# Appendix 10A

# EPA Guidance Related to Clean Air Act Section 110(a) Infrastructure SIPs

1) **Guidance on SIP Elements Required Under Sections 110(a)(l) and (2) for the 1997 8-hour Ozone and PM2.S National Ambient Air Quality Standards.** William T. Harnett, Director, Air Quality Policy Division, Office of Air Quality Planning and Standards. October 2, 2007.

2) **Emergency Episode Plan Requirements EPA memo.** March 24, 2008.

3) **PM2.5 Infrastructure SIPs.** Email from Anne Arnold, EPA Region 1. March 28, 2008.

4) **Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas.** Stephen D. Page, Director, Office of Air Quality Planning and Standards. April 5, 2005.

5) **Interim Implementation of New Source Review Requirements for PM2.5.** John S. Seitz, Director, Office of Air Quality Planning & Standards. October 23, 1997.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

OCT 2 2007

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

**MEMORANDUM**

SUBJECT: Guidance on SIP Elements Required Under Sections 110(a)(1) and (2) for the 1997 8-hour Ozone and $PM_{2.5}$ National Ambient Air Quality Standards

FROM: /for/ William T. Harnett, Director /Scott Mathias/
Air Quality Policy Division (C539-01)

TO: Air Division Directors, Regions I-X

The purpose of this memorandum is to provide guidance on the "infrastructure" elements for State Implementation Plans (SIPs) required under section 110(a)(1) and (2) of the Clean Air Act (CAA) for the 1997 8-hour ozone and fine particulate matter ($PM_{2.5}$) national ambient air quality standards (NAAQS). Attachment A to this memo provides a list of the basic elements that States must include in their SIPs. To the extent that existing SIPs for ozone and particulate matter already meet these requirements, States need only certify that fact to the Environmental Protection Agency (EPA). To the extent that existing SIPs for ozone and particulate matter fail to address any of these requirements for purposes of the 1997 8-hour ozone or $PM_{2.5}$ NAAQS, States need to make timely SIP submissions to EPA to address these requirements. We anticipate that States will already have approved SIPs in place for ozone that meet the basic requirements of sections 110(a)(1) and (2). For $PM_{2.5}$, however, we anticipate that many States may need to make SIP revisions to ensure that their existing SIPs for prior particulate matter NAAQS are revised to include the new particle size indicator.

## Background

On July 18, 1997, the EPA promulgated new and revised NAAQS for ozone and particulate matter. For ozone, EPA revised the NAAQS to provide an 8-hour averaging period (versus a 1-hour averaging period for the pre-existing NAAQS), and set the level of the standard at 0.08 ppm (versus 0.12 ppm for the pre-existing NAAQS). For PM, EPA promulgated a new 24-hour and a new

annual NAAQS for $PM_{2.5}$ (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers).[1]

Under sections 110(a)(1) and (2) of the CAA, all States are required to submit plans to provide for the implementation, maintenance, and enforcement of the 8-hour ozone and $PM_{2.5}$ standards. Sections 110(a)(1) and (2) require States to address basic SIP requirements, including emissions inventories, monitoring, and modeling to assure attainment and maintenance of the standards. By statute, SIPs meeting the requirements of sections 110(a)(1) and (2) are to be submitted by States within 3 years after promulgation of a new or revised standard. This being the case, States were required to submit such SIPs for the 1997 standards to EPA no later than July 2000. However, intervening litigation over the 1997 8-hour ozone and $PM_{2.5}$ NAAQS, created uncertainty about how to proceed and, to date, States have not submitted SIPs to meet the basic or infrastructure requirements enumerated in sections 110(a)(1) and (2).

In March of 2004, Earth Justice initiated a lawsuit against EPA for failure to take action against States that had not made SIP submissions to meet the requirements of sections 110(a)(1) and (2), i.e., failure to make a "finding of failure to submit." On March 10, 2005, EPA entered into a Consent Decree with Earth Justice that obligates EPA to make official findings whether States have made required SIP submissions by dates certain. The Consent Decree obligates EPA to determine whether States have made SIP submissions required to meet CAA section 110(a)(2)(D)(i) relating to interstate transport by no later than March 15, 2005. The Consent Decree also obligates EPA to make a determination whether States have made submissions necessary to meet the remaining 110(a)(1) and (2) requirements by December 15, 2007, for the 8-hour ozone NAAQS, and by October 5, 2008, for the $PM_{2.5}$ NAAQS.[2] It should be noted that the latter determinations pertain only to whether the submissions are complete, pursuant to section 110(k)(1)(A), and do not constitute EPA approval or disapproval of such submissions. In addition, the determinations required by the Consent Decree explicitly exclude any determinations regarding: (i)

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[1] More recently, on December 18, 2006, EPA again revised the standards for particulate matter, tightening the 24-hour $PM_{2.5}$ standard from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m,^3$ and retaining the current annual fine particle standard at 15 $\mu g/m^3$. EPA also decided to retain the existing 24-hour $PM_{10}$ standard of 150 $\mu g/m^3$ and to revoke the annual $PM_{10}$. This guidance document applies only to the SIP submission requirements for the 1997 8-hour Ozone and $PM_{2.5}$ NAAQS. EPA will address SIP requirements for the 2006 NAAQS separately, although the Agency notes that the statutory requirements for SIPs for new or revised NAAQS are comparable.

[2] The dates specified in the Consent Decree reflect the anticipated dates for submission of nonattainment area SIPs for each NAAQS, plus six months for EPA evaluation. EPA presumed that States would make SIP submissions meeting the basic requirements of sections 110(a)(1) and (2) for each NAAQS contemporaneously with, or not later than, SIPs meeting the nonattainment area plan requirements. EPA notes that recent decisions by the U.S. Court of Appeals for the District of Columbia concerning the implementation rule for the 8-hour Ozone NAAQS have affected certain nonattainment area SIP requirements. These judicial decisions do not, however, affect States' obligations under the CAA or EPA's obligations under the Consent Decree concerning the infrastructure SIP requirements of sections 110(a)(1) and (2).

submissions required by section 110(a)(2)(C) to the extent that subsection pertains to a nonattainment area new source permit program in part D Title I of the CAA; and (ii) submissions required by section 110(a)(2)(I) for Part D Title I nonattainment area plans.

In accordance with the Consent Decree, EPA has already published a finding that all States had failed to submit new SIPs addressing interstate transport for the 8-hour ozone and $PM_{2.5}$ NAAQS, as required by section 110(a)(2)(D)(i) of the CAA (70 FR 21147, April 25, 2005). That finding initiated a 2-year deadline for the promulgation of a Federal Implementation Plan (FIP) by EPA for each such State unless, prior to that time, each State makes a submission to meet the requirements of Section 110(a)(2)(D)(i) and EPA approves such submission. On May 12, 2005, EPA published the Clean Air Interstate Rule (CAIR) which identifies the degree to which emissions of $SO_2$ and $NO_x$ in certain States significantly contribute to nonattainment of, or interfere with maintenance of, the 1997 8-hour ozone and $PM_{2.5}$ NAAQS in downwind States, and the reductions that must be achieved in those States to eliminate such contributions.

On August 15, 2006, EPA issued guidance entitled "Guidance for State Implementation Plan (SIP) Submissions to Meet Current Outstanding Obligations Under Section 110(a)(2)(D)(i) for the 8-hour Ozone and $PM_{2.5}$ National Ambient Air Quality Standards." The section 110(a)(2)(D)(i) guidance indicates that States within the CAIR region can satisfy 110(a)(2)(D) by satisfying the requirements of the CAIR, and addresses what other States that are outside of the CAIR region should consider doing to meet the "significant contribution" and "interfere with maintenance" requirements of section 110(a)(2)(D)(i) for the 1997 standards. The section 110(a)(2)(D)(i) guidance also addresses what all States (whether inside or outside of the CAIR region) should consider in making SIP submissions to meet the "prevention of significant deterioration" and "protect visibility" requirements of section 110(a)(2)(D)(i). The SIP submissions addressed by the section 110(a)(2)(D)(i) guidance are those that are necessary to rectify the finding of failure to submit that EPA has already issued for all States for section 110(a)(2)(D)(i).

The guidance contained in this memorandum is intended as a reminder that States must have SIPs for the 1997 8-hour ozone and $PM_{2.5}$ NAAQS that meet all of the requirements of sections 110(a)(1) and (2). Pursuant to the Consent Decree, EPA has an obligation to take action to determine whether States have made such submissions by the dates noted above. Because States should currently be in the process of submitting nonattainment SIPs for the 8-hour ozone standard and working on nonattainment area SIPs for the $PM_{2.5}$ standard, we want to alert them to be sure that their SIPs also meet the basic requirements of sections 110(a)(1) and (2).

**Guidance**

The EPA believes that the currently-approved section 110 SIPs for ozone may already be adequate in most cases to implement the 8-hour ozone NAAQS. Many of the required section 110(a)(1) and (2) SIP elements relate to the general information and authorities that constitute the "infrastructure" of the ozone air quality management program, and these have been in place since the initial SIPs were submitted in response to the 1970 Clean Air Act. For particulate matter, however, EPA believes that some States may need to adopt language specific to the $PM_{2.5}$ NAAQS to ensure that they have adequate SIP provisions to implement the $PM_{2.5}$ NAAQS, e.g., existing State laws may refer to $PM_{10}$ specifically or to particulate matter more generally, rather than to $PM_{2.5}$. We believe that with one exception, the infrastructure requirements of sections 110(a)(1) and (2) are relatively self explanatory, and past experience with SIPs for other NAAQS should enable States to meet these requirements with assistance from EPA Regions. The one exception is section 110(a)(2)(G) relating to emergency episodes, for which EPA intends to take additional regulatory action to provide necessary numerical limits and concentration levels for emergency episode action plans for $PM_{2.5}$.

States should review and revise, as appropriate, their existing ozone and particulate matter SIPs to ensure that they are adequate to address the 8-hour ozone and $PM_{2.5}$ NAAQS. If a State determines that its existing SIP is adequate, then the State needs to certify, via a letter to the Agency from the Governor or his/her designee, that the existing SIPs contain provisions that address the requirements for the 8-hour ozone and $PM_{2.5}$ NAAQS. If a State determines that its existing ozone or particulate matter SIPs are inadequate, however, then the State needs to submit a SIP revision to make the appropriate changes.

With respect to $PM_{2.5}$, States may find it more advantageous to revise the language in their SIPs to identify "particulate matter" as the pollutant being implemented and define the size fractions as "those that EPA has currently set for the NAAQS" to the extent such an approach would be authorized by State law. This will ensure that the provisions remain adequate in the event that future changes occur to the particulate matter standards. States could also specify both $PM_{10}$ and $PM_{2.5}$ as the size fractions if a State prefers to be more specific.

As an aid to the States in addressing the $PM_{2.5}$ related requirements of Section 110(a)(2)(G) pertaining to emergency episode provisions, EPA intends to take action to revise 40 CFR, Part 51, subpart H (sections 51.150). The rule changes will establish the priority classifications which determine the emergency episode plan requirements for each area and establish a significant harm level (SHL) for $PM_{2.5}$. Until these changes are final, EPA recommends that States rely on relevant information contained in upcoming EPA rule proposals or other EPA-issued interim guidance to satisfy the section 110(a)(2)(G) requirements for $PM_{2.5}$. After EPA issues final rules, EPA will work with States to revise SIP

submissions that were based on interim information, as appropriate. States may wish to take advantage of the parallel processing mechanism for making their section 110(a)(2)(G) submittal in the interim while EPA completes rulemakings on the SHL and the emergency episode plan requirements under 40 CFR 51.150.

The SHL for the 8-hour ozone NAAQS will remain unchanged as 0.60 ppm ozone, 2-hr average, as indicated in 40 CFR Part 51.151. EPA believes that the existing ozone-related provisions of 40 CFR Subpart H remain appropriate. Therefore, EPA expects that for purposes of the 1997 8-hour ozone NAAQS, States need only to confirm that they have existing emergency episode plan provisions consistent with EPA's existing regulatory requirements.

By statute, States are required to make SIP submissions to meet the basic requirements of CAA sections 110(a)(1) and (2) within 3 years after promulgation of any new or revised standards. For the 1997 8-hour ozone and $PM_{2.5}$ standards, this deadline was July 2000. By Consent Decree, as noted above, EPA has agreed to make a determination whether or not States have submitted SIPs to meet these requirements by a date certain. In the case of 8-hour ozone SIPs, this date is December 15, 2007. For $PM_{2.5}$ SIPs, this date is October 15, 2008. In order for EPA to evaluate the submissions adequately, EPA requests that States make their certifications of SIP adequacy or SIP revisions as soon as possible and to the extent feasible sufficiently in advance of these dates to allow EPA time to determine whether complete submissions have been made.

If you have any questions concerning this guidance, please contact Mr. David Sanders at (919) 541-3356. Please ensure that the appropriate air agency officials for States in your Region are made aware of this guidance.

Attachments

cc: Margo Oge, OTAQ
Steve Page, OAQPS
Brian McLean, OAP
Richard Wayland, OAQPS
Lydia Wegman, OAQPS
Peter Tsirigotis, OAQPS

**Attachment A: Required Section 110 SIP Elements**

The SIP elements listed below are required under section 110(a)(1) and (2). Section 110(a)(1) provides the procedural and timing requirements for SIPs. Section 110(a)(2) lists the basic or "infrastructure" elements that all SIPs must contain. We note that this list is not intended to constitute an interpretation of these provisions, or a change of past practice with respect to these provisions, merely a brief description of the required SIP elements.

**Emission limits and other control measures:** Section 110(a)(2)(A) requires SIPs to include enforceable emission limits and other control measures, means or techniques, schedules for compliance and other related matters. EPA notes that the specific nonattainment area plan requirements of section 110(a)(2)(I) are subject to the timing requirement of section 172, not the timing requirement of section 110(a)(1), and also that SIPs to meet this section are not covered by the Consent Decree.

**Ambient air quality monitoring/data system:** Section 110(a)(2)(B) requires SIPs to include provisions to provide for establishment and operation of ambient air quality monitors, collecting and analyzing ambient air quality data, and making these data available to EPA upon request.

**Program for enforcement of control measures:** Section 110(a)(2)(C) requires States to include a program providing for enforcement of all SIP measures and the regulation of construction of new or modified stationary sources to meet prevention of significant deterioration (PSD) and nonattainment NSR requirements.

**Interstate transport:** Section 110(a)(2)(D) requires SIPs to include provisions prohibiting any source or other type of emissions activity in one State from contributing significantly to nonattainment, or interfering with maintenance, of the NAAQs in another State, or from interfering with measures required to prevent significant deterioration of air quality or to protect visibility in another State. EPA has already issued CAIR to assist States in developing SIPs to meet this requirement for purposes of the 8-hour Ozone and $PM_{2.5}$ NAAQS, and has issued separate guidance to all States on how to comply with each prong of this statutory provision.

**Adequate resources:** Section 110(a)(2)(E) requires States to provide for adequate personnel, funding, and legal authority under State law to carry out its SIP, and related issues.

**Stationary source monitoring system:** Section 110(a)(2)(F) requires States to establish a system to monitor emissions from stationary sources and to submit

periodic emissions reports.

**Emergency power:** Section 110(a)(2)(G) requires States to provide for authority to address activities causing imminent and substantial endangerment to public health, including contingency plans to implement the emergency episode provisions in their SIPs.

**Future SIP revisions:** Section 110(a)(2)(H) requires States to have the authority to revise their SIPs in response to changes in the NAAQS, availability of improved methods for attaining the NAAQS, or in response to an EPA finding that the SIP is substantially inadequate.

**Consultation with government officials:** Section 110(a)(2)(J) requires States to provide a process for consultation with local governments and Federal Land Managers carrying out NAAQS implementation requirements pursuant to section 121 relating to consultation.

**Public notification:** Section 110(a)(2)(J) further requires States to notify the public if NAAQS are exceeded in an area and to enhance public awareness of measures that can be taken to prevent exceedances.

**PSD and visibility protection:** Section 110(a)(2)(J) also requires States to meet applicable requirements of part C related to prevention of significant deterioration and visibility protection.

**Air quality modeling/data:** Section 110(a)(2)(K) requires that SIPs provide for performing air quality modeling for predicting effects on air quality of emissions from any NAAQS pollutant and submission of such data to EPA upon request.

**Permitting fees:** Section 110(a)(2)(L) requires SIPs to require each major stationary source to pay permitting fees to cover the cost of reviewing, approving, implementing and enforcing a permit.

**Consultation/participation by affected local entities:** Section 110(a)(2)(M) requires States to provide for consultation and participation in SIP development by local political subdivisions affected by the SIP.

**March 24, 2008**
**Emergency Episode Plan Requirements**

## I. Background On Emergency Episode Plan Requirements:

- Section 303 of the Act (the emergency powers provision), authorizes the Administrator to take emergency actions if pollution levels in an area constitute "an imminent and substantial endangerment to public health or welfare, or to the environment."

- Section 110(a)(2)(G) of the Act requires States to provide for similar authority to that contained in section 303 of the Act in their section 110(a)(1) SIPs, and to provide adequate emergency episode contingency plans to implement those requirements.

- EPA promulgated regulations in 1971 that established Significant Harm Levels (SHL) for five criteria pollutants (PM, CO, SO2, NO2, and Ozone) to accompany the SHLs. In 1986 EPA developed comprehensive regulations to govern the development of emergency episode plans, codified at 40 CFR part 51, Subpart H.

- States were required to submit emergency episode contingency plans for the 1997 NAAQS for 8-hour ozone and PM-2.5 by July 2000 (3 years following the promulgation of the NAAQS). States did not submit these SIPs and EPA has not issued findings of failure to submit the emergency episode plan, as well as the remaining SIP elements under section 110(a)(1).

- Earth Justice issued a notice of intent to sue in March 2004. On March 10, 2005, EPA entered into a Consent Decree with Earth Justice, which called for States to submit SIPs to address the emergency episode plan requirements as well as the remaining section 110(a)(1) requirements by December 2007 for ozone and by October 2008 for PM-2.5. Under the terms of the Consent Decree, if States miss these submittal deadlines, EPA must issue findings of failure to submit.

- On October 2, 2007, OAQPS issued a guidance memo indicating that EPA would propose rules on the emergency episode plan requirements, as well as the SHL for PM-2.5, which States should use to develop their emergency episode plan submittals.

## II. 40 CFR part 51, Subpart H, "Prevention of Air Pollution Emergency Episode" Requirements:

**Section 51.150: Address the classification of episode plan Air Quality Control Regions (regions).**

- The classification of these areas is based on historical ambient air quality levels and is usually tied to the Air Quality Index (AQI).
- Each county in the country is assigned a classification by region.

- Areas that are classified as Priority I, IA, or II are required to develop an emergency episode contingency plan. Areas that are classified as Priority III are not required to develop an emergency episode plan

**Section 51.151: Defines SHLs for five criteria pollutants (PM, CO, SO2, NO2, and Ozone). In a separate rulemaking action, EPA is proposing to set the SHL for PM-2.5.**

- Each emergency episode contingency plan for Priority I regions must at a minimum provide for taking necessary actions to prevent ambient concentrations at any location within the affected region from reaching the SHL**.**

**Section 51.152: Lists the requirements for developing emergency episode contingency plans.**

- States with areas that are classified as Priority I/IA, or II must develop emergency episode contingency plans that specify two or more stages of the emergency episode criteria.
- Priority I areas must include control action plans that trigger actions that must be taken at each emergency stage (Alert, Warning, and Emergency).
- Priority IA and II areas are required, at a minimum, to have communication and public notification procedures, but these areas are not required to have emissions action plans.
- EPA developed an example emergency episode contingency plan regulation codified in Appendix L of part 51 that specifies the criteria for each emergency episode stage. **(States however, are not required to adopt the examples identified in Appendix L)**

**Section 51.153: Requires States to re-evaluate the Priority classifications on a periodic basis. If a Priority III area changes classification to either a Priority I/IA or II area, the State must develop an emergency episode contingency plan as expeditiously as practicable.**

## III. The Proposed Rulemaking on the Emergency Episode Plan Requirements:

- We propose to add Priority region classifications for the 24-hour PM-2.5 NAAQS in section 51.151 of Subpart H.

- We propose to revise the current PM Priority region classifications to identify PM-10 as the pollutant of concern (as opposed to “PM”), and to remove the classifications based on the recently revoked annual standard for PM-10.

- We plan to propose suggested “Alert”, “Warning”, and “Emergency” action levels for PM-2.5 in the example regulations in Appendix L of Part 51.

- Changes to section 51.151 to establish the SHLs for PM-2.5. as well as changes to the AQI will be addressed in a separate rulemaking action

## IV. Proposed Priority Region Classification Levels:

| **Current AQI** | | | **Proposed AQI 24-hour ug/m3** | **Proposed EEP Priority Region Classifications (Under Section 51.150) *** |
|---|---|---|---|---|
| **Category** | Index Values | 24-hour average ug/m3 | | |
| **Unhealthy for Sensitive Groups** | 101-150 | 40.5-65.4 ug/m3 | 35.5-55.4 ug/m3 | |
| **Unhealthy** | 151-200 | 65.5-150.4 ug/m3 | 55.5-140.4 ug/m3 | |
| **Very Unhealthy** | 201-300 | 150.5-250.4 ug/m3 | 140.5-210.4 ug/m3 | Priority Level II |
| **Hazardous 1** | 301-400 | 250.5-350.4 ug/m3 | 210.5-280.4 ug/m3 | Priority Level I and IA |
| **Hazardous 2** | 401-500 | 350.5-500 ug/m3 | 280.5- 350.4 ug/m3 | |
| **SHL** | 500 and above | 500 ug/m3 | 350.5 ug/m3 | |

*** Note: Based on historical incidence of 24-hour average concentrations using the most recent 3 calendar years of data.**

## V. Proposed Action Levels for Appendix L:

| **AQI Category** | **Index Values** | **Proposed AQI 24 hour ug/m3** | **Suggested EEP Action Levels for Appendix L** |
|---|---|---|---|
| **Unhealthy for Sensitive Groups** | 101-150 | 35.5-55.4 ug/m3 | |

| | | | |
|---|---|---|---|
| **Unhealthy** | 151-200 | 55.5-140.4 ug/m3 | |
| **Very Unhealthy** | 201-300 | 140.5-210.4 ug/m3 | Alert |
| **Hazardous 1** | 301-400 | 210.5-280.4 ug/m3 | Warning |
| **Hazardous 2** | 401-500 | 280.5-350.4 ug/m3 | Emergency |
| **SHL** | 500 and above | 500 ug/m3 | |

## VI. Example Emergency Episode Contingency Plan: Action Plan Requirements (Montana, June 2004):

- **Stage 1: "Alert" Level:**

  1. Curtail open burning of waste/debris.
  2. Switch from wood/coal fuels to alternative fuels for heating home and commercial buildings; if equipped.
  3. Fossil fuel fired EGUs/boilers must switch to low ash/sulfur fuel.
  4. Specified manufacturers or sources must curtail, postpone, or defer production and other operations.

- **Stage 2: "Warning" level:**

  1. Use of incinerators is prohibited.
  2. Fossil fuel fired EGU must curtail operation.
  3. Specified manufactures: Assume reasonable economic hardships to postpone production without causing injury to persons or damage to equipment.

- **Stage 3: "Emergency" Level:**

  1. Widespread shutdown of non-essential functions.

From: arnold.anne@epamail.epa.gov [mailto:arnold.anne@epamail.epa.gov]
Sent: Friday, March 28, 2008 11:36 AM
To: Eileen.Hiney@state.ma.us; Wackter, David; junderhill@des.state.nh.us; jeff.s.crawford@maine.gov; paul.wishinski@state.vt.us; barbara.morin@dem.ri.gov
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Subject: PM2.5 infrastructure SIPs

Hello All:

Here is some new guidance related to the PM2.5 infrastructure SIPs.

Emergency Episode Plans
Section 110(a)(2)(G) addresses emergency episode plans. In the infrastructure SIP guidance memo issued on October 2, 2007, EPA indicated that it would propose rules on the emergency episode plan requirements, as well as the significant harm level, for PM-2.5, which States should use to develop their emergency episode plan submittals.
EPA has not yet issued this proposal. However, the document below released by HQ this week outlines the requirements EPA is planning to propose and should be used as guidance for states in submitting the infrastructure SIPs for PM2.5.

The requirement for a state to submit an emergency episode plan is based on a priority region classification. The classification scheme that EPA is planning to propose would require states with a 24 -hour PM2.5 concentration above 140.5 ug/m3, in the most recent three years of data, to develop an emergency episode plan. States which do not meet this threshold would be classified as Priority III and would not be required to develop an emergency episode plan for PM2.5.

Our review of the data indicates that none of the New England states have recorded a 24 - hour PM2.5 concentration greater than 140.5 ug/m3, in the most recent three years of data. So, all of the New England states would be classified as Priority III regions and emergency episode plans would not be required. Therefore, under the 110(a)(2)(G) element of the PM2.5 infrastructure submittal, states should reference any authorities the state has for calling air pollution emergencies for PM2.5, however, states should also reference that, based on the guidance below and PM2.5 levels recorded in the state, PM2.5 emergency episode plans would not be required.
(See attached file: 1 LDW EEPR Briefing 3 24 08 SM.doc)

NSR/PSD
EPA has not yet issued the final NSR/PSD rule for PM2.5. Therefore, it is acceptable for states in their PM2.5 infrastructure submittals to contain a statement that the State is following EPA's PM10 surrogate guidance documents (where this is case), specifically, the April 5, 2005, Steven D. Page memorandum entitled “Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas,” and the October 23, 2997, John S. Seitz memorandum entitled “Interim Implementation of New Source Review Requirements for PM2.5,” referenced therein.

PM2.5 standards
We have noticed that several New England states have ambient air quality standards regulations that are outdated in regard to PM2.5, and in some cases the term PM2.5 is not defined in definition regulations. These regulations should be updated. However, if necessary due to timing constraints, it would be sufficient for purposes of meeting the PM2.5 infrastructure requirements to state that no other regulatory requirements are keyed off of the outdated regulations, if that is the case.

Anne Arnold, Manager
Air Quality Planning Unit
EPA New England
617-918-1047

MEMORANDUM

SUBJECT: Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas

FROM: Stephen D. Page
Director

TO: See Addressees

**What is the purpose of this memorandum?**

This memorandum provides guidance on the implementation of the major New Source Review (NSR) provisions under title 1, Part D of the Clean Air Act (Act) in fine particulate (PM-2.5) nonattainment areas in the interim period between the effective date of the PM-2.5 National Ambient Air Quality Standard (NAAQS) designations (April 5, 2005) and when we promulgate regulations to implement nonattainment major NSR for the PM-2.5 NAAQS. This memorandum also re-affirms the Memorandum from John S. Seitz, Director Office of Air Quality Planning and Standards, to Regional Air Directors, *Interim Implementation of New Source Review for PM2.5* (Oct. 23, 1997) that applies in Prevention of Significant Deterioration of Air Quality (PSD) programs for PM-2.5 attainment and unclassifiable areas.

**Why are we issuing this memorandum?**

On January 5, 2005, we promulgated nonattainment designations for the PM-2.5 NAAQS. These designations become effective on April 5, 2005. *See* 70 FR 944. Under Section 172(b) of the Clean Air Act (Act), the Administrator may provide States up to 3 years from the effective date of designations to submit State Implementation Plan (SIP) revisions meeting the applicable nonattainment requirements. In the near future, we plan to issue a proposed and final rule setting forth the schedule for these plan submissions. We also plan to establish the requirements that State and local agencies (States) and Tribes must meet in their implementation plans for attainment of the PM-2.5 NAAQS including provisions to address the major NSR requirements of title I, Part D of the Act (nonattainment major NSR program). Notwithstanding the absence of these implementing regulations, we interpret Section 172(c)(5) of the Act to require States to issue major New Source Review (NSR) permits for the construction and major modifications of major stationary sources located in any nonattainment area. Accordingly, once nonattainment designations for PM-2.5 become effective on April 5, 2005, States must issue major NSR permits that address the Section 173, nonattainment major NSR requirements for PM-2.5. We are issuing this memorandum to address how States should implement major NSR for PM-2.5 until we promulgate the PM-2.5 implementation rule.

**What applies in PM-2.5 nonattainment areas?**

During the SIP development period, EPA generally requires States to issue major NSR permits using the authority of States' approved nonattainment major NSR programs (to the extent these provisions apply automatically to the pollutant ) or using the authority of 40 CFR Part 51, Appendix S (where a State lacks a nonattainment major NSR program covering the pollutant.) [1] However, in this case, the absence of a final PM-2.5 implementation rule makes administering a PM-2.5 nonattainment major NSR program infeasible. Accordingly, until we promulgate 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. By applying a PM-10 nonattainment major NSR program in the interim period, States will effectively mitigate increases in PM-2.5 emissions and protect air quality because PM-2.5 is a subset of PM-10 emissions.

Using the surrogate PM-2.5 nonattainment major NSR program, States should assume that a major stationary source's PM-10 emissions represent PM-2.5 emissions and regulate these emissions using either Appendix S or the State's SIP-approved nonattainment major NSR program for PM-10. In most cases, we believe that States will need to rely on Appendix S for authority to issue permits during this interim period, because their existing State programs are not designed to accommodate the surrogate PM-2.5 nonattainment major NSR program.[2] Moreover, we expect that most States will need to implement a transitional PM-2.5 nonattainment major NSR program under Appendix S even after we finalize the PM-2.5 implementation rule until EPA approves changes to the States' SIP programs.

**What is the major stationary source threshold and offset ratio under the surrogate PM-2.5 nonattainment major NSR program?**

Section 302(j) defines a major stationary source as any source that emits or has the potential to emit 100 tpy of any regulated pollutant, and Section 173(c) of the Act requires major stationary sources to offset emissions increases resulting from construction or major modifications in a ratio of at least 1 to 1. Appendix S and the majority of SIP-approved PM-10 nonattainment major NSR programs apply this major source threshold and corresponding offset requirement. Accordingly, these provisions should be used to define the major stationary source threshold and offset ratio for the surrogate PM-2.5 nonattainment major NSR program. This means that during the interim period, a source is major for PM-2.5 if it emits or has the potential

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[1]The terms of 40 CFR 52.24(k), Appendix S of Part 51 provide provisions for a transitional nonattainment major NSR program until we approve a State's Part D major NSR program into the SIP.

[2]If a State lacks authority to issue a major NSR permit consistent with these requirements, then EPA will issue the permit under the authority of 40 CFR 52.24(k) and Appendix S.

to emit 100 tpy of PM-10.[3] A State that uses its SIP-approved PM-10 program as a surrogate PM-2.5 program need not apply the separate major stationary source level for serious PM-10 nonattainment areas in the surrogate PM-2.5 program. We do not interpret the specific PM-10 requirements of Part D, Subpart 4 of the Clean Air Act to apply to PM-2.5 and do not believe they should be applied under a surrogate PM-2.5 nonattainment major NSR program.

For any major stationary source whose particulate emissions are predominantly coarse particulate (particulate matter that ranges in size between PM-10 and PM-2.5), assuming that all of the source's PM-10 emissions represent the source's PM-2.5 emissions could inappropriately trigger nonattainment major NSR for PM-2.5. To avoid such an outcome, a source may quantify its PM-2.5 fraction. One approach is to apply two test methods in series - Conditional Test Method 40 (which adds a PM-2.5 cyclone separator between the Method 201A cyclone and filter) followed by the Method 202 sampler to collect condensible materials. The sum of the PM mass in these two fractions (i.e., the Conditional Test Method 40 filterable mass plus the Method 202 condensible mass) represents the primary PM-2.5 emissions from the source for the test period. Under appropriate circumstances (e.g., construction of a new unit, where it is not possible to conduct testing prior to start up), testing of similar existing units can be an appropriate means of obtaining relevant emissions data. Also, other approaches for quantifying PM-2.5 emissions besides the testing methods described above would be considered where they can be shown to produce reliable data.

If the source demonstrates that it is not a major stationary source for PM-2.5, then the nonattainment major NSR provisions for PM-2.5 need not be applied to the source. Conversely, if a source is major for PM-10 and does not quantify its PM-2.5 emissions, then States should presume that the source is major for PM-2.5 and subject it to the surrogate PM-2.5 nonattainment major NSR program if it constructs a major stationary source or undergoes a major modification.

**What is the significant emissions rate for the surrogate PM-2.5 nonattainment major NSR program?**

On July 1, 1987, we established a significant emissions rate for PM-10 of 15 tpy. *See* 52 FR 24683. States should use this rate for the surrogate PM-2.5 program. At the time we established the 15 tpy significant emissions rate, we amended only our PSD regulations to incorporate the PM-10 value because the PM-10 NAAQS did not yet apply to nonattainment areas. Nonetheless, we established the PM-10 significant emissions rate through notice and

[3]The definition of PM-10 includes condensible particulate matter. For a detailed discussion of condensible particulate matter, see the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990 (April 16, 1992, 57 FR 13542).

comment rulemaking; and, accordingly, the same value should apply for PM-10 under Appendix S and State SIP-approved programs in the interim period.[4]

**Will any precursors be regulated under the surrogate PM-2.5 nonattainment major NSR program?**

Not at this time. Section 302 (g) includes precursors to the formation of any air pollutant within the term "air pollutant" to the extent the Administrator identifies the precursors for the particular purpose for which the term "air pollutant" is used. To date, the Administrator has not identified any precursors to the formation of PM-2.5 for purposes of the major NSR program. On November 5, 2003, the Administrator proposed to require that regional emissions analysis for the purposes of transportation conformity under Section 176(c) of the Act include certain precursors (68 FR 62690). In the Clean Air Interstate Rule, we require states to reduce emissions of NOx and SO2 on the grounds that they are precursors for PM-2.5. However, several novel issues need to be resolved before the NSR program can be applied to PM-2.5 precursors (e.g., how many SO2 or NOx offsets will be needed to accommodate the fine particles formed by these constituents; can SO2 emissions reductions be used to offset NOx emissions, and vice versa). We plan to request comment on regulating these pollutants and other potential PM-2.5 precursors for purposes of major NSR in the PM-2.5 implementation rule.

**What major NSR requirements apply in PM-2.5 attainment and unclassifiable areas?**

The revised NAAQS for particulate matter, which include the revised NAAQS for PM-10 and new NAAQS for PM-2.5, became effective on September 16, 1997. On October, 23, 1997, we issued a memorandum addressing the interim use of PM-10 as a surrogate for PM-2.5 in meeting Prevention of Significant Deterioration of Air Quality Program (PSD) provisions for PM-2.5 as required by title 1, Part C of the Act. *See* Memorandum from John S. Seitz, Director Office of Air Quality Planning and Standards, to Regional Air Directors, *Interim Implementation of New Source Review for PM2.5* (Oct. 23, 1997). This memorandum referenced provisions of Part C of the Act which we interpret to require PSD permits for PM-2.5 upon the effective date of the PM-2.5 NAAQS, and identified significant technical difficulties with implementing PSD for PM-2.5 because of limitations in ambient monitoring and modeling capabilities. Because we have not promulgated the PM-2.5 implementation rule, administration of a PM-2.5 PSD program remains impractical. Accordingly, States should continue to follow the October 23, 1997, guidance for PSD requirements.

This memorandum presents EPA's policy on the implementation of major NSR requirements until EPA promulgates a final PM-2.5 implementation rule. The statements in this policy guidance do not bind State and local governments and the public as a matter of law.

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[4] We intend to issue a final rule adding a PM-10 significant emissions rate of 15 tpy to Appendix S in a forthcoming rulemaking.

If you have any questions concerning this memorandum, please contact Raj Rao at (919) 541-5344, or Lynn Hutchinson at (919) 541-5795.

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MEMORANDUM

SUBJECT: Interim Implementation of New Source Review Requirements for PM2.5

FROM: John S. Seitz, Director Office of Air Quality Planning & Standards (MD-10)

TO: See Addressees

This memorandum addresses the interim use of PM10 as a surrogate for PM2.5 in meeting new source review (NSR) requirements under the Clean Air Act (Act), including the permit programs for prevention of significant deterioration of air quality (PSD). The revised national ambient air quality standards (NAAQS) for particulate matter, which include the revised NAAQS for PM10 and new NAAQS for PM2.5, became effective on September 16, 1997. In view of the significant technical difficulties that now exist with respect to PM2.5 monitoring, emissions estimation, and modeling (described below), EPA believes that PM10 may properly be used as a surrogate for PM2.5 in meeting NSR requirements until these difficulties are resolved. The EPA's views on implementing the ozone and PM10 NAAQS during the interim period following the effective date of the new 8-hour ozone and revised PM10 NAAQS will be set forth in a separate EPA memorandum.

Section 165(a)(1) of the Act provides that no new or modified major source may be constructed without a PSD permit. Moreover, section 165(a)(3) provides that the emissions from any such source may not cause or contribute to a violation of any NAAQS. Also, section 165(a)(4) requires best available control technology for each pollutant subject to regulation under the Act. The EPA's recent promulgation of the primary and secondary standards for PM2.5 marks the first time that EPA has specifically regulated fine particles--less than 2.5 microns in diameter--as a discrete indicator for particulate matter. Hence, this memorandum addresses how to implement PSD for PM2.5 in light of significant technical difficulties which presently exist.

Of specific concern is the lack of necessary tools to calculate emissions of PM2.5 and related precursors and project ambient air quality impacts so that sources and permitting authorities can adequately meet the NSR requirements for PM2.5. Any comprehensive system for regulating PM2.5 must take into account not only the fine particles emitted directly by stationary sources but also the various precursors, emitted by certain sources, which result in secondarily-formed fine particles through chemical reactions in the atmosphere. Recent studies suggest that secondary particulate matter may account for over half of total ambient PM2.5 nationwide. Emissions factors for the fine particles emitted directly by stationary sources, and for some important precursors (e.g., ammonia), are largely unavailable at the present time.

The EPA is in the process of developing a comprehensive modeling system which will be designed to include precursor emissions and account for secondary fine particle formation. The modeling system will also incorporate a method for nesting small local impacts from individual point sources within a greater modeling domain. Before this can be completed, it will be necessary to collect sufficient monitoring data to verify and validate protocol modeling results.

Ambient monitoring for PSD purposes must be collected from appropriately designed monitors. Sufficient quantities of such monitors will not be available specifically for PSD monitoring purposes in the near future. Initially, as these monitors become available, they will be needed to establish the new monitoring stations for the national network of PM2.5 sites, including the required core PM2.5 State and local air monitoring stations. A high priority has been placed on the establishment of the necessary PM2.5 monitoring sites nationwide so that the information from these sites can be analyzed and evaluated in order to establish plans and priorities for implementing the PM2.5 NAAQS, including the promulgation of section 107 designations.

For the reasons stated above, EPA believes that it is administratively impracticable at this time to require sources and State permitting authorities to attempt to implement PSD permitting for PM2.5 . The EPA has projects underway that will address the current technical and informational deficiencies, but it will take 3-5 years to complete these projects. Until these deficiencies are corrected, EPA believes that sources should continue to meet PSD and NSR program requirements for controlling PM10 emissions (and, in the case of PM10 nonattainment areas, offsetting emissions) and for analyzing impacts on PM10 air quality. Meeting these measures in the interim will serve as a surrogate approach for reducing PM2.5 emissions and protecting air quality.

This memorandum presents EPA's views on the issues associated with implementation of the new PM2.5 NAAQS under Federal, State and local NSR programs. The statements do not bind State and local governments and the public as a matter of law. When the technical difficulties are resolved, EPA will amend the PSD regulations under 40 CFR 51.166 and 52.21 to establish a PM2.5 significant emissions rate, and EPA will also promulgate other appropriate regulatory measures pertinent to PM2.5 and its precursors. Because the earliest date on which PM2.5 nonattainment areas will be designated is in 2002, and nonattainment NSR does not apply until after nonattainment designations are made, implementation of the nonattainment NSR requirements under part D of title I of the Act need not be addressed at this time.

If you have any questions concerning this memorandum or wish to address any issues raised herein, please contact Dan deRoeck at (919) 541-5593.

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