2.5}$ increments, even though the $PM_{2.5}$ increments, major source baseline date, and trigger date have been established as a result of this final rule. Similarly, it is not clear whether states will have the authority to consider such applicants as having triggered the minor source baseline date during this interim period before their revised PSD rules containing the $PM_{2.5}$ increments and relevant baseline dates become effective.

The EPA does not intend to prescribe the implementation timeline for state programs; rather, each state will need to determine how increment consumption and the setting of the minor source baseline date for $PM_{2.5}$ will occur under its own PSD program. Nevertheless, regardless of when a state begins to require $PM_{2.5}$ increment analyses and how it chooses to set the $PM_{2.5}$ minor source baseline date, the emissions from sources subject to PSD for $PM_{2.5}$ on which construction commenced after **[INSERT DATE OF PUBLICATION OF THIS FEDERAL REGISTER]** (the major

source baseline date) will consume $PM_{2.5}$ increment and must be included in increment analyses occurring after the minor source baseline date is established for an area under the state's revised PSD program.

2. Federal PSD Program

The federal PSD regulations under 40 CFR 52.21 apply where states do not have approved PSD programs and in Indian lands. In such cases, either EPA implements the PSD program or the state will implement it under authority granted by EPA through a delegation agreement.

We proposed to begin implementing the federal PSD program for $PM_{2.5}$ on the effective date of the final rule, i.e., either 1 year from the date of publication in the Federal Register or 60 days from date of publication, if we developed the $PM_{2.5}$ increments pursuant to proposed Option 1. Alternatively, we requested comment on whether we should delay implementation of the federal PSD program until 25 months after promulgation, which is the latest date by which EPA is required to approve state SIP revisions. This is the same approach we took in 1988 to implement the then new NO_2 increments. See 53 FR 40658. We did not propose the 24-month delay for the $PM_{2.5}$ increments because of the significant delay that has already occurred between the time we promulgated the $PM_{2.5}$ NAAQS and the time the $PM_{2.5}$ increment rulemaking would be finalized. However, we

sought comment on this alternative approach because we recognized that it might not be equitable to begin implementation of the new program requirements in those few areas where the federal program applies before the majority of states are required to implement the program.

Two commenters urged EPA to hold off implementation of state programs administered under the federal PSD program in order to provide a uniform and consistent national approach. One state agency supported implementing the federal PSD program with a delayed effective date of 1 year after the effective date of the final rule instead of 60 days.

We have decided to begin implementing the revised federal PSD program as set out previously in our introductory discussion of this issue in section VIII.A. That is, the revised regulations at 40 CFR 52.21 will become effective in 60 days, on **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. This will allow EPA or the delegated state agency to begin using the SILs and SMC for $PM_{2.5}$ on that date, as described in section VIII.C of this preamble. However, the date established in the regulations for the trigger date will ensure that the $PM_{2.5}$ increments do not become effective for 1 year, consistent with section 166(b) of the Act, and that the minor source baseline date cannot be established until the $PM_{2.5}$ increments become effective. However, PSD sources subject to

$PM_{2.5}$ that receive their PSD permit after the date of publication of this final rule will be considered to consume $PM_{2.5}$ increments by virtue of the fact that they will commence construction after the major source baseline date for $PM_{2.5}$, which is the date of publication of this final rule.

Thus, sources in an area subject to the federal PSD program for $PM_{2.5}$ will be able to use the SILs and SMC as screening tools for the required $PM_{2.5}$ NAAQS compliance demonstration, but in most cases will not be required to submit a $PM_{2.5}$ increment analysis as part of a complete PSD permit application for a federal PSD permit unless the application is submitted on or after **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].** On or after that date, when an applicant submits a complete PSD permit application that is required to address $PM_{2.5}$ under the federal PSD program, that first application will establish the minor source baseline date for $PM_{2.5}$ in the applicable attainment or unclassifiable area.

As with the state PSD program requirements, prior to the establishment of the minor source baseline date in an area, emissions increases from minor sources in the area will be counted toward the baseline concentration, rather than to the $PM_{2.5}$ increment. As described earlier, the emissions from major stationary sources that commence construction after the major source baseline date, regardless of the date on which their PSD

application is submitted, must be counted toward consumption of the $PM_{2.5}$ increments. While these sources will not be required to submit an increment analysis for $PM_{2.5}$ as part of their complete application as long as they receive their PSD permit before the trigger date for $PM_{2.5}$ (see discussion that follows in section VIII.B), the emissions increases resulting from the permitting of these sources ultimately must be counted toward the $PM_{2.5}$ increments when the first PSD permit application submitted after the trigger date establishes the minor source baseline date for the area of concern, and in all subsequent $PM_{2.5}$ increment analyses for that area.

B. Transition Period

In the 2007 NPRM, we proposed a transition period to clarify when PSD permit applications must contain an increment analysis demonstrating compliance with the $PM_{2.5}$ increments following the date the $PM_{2.5}$ increments become effective in any state or federal PSD program. Specifically, we proposed to establish a grandfathering provision to allow complete applications submitted before the increment effective date, but for which the permit had not yet been issued by the effective date, to continue being processed using the PM_{10} Surrogate Policy to satisfy the requirement to demonstrate compliance with the new $PM_{2.5}$ requirements. The grandfathering provision for $PM_{2.5}$ was originally proposed in the 2007 NPRM at 40 CFR 51.166(i)(10)

and 40 CFR 52.21(i)(11) for state and federal PSD programs, respectively. See 72 FR 54149 and 54154.

Three commenters supported the proposed grandfathering provision for sources that submitted a complete application before the effective date of the applicable PSD rules. Another commenter felt that it was reasonable to allow states a choice between using PM_{10} or $PM_{2.5}$ increments during a transition period including SIP approval, where applicable.

During the time since the proposal of this rule in 2007, we have reconsidered the need for the proposed transition period in the federal PSD program to effectively implement the $PM_{2.5}$ increments. In light of the importance of preventing significant deterioration of $PM_{2.5}$ air quality and the amount of time that has passed since the initial promulgation of the $PM_{2.5}$ NAAQS, we do not believe that further delay is warranted. We expect that most permits issued after **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]** will be from sources that submitted their PSD applications after the major source baseline date for $PM_{2.5}$, which is defined as the date of publication of this final rule, so that they will be increment-consuming sources. Therefore, when these sources apply for their PSD permits, they will have had significant advance notice of when the $PM_{2.5}$ increments will become effective, i.e., 1 year from the date of publication of this final rule. The review and

permitting of permit applications submitted prior to the publication date of this final rule should generally be completed prior to the effective date of $PM_{2.5}$ increments and thus effectively have a transition period of 1 year to complete processing.

Thus, we are requiring each source that receives its PSD permit after the effective date of the $PM_{2.5}$ increments, regardless of when the application was submitted, to provide a demonstration that the source's proposed emissions increase, along with other increment-consuming emissions, will not cause or contribute to a violation of the $PM_{2.5}$ increments.

Under this final rule, sources applying for a PSD permit under the federal PSD program after the major source baseline date for $PM_{2.5}$ (i.e., after the date of publication of this final rule), but before the $PM_{2.5}$ increments become effective (i.e., the date 1 year after publication of this final rule), will be considered to consume $PM_{2.5}$ increment. While EPA will not require any such source to include a $PM_{2.5}$ increment analysis as part of its initial PSD application, an increment analysis ultimately will be required before the permit may be issued if the date of issuance will occur after the trigger date, when the $PM_{2.5}$ increments become effective under the federal PSD program.

Finally, for the same reasons that we are not adopting the proposed transition period that would have exempted PSD

applicants with pending permit applications from demonstrating compliance with the $PM_{2.5}$ increment requirements under the federal PSD program, we have decided not to provide an option for states to apply a transition period under 40 CFR 51.166. We believe it is appropriate for all increment-consuming sources subject to $PM_{2.5}$ to demonstrate compliance with the $PM_{2.5}$ increments when the required permit is issued after the $PM_{2.5}$ increments become effective in the state's PSD regulations.

C. SILs and SMC for $PM_{2.5}$

In the 2007 NPRM, we explained our position that SILs and SMCs are not minimum required elements of an approvable SIP. While these de minimis values are widely considered to be useful components for implementing the PSD program, they are not absolutely necessary for the states to implement their PSD programs. That is, states can satisfy the statutory requirements for a PSD program by requiring each PSD applicant to submit air quality monitoring data and to conduct a comprehensive air quality impacts analysis for $PM_{2.5}$ without using de minimis thresholds to exempt certain sources from such requirements. Because the de minimis values for $PM_{2.5}$ (and other pollutants) are not mandatory elements, we proposed not to establish specific deadlines for submitting revisions to incorporate the specific values for $PM_{2.5}$ into SIPs.

One state/local commenter agreed that the SILs and SMCs

should not be a required element of the PSD SIP. Another state/local commenter agreed with our proposal, but stated that EPA has the authority to include SILs and SMCs as minimum program requirements per the opinion set forth in Alabama Power. This commenter added that the EPA Environmental Appeals Board has affirmed EPA's interpretation of the Act to allow EPA to evaluate the significance of a source's impact when determining whether the source's emissions would "cause or contribute" to a NAAQS or increments violation under section 165(a)(3) of the Act.

Two commenters disagreed with our proposed position and argued that SILs and SMCs should be mandatory elements of a state PSD program. One of these commenters argued that the requirement to model without the use of screening models with SILs and SMCs is so unreasonable that EPA must require that states adopt the SILs and SMCs to meet the Purpose clause of the Act, which requires a balancing of environmental and economic considerations. The other opposing commenter stated that the increments, SILs, and SMCs need to be adopted as a single regulatory approach because the SILs and SMCs define when additional work is needed to ensure that PSD requirements, such as maintaining adequate increment, are met. This commenter added that there is no reason for sources to be placed in the position of conducting expensive modeling that can delay a

project when it is unnecessary from an air quality perspective.

We agree that the SILs and SMCs used as de minimis thresholds for the various pollutants are useful tools that enable permitting authorities and PSD applicants to screen out "insignificant" activities; however, the fact remains that these values are not required by the Act as part of an approvable SIP program. We believe that most states are likely to adopt the SILs and SMCs because of the useful purpose they serve regardless of our position that the values are not mandatory. Alternatively, states may develop more stringent values if they desire to do so. In any case, states are not under any SIP-related deadline for revising their PSD programs to add these screening tools.

Using the SILs for $PM_{2.5}$, when a proposed major new source or major modification of $PM_{2.5}$ predicts (via air quality modeling) an impact less than the $PM_{2.5}$ de minimis value, the proposed source or modification is not considered to have a significant air quality impact and would not need to complete a cumulative impact analysis involving an analysis of other sources in the area. Also, a source with a de minimis ambient impact would not be considered to cause or contribute to a violation of either the $PM_{2.5}$ NAAQS or increments.

The $PM_{2.5}$ SILs will become effective under the federal PSD program on the effective date of this final rule, that is, on

[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN FEDERAL REGISTER], when either EPA, or a state acting under a delegation of EPA's authority, implements the revised PSD permitting requirements for $PM_{2.5}$ pursuant to 40 CFR 52.21. The SILs will be for use initially with the compliance demonstration for the $PM_{2.5}$ NAAQS, and later for the $PM_{2.5}$ increment analysis, under the federal PSD program. We emphasize, however, that the $PM_{2.5}$ SILs are not intended to be used as part of the determination of adverse impacts on AQRVs for $PM_{2.5}$ in Class I areas.

Similarly, we intend to use the $PM_{2.5}$ SMC (4 $\mu g/m^3$, 24-hour average) as a screening tool in the federal PSD permit program beginning on **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Accordingly, when either the modeled $PM_{2.5}$ impact of, or the existing ambient air quality within the area of, the proposed new major source or major modification is less than the $PM_{2.5}$ SMC, the reviewing authority may exempt the source or modification from the monitoring data requirements for $PM_{2.5}$ under 40 CFR 52.21(m).

IX. Other Regulatory Changes

The Act provides that the PSD regulations apply to areas designated as "attainment" or "unclassifiable" as defined by the Act. When the original regulations were written, the Act provisions for designating areas as either "attainment" or "unclassifiable" were contained in sections 107(d)(1)(D) and

(E), respectively. In 1990, Congress revised section 107 and changed the relevant paragraphs defining "attainment" and "unclassifiable" areas to sections 107(d)(1)(A)(ii) and (iii), respectively. In accordance with these statutory changes, we are correcting the references to the statutory classifications contained in the existing PSD rules to match the revised paragraphs in the Act. See revised 40 CFR 51.166(b)(14)(iii)(a) and (15)(i) and (ii), and 40 CFR 52.21(b)(14)(iii)(a) and (15)(i) and (ii).

In adding the SILs for $PM_{2.5}$ in this final rule, we restructured paragraph (k) ("Source impact analysis") in the existing PSD regulations at 40 CFR 51.166 and 52.21. Under the restructuring of paragraph (k), old paragraph (k)(2) is now paragraph (k)(1)(ii). To accommodate this restructuring change, we are also revising grandfathering provisions that are contained in existing paragraphs (i)(8) and (i)(9) at 40 CFR 51.166, and paragraphs (i)(9) and (i)(10) at 40 CFR 52.21, which contained references to requirements contained in paragraph (k)(2). As revised, the grandfathering provisions now reference new paragraph (k)(1)(ii).

X. Statutory and Executive Order Reviews

A. Executive Order 12866 - Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a "significant regulatory action" because it

raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principle set forth in the Executive Order. Accordingly, EPA submitted this action to OMB for review under Executive Order 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. The information collection requirements are not enforceable until OMB approves them.

Pursuant to title I, part C, of the Act, the PSD program requires the owner or operator to obtain a permit prior to either constructing a new major stationary source of air pollutants or making a major modification to an existing major stationary source. The information collection for sources under PSD results from the requirement for owners or operators to submit applications for NSR permits. In some cases, sources must conduct preconstruction monitoring to determine the existing ambient air quality. For reviewing authorities, the information collection results from the requirement to process permit applications and issue permits, and to transmit associated information to EPA. The EPA oversees the PSD

program, and the information collected by sources and reviewing authorities is used to ensure that the program is properly implemented.

The final rule will increase the PSD permitting burden for owners and operators of major stationary sources of $PM_{2.5}$ emissions by adding $PM_{2.5}$ increments to the list of existing increments for which air quality impact analyses must be carried out to track the amount of increment consumed by the proposed source and other sources in the area. Over the 3-year period covered by the ICR, we estimate an average annual burden totaling about 29,000 hours and $2.8 million for all industry entities that will be affected by the final rule. For the same reasons, we also expect the final rule (when fully implemented) to increase burden for the state and local authorities reviewing PSD permit applications. In addition, there will be additional burden for state and local agencies to revise their SIPs to incorporate the proposed changes. Over the 3-year period covered by the ICR, we estimate that the average annual burden for all state and local reviewing authorities will total about 7,500 hours and $581,000. 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 EPA's regulations in 40 CFR are listed in 40 CFR

part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the Federal Register to display the OMB control number for the approved information collection requirements contained in this final rule.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the Agency certifies that 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 by the Small Business Administration's 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 final rule

on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final rule will not impose any requirements on small entities because small entities are not subject to the requirements of this rule.

D. Unfunded Mandates Reform Act

This action contains no federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538 for state, local, or tribal governments or the private sector. The action imposes no enforceable duty on any state, local or tribal governments or the private sector. The final rules adds only a relatively small number of new requirements to the existing permit requirements already in place under the PSD program, since states are currently implementing a PM_{10} surrogate program pursuant to EPA guidance. Thus, this action is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. The final rule applies only to new major stationary sources and to major modifications at existing major stationary sources.

E. Executive Order 13132 - Federalism

This final rule does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The final rule makes relatively minor changes to the established PSD program, simply making it possible for states to implement PSD for $PM_{2.5}$ instead of relying on PM_{10} as a surrogate. Thus, Executive Order 13132 does not apply to this rule. In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and state and local governments, EPA specifically solicited comment on the proposed rule from state and local officials.

F. Executive Order 13175 - Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The final rule provides the elements to implement a $PM_{2.5}$ PSD program in attainment areas. The Act provides for states to develop plans to regulate emissions of air pollutants within their jurisdictions. The Tribal Air Rule (TAR) under the Act gives tribes the opportunity to develop and implement Act programs to attain and maintain the $PM_{2.5}$ NAAQS, but leaves to the discretion of the tribes the decision of whether to develop these programs

and which programs, or appropriate elements of a program, they will adopt. Thus, Executive Order 13175 does not apply to this action.

The EPA did reach out to national tribal organizations in 2006 to provide a forum for tribal professionals to provide input to the rulemaking. However, not much participation or input was received.

G. Executive Order 13045 - Protection of Children from Environmental Health and Safety Risks

This action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it is not economically significant as defined in Executive Order 12866, and because the Agency does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. One of the basic requirements of the PSD program is that new and modified major sources must demonstrate that any new emissions do not cause or contribute to air quality in violation of the NAAQS.

H. Executive Order 13211 - Actions 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. Further, we have

concluded that this rule is not likely to have any adverse energy effects.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104-113, 12(d) (15 U.S.C. 272 note) directs 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. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

J. Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, Feb. 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental

justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

The EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. This final rule will provide regulatory certainty for implementing the preconstruction NSR permitting program for $PM_{2.5}$. However, the requirements are similar to the existing requirements of the PM_{10} program and hence do not impact the human health or environmental effects.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United

States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a "major rule" as defined by 5 U.S.C. 804(2). Nevertheless, this rule needs to be reviewed for the $PM_{2.5}$ increments being promulgated herein so that they can be scrutinized by Congress as intended under section 166(b) of the Act. Even though the $PM_{2.5}$ increments will not become effective for 1 year, the final rule will become effective 60 days from the date of publication, that is, on **[INSERT DATE 60 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER],** for the screening tools (SILs and SMC) being established in this rule.

XI. Judicial Review

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Any such judicial review is limited to only those objections that are raised with reasonable specificity in timely comments. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action.

Under section 307(b)(2) of the Act, the requirements of this final action may not be challenged later in civil or criminal proceedings brought by us to enforce these requirements.

XII. Statutory Authority

The statutory authority for this final action is provided by sections 101, 160, 163, 165, 166, 301, and 307(d) of the Act as amended (42 U.S.C. 7401, 7470, 7473, 7475, 7476, 7601, and 7607(d)).

List of Subjects

40 CFR Part 51

Administrative practices and procedures, Air pollution control, Environmental protection, Intergovernmental relations.

40 CFR Part 52

Administrative practices and procedures, Air pollution control, Environmental protection, Intergovernmental relations.

_____
Dated: September 30, 2010.

_____
Lisa P. Jackson,
Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 51 - [Amended]

1. The authority citation for part 51 continues to read as follows:

Authority: 23 U.S.C. 101; 42 U.S.C. 7401 - 7671q.

Subpart I - [Amended]

2. Section 51.165 is amended by revising the table in paragraph (b)(2) to read as follows:

§51.165 Permit requirements.

* * * * *

(b) * * *

(2) * * *

Pollutant	Annual	Averaging time (hours)			
		24	8	3	1
SO_2	1.0 µg/m^3	5 µg/m^3 ..	.....	25 µg/m^3	
PM_{10}	1.0 µg/m^3	5 µg/m^3			
$PM_{2.5}$.....	0.3 µg/m^3	1.2 µg/m^3			
NO_2	1.0 µg/m^3				
CO.....	.....	.....	0.5 mg/m^3	.....	2 mg/m^3

* * * * *

3. Section 51.166 is amended as follows:

a. By revising paragraph (a)(6)(i);

b. By revising paragraph (b)(14)(i)(a);

c. By removing the period at the end of paragraph (b)(14)(i)(b) and adding "; and" in its place;

d. By adding paragraph (b)(14)(i)(c);

e. By revising paragraph (b)(14)(ii)(a);

f. By removing the period at the end of paragraph (b)(14)(ii)(b) and adding "; and" in its place;

g. By adding paragraph (b)(14)(ii)(c);

h. By revising paragraph (b)(14)(iii)(a);

i. By revising paragraph (b)(15)(i) and paragraph (b)(15)(ii) introductory text;

j. By revising the table in paragraph (c)(1);

k. By revising paragraph (c)(2);

l. By revising paragraph (i)(5)(i)(c);

m. By redesignating existing paragraphs (i)(5)(i)(d) through (j) as paragraphs (i)(5)(i)(e) through (k);

n. By adding new paragraph (i)(5)(i)(d);

o. By removing "(k)(2)" from paragraph (i)(8) and adding "(k)(1)(ii)" in its place;

p. By removing in two places "(k)(2)" from paragraph (i)(9) and adding "(k)(1)(ii)" in those places;

q. By revising paragraph (k);

r. By removing the words "particulate matter" in the last sentence of paragraph (p)(4) and adding in their place "$PM_{2.5}$, PM_{10}"; and

s. By revising the table in paragraph (p)(4).

§51.166 Prevention of significant deterioration of air quality.

(a) * * *

(6) * * *

(i) Any State required to revise its implementation plan by reason of an amendment to this section, with the exception of amendments to add new maximum allowable increases or other measures pursuant to section 166(a) of the Act, shall adopt and submit such plan revision to the Administrator for approval no later than 3 years after such amendment is published in the Federal Register. With regard to a revision to an implementation plan by reason of an amendment to paragraph (c) of this section to add maximum allowable increases or other measures, the state shall submit such plan revision to the Administrator for approval within 21 months after such amendment is published in the Federal Register.

* * * * *

(b) * * *

(14)(i) * * *

(a) In the case of PM_{10} and sulfur dioxide, January 6, 1975;

* * * * *

(c) In the case of $PM_{2.5}$, **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].**

(ii) * * *

(a) In the case of PM_{10} and sulfur dioxide, August 7, 1977;

* * * * *

(c) In the case of $PM_{2.5}$, **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].**

(iii) * * *

(a) The area in which the proposed source or modification would construct is designated as attainment or unclassifiable under section 107(d)(1)(A)(ii) or (iii) of the Act for the pollutant on the date of its complete application under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166; and

* * * * *

(15)(i) Baseline area means any intrastate area (and every part thereof) designated as attainment or unclassifiable under section 107(d)(1)(A)(ii) or (iii) of the Act in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact for the pollutant for which the baseline date is established, as follows: equal to or greater than 1 $\mu g/m^3$ (annual average) for SO_2, NO_2, or PM_{10}; or equal or greater than 0.3 $\mu g/m^3$

(annual average) for $PM_{2.5}$.

(ii) Area redesignations under section 107(d)(1)(A)(ii) or (iii) of the Act cannot intersect or be smaller than the area of impact of any major stationary source or major modification which:

* * * * *

(c) * * *

(1) * * *

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Class I Area	
$PM_{2.5}$:	
Annual arithmetic mean	1
24-hr maximum	2
PM_{10}:	
Annual arithmetic mean	4
24-hr maximum	8
Sulfur dioxide:	
Annual arithmetic mean	2
24-hr maximum	5
3-hr maximum	25
Nitrogen dioxide:	
Annual arithmetic mean	2.5
Class II Area	
$PM_{2.5}$:	
Annual arithmetic mean	4
24-hr maximum	9
PM_{10}:	
Annual arithmetic mean	17
24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91

3-hr maximum	512
Nitrogen dioxide:	
Annual arithmetic mean	25
Class III Area	
$PM_{2.5}$:	
Annual arithmetic mean	8
24-hr maximum	18
PM_{10}:	
Annual arithmetic mean	34
24-hr maximum	60
Sulfur dioxide:	
Annual arithmetic mean	40
24-hr maximum	182
3-hr maximum	700
Nitrogen dioxide:	
Annual arithmetic mean	50

* * * * *

(2) Where the State can demonstrate that it has alternative measures in its plan other than maximum allowable increases as defined under paragraph (c)(1) of this section, that satisfy the requirements in sections 166(c) and 166(d) of the Clean Air Act for a regulated NSR pollutant for which the Administrator has established maximum allowable increases pursuant to section 166(a) of the Act, the requirements for maximum allowable increases for that pollutant under paragraph (c)(1) of this section shall not apply upon approval of the plan by the Administrator. The following regulated NSR pollutants are eligible for such treatment:

(i) Nitrogen dioxide.

(ii) $PM_{2.5}$.

* * * * *

(i) * * *

(5) * * *

(i) * * *

(c) $PM_{2.5}$—4 μg/m^3, 24-hour average;

(d) PM_{10}—10 μg/m^3, 24-hour average;

* * * * *

(k) Source impact analysis.

(1) Required demonstration. The plan shall provide that the owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions), would not cause or contribute to air pollution in violation of:

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(2) Significant impact levels. The plan may provide that, for purposes of $PM_{2.5}$, the demonstration required in paragraph (k)(1) of this section is deemed to have been made if the emissions increase from the new stationary source alone or from the modification alone would cause, in all areas, air quality

impacts less than the following amounts:

Pollutant	Averaging time	Class I Area	Class II Area	Class III Area
$PM_{2.5}$	Annual ...	0.06 μg/m^3 ..	0.3 μg/m^3 ...	0.3 μg/m^3
	24-hour ..	0.07 μg/m^3 ..	1.2 μg/m^3 ...	1.2 μg/m^3

* * * * *

(p) * * *

(4) * * *

Pollutant	Maximum allowable increase (micrograms per cubic meter)
$PM_{2.5}$:	
Annual arithmetic mean.....	4
24-hr maximum.....	9
PM_{10}:	
Annual arithmetic mean.....	17
24-hr maximum.....	30
Sulfur dioxide:	
Annual arithmetic mean.....	20
24-hr maximum.....	91
3-hr maximum.....	325
Nitrogen dioxide:	
Annual arithmetic mean.....	25

* * * * *

4. Appendix S to part 51 is amended by revising the table in section III.A to read as follows:

Appendix S to Part 51—Emission Offset Interpretative Ruling

* * * * *

III. * * *

A. * * *

Pollutant	Annual	Averaging time (hours)			
		24	8	3	1
SO_2	1.0 µg/m^3	5 µg/m^3 ..	.....	25 µg/m^3	
PM_{10}	1.0 µg/m^3	5 µg/m^3			
$PM_{2.5}$.....	0.3 µg/m^3	1.2 µg/m^3			
NO_2	1.0 µg/m^3				
CO.....	.....	.....	0.5 mg/m^3	.....	2 mg/m^3

* * * * *

PART 52 - [Amended]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart A - [Amended]

2. Section 52.21 is amended as follows:

a. By revising paragraph (b)(14)(i)(a);

b. By removing the period at the end of paragraph (b)(14)(i)(b) and adding "; and" in its place;

c. By adding paragraph (b)(14)(i)(c);

d. By revising paragraph (b)(14)(ii)(a);

e. By removing the period at the end of paragraph (b)(14)(ii)(b) and adding "; and" in its place;

f. By adding paragraph (b)(14)(ii)(c);

g. By revising paragraph (b)(14)(iii)(a);

h. By revising paragraph (b)(15)(i) and paragraph (b)(15)(ii) introductory text;

i. By revising the table in paragraph (c);

j. By revising paragraph (i)(5)(i);

k. By removing "(k)(2)" from paragraph (i)(9) and adding "(k)(1)(ii)" in its place;

l. By removing in two places "(k)(2)" from paragraph (i)(10) and adding "(k)(1)(ii) in those places;

m. By revising paragraph (k);

n. By removing the words "particulate matter" in the last sentence of paragraph (p)(5) and adding in their place "$PM_{2.5}$, PM_{10}"; and

o. By revising the table in paragraph (p)(5).

§52.21 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(14)(i) * * *

(a) In the case of PM_{10} and sulfur dioxide, January 6, 1975;

* * * * *

(c) In the case of $PM_{2.5}$, **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(ii) * * *

(a) In the case of PM_{10} and sulfur dioxide, August 7, 1977;

* * * * *

(c) In the case of $PM_{2.5}$, **[INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(iii) * * *

(a) The area in which the proposed source or modification would construct is designated as attainment or unclassifiable under section 107(d)(1)(A)(ii) or (iii) of the Act for the pollutant on the date of its complete application under 40 CFR

52.21 or under regulations approved pursuant to 40 CFR 51.166; and

* * * * *

(15)(i) Baseline area means any intrastate area (and every part thereof) designated as attainment or unclassifiable under section 107(d)(1)(A)(ii) or (iii) of the Act in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact for the pollutant for which the baseline date is established, as follows: equal to or greater than 1 μg/m^3 (annual average) for SO_2, NO_2, or PM_{10}; or equal or greater than 0.3 μg/m^3 (annual average) for $PM_{2.5}$.

(ii) Area redesignations under section 107(d)(1)(A)(ii) or (iii) of the Act cannot intersect or be smaller than the area of impact of any major stationary source or major modification which:

* * * * *

(c) * * *

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Class I Area	
$PM_{2.5}$:	
Annual arithmetic mean.....	1
24-hr maximum.....	2

PM_{10}:	
Annual arithmetic mean	4
24-hr maximum	8
Sulfur dioxide:	
Annual arithmetic mean	2
24-hr maximum	5
3-hr maximum	25
Nitrogen dioxide:	
Annual arithmetic mean	2.5
Class II Area	
$PM_{2.5}$:	
Annual arithmetic mean	4
24-hr maximum	9
PM_{10}:	
Annual arithmetic mean	17
24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91
3-hr maximum	512
Nitrogen dioxide:	
Annual arithmetic mean	25
Class III Area	
$PM_{2.5}$:	
Annual arithmetic mean	8
24-hr maximum	18
PM_{10}:	
Annual arithmetic mean	34
24-hr maximum	60
Sulfur dioxide:	
Annual arithmetic mean	40
24-hr maximum	182
3-hr maximum	700
Nitrogen dioxide:	
Annual arithmetic mean	50

* * * * *

(i) * * *

(5) * * *

(i) The emissions increase of the pollutant from the new

source or the net emissions increase of the pollutant from the modification would cause, in any area, air quality impacts less than the following amounts:

(a) Carbon monoxide—575 μg/m^3, 8-hour average;

(b) Nitrogen dioxide—14 μg/m^3, annual average;

(c) $PM_{2.5}$—4 μg/m^3, 24-hour average;

(d) PM_{10}—10 μg/m^3, 24-hour average;

(e) Sulfur dioxide—13 μg/m^3, 24-hour average;

(f) Ozone;

(g) Lead—0.1 μg/m^3, 3-month average;

(h) Fluorides—0.25 μg/m^3, 24-hour average;

(i) Total reduced sulfur—10 μg/m^3, 1-hour average;

(j) Hydrogen sulfide—0.2 μg/m^3, 1-hour average;

(k) Reduced sulfur compounds—10 μg/m^3, 1-hour average; or

Note to paragraph (c)(50)(i)(f): No de minimis air quality level is provided for ozone. However, any net emissions increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of ambient air quality data.

* * * * *

(k) Source impact analysis.

(1) Required demonstration. The owner or operator of the

proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(2) Significant impact levels. For purposes of $PM_{2.5}$, the demonstration required in paragraph (k)(1) of this section is deemed to have been made if the emissions increase from the new stationary source alone or from the modification alone would cause, in all areas, air quality impacts less than the following amounts:

Pollutant	Averaging time	Class I Area	Class II Area	Class III Area
$PM_{2.5}$	Annual	0.06 μg/m^3 ..	0.3 μg/m^3 ...	0.3 μg/m^3
	24-hour ...	0.07 μg/m^3 ..	1.2 μg/m^3 ...	1.2 μg/m^3

* * * * *

(p) * * *

(5) * * *

Pollutant	Maximum allowable increase

	(micrograms per cubic meter)
$PM_{2.5}$:	
Annual arithmetic mean	4
24-hr maximum	9
PM_{10}:	
Annual arithmetic mean	17
24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91
3-hr maximum	325
Nitrogen dioxide:	
Annual arithmetic mean	25

* * * * *