



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

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OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

MEMORANDUM

SUBJECT: Guidance on SIP Elements Required Under Sections 110(a)(1) and (2) for the 2006 24-Hour Fine Particle (PM<sub>2.5</sub>) National Ambient Air Quality Standards (NAAQS)

FROM: William T. Harnett, Director *William T. Harnett*  
Air Quality Policy Division (C539-01)

TO: Regional Air Division Directors, Regions I-X

The purpose of this memorandum is to provide guidance on addressing the “infrastructure” elements for State Implementation Plans (SIPs) required under sections 110(a)(1) and 110(a)(2) of the Clean Air Act (CAA) for the 2006 24-hour PM<sub>2.5</sub> NAAQS (71 FR 61144). On December 18, 2006, EPA revised the 24-hour average PM<sub>2.5</sub> primary and secondary NAAQS from 65 micrograms per cubic meter (µg/m<sup>3</sup>) to 35 µg/m<sup>3</sup>. Under sections 110(a)(1) and 110(a)(2) of the CAA, after promulgation of a new or revised NAAQS, each state is required to submit a plan to provide for the implementation, maintenance, and enforcement of that NAAQS.

States are required to address basic SIP requirements (see Attachment A), to assure attainment and maintenance of the standards. By law, SIPs to address sections 110(a)(1) and 110(a)(2) are to be submitted by states within 3 years after promulgation of a new or revised standard.<sup>1</sup> In many cases the section 110(a)(2) SIPs for the 1997 PM<sub>2.5</sub> NAAQS may already be adequate to implement the 2006 24-hour PM<sub>2.5</sub> NAAQS. Many of the required section 110(a)(1) and 110(a)(2) SIP elements relate to the general information and authorities that constitute the “infrastructure” of a state’s air quality management program, and these have been in place since the initial SIPs were submitted in response to the 1970 Clean Air Act. However, it is still the responsibility of each state to make this determination for each new or revised NAAQS.

**Determining Completeness of State Submittals**

As required by section 110(a)(1), states will have to review and revise, as appropriate, their existing particulate matter SIPs to ensure that they are adequate to address the 2006 24-hour PM<sub>2.5</sub> NAAQS. States should, in consultation with EPA Regional Offices, refer to applicable EPA regulations governing SIP submittals in 40 CFR Part 51 – e.g., Subpart H (“Prevention of

<sup>1</sup> Although the rule for the revised PM<sub>2.5</sub> standard has an effective date of December 18, 2006, the rule was signed by the Administrator and publically disseminated on September 21, 2006. Therefore, the deadline for submittal of 110(a) SIPs for the 2006 24-hour PM<sub>2.5</sub> NAAQS is September 21, 2009 based on the signature date.

Air Pollution Emergency Episodes”), Subpart I (“Review of New Sources and Modifications”), Subpart J (Ambient Air Quality Surveillance), Subpart K (Source Surveillance), Subpart L (Legal Authority), Subpart M (“Intergovernmental Consultation”), Subpart O (Miscellaneous Plan Content Requirements), Subpart P (“Protection of Visibility”), and Subpart Q (“Reports”). If a state determines that its existing SIP is adequate, then the state needs to certify through a SIP submittal (e.g., a letter to the Agency from the Governor or his/her designee) that demonstrates the existing SIP contains provisions addressing all requirements of the section 110(a)(2) infrastructure elements as applicable for the 2006 24-hour PM<sub>2.5</sub> NAAQS. For purposes of the 2006 24-hour PM<sub>2.5</sub> NAAQS, in cases where a state believes that it meets the requirements of sections 110(a)(1) and 110(a)(2) without further revision of its SIP, EPA believes it is appropriate for the state to submit a certification letter without holding an additional public hearing. Because prior submissions for infrastructure requirements will have met the statutory requirements for notice and public hearing, EPA believes that such process is not required now. The public will have an opportunity to review the certification when EPA takes action on the submittal through the notice-and-comment rulemaking process.

In order for EPA to determine that a submittal for a SIP is complete, the submittal must affirmatively address all required elements/sub-elements, and should include documentation demonstrating a correspondence between each infrastructure element and an equivalent state statutory or regulatory authority in the existing or submitted SIP. At a minimum, a complete submission is a letter from an appropriate state official (i.e., Governor or designee) certifying compliance with each element and with a specific description of how compliance with each element is achieved. Submissions lacking a detailed explanation for how the state’s SIP meets each applicable requirement of section 110(a)(2) should be deemed incomplete. Submissions that address some but not all elements/sub-elements should not be deemed complete for the unaddressed elements/sub-elements, but will result in findings of failure to submit for only the unaddressed elements/sub-elements. After EPA makes a finding of failure to submit, the state would only be required to submit those elements that were found not to have been submitted in order for EPA to make a determination that the SIP is fully complete. Letters stating that the state will submit a SIP revision some time in the future are not complete.

A finding that the submittal is complete does not mean that the submittal is approvable because the completeness review only addresses whether the state has provided information sufficient to warrant formal EPA review for approvability. Once EPA determines a SIP submission to be complete, or after six months when that submission is deemed complete by operation of law, EPA has up to 1 year to take action on (i.e., to approve or disapprove) the submission. EPA must promulgate a Federal Implementation Plan (FIP) for the state if EPA takes any of the following final actions associated with the required SIP: (1) determines that a state has failed to make a SIP submission, (2) determines that a state has made an incomplete submission, or (3) disapproves a SIP submission. Any of these actions starts a two year FIP clock. In order to stop or rescind a FIP, the state must submit, and EPA must approve, a SIP submission that meets the applicable requirements.

## **Guidance for Satisfying the Section 110(a)(2)(D) Requirement**

Compliance with CAA section 110(a)(2)(D) requires that states address 4 separate elements.

### **1. SIP Submissions from States pertaining to the "significant contribution" requirement of section 110(a)(2)(D)(i).**

Section 110(a)(2)(D)(i)(I) specifically provides that each state's SIP must contain adequate provisions to prohibit air pollutant emissions from within the state that significantly contribute to nonattainment of the NAAQS in any other state. Therefore, the state's submission must explain whether or not emissions from the state have this impact and, if so, address the impact.

The state's conclusion must be supported by an adequate technical analysis. Information to support the state's determination with respect to significant contribution to nonattainment might include, but is not limited to, information concerning emissions in the state, meteorological conditions in the state and the potentially impacted states, monitored ambient concentrations in the state and the potentially impacted states, the distance to the nearest area that is not attaining the NAAQS in another state, and air quality modeling. The EPA believes that it would be appropriate for states to make this assessment by considering the impact of current or future emissions on nearby nonattainment areas, and evaluating the air quality impact and potential mitigation strategies.<sup>2</sup> Using these kinds of evaluations, it is EPA's intention to complete a rule to address interstate pollution transport in the eastern half of the continental United States.

EPA is currently working on a new rule to replace the CAIR rule that will address issues raised by the court in *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008). That new rule will assist states with obligations to address interstate transport that significantly contributes to nonattainment in another state. However, all states must submit complete 110 SIPs at this time that address the requirements of section 110(a)(2)(D) for the 2006 24-hour PM<sub>2.5</sub> NAAQS, and states cannot wait for the CAIR replacement rule without getting a finding of failure to submit at this time. In addition, even if the CAIR rule were not remanded by the court, states cannot rely on the current CAIR rule for this submission for the 2006 24-hour PM<sub>2.5</sub> NAAQS because the CAIR rule does not address this NAAQS.

### **2. SIP Submissions from States pertaining to the "interfere with maintenance" requirement of section 110(a)(2)(D)(i).**

Section 110(a)(2)(D)(i)(I) specifically provides that each state's SIP must contain adequate provisions to prohibit air pollutant emissions from within the state that interfere with maintenance of the NAAQS in any other state. States' submissions must address this independent requirement of the statute. This provision requires evaluation of impacts on areas of other states that are meeting the 2006 24-hour PM<sub>2.5</sub> NAAQS, not merely areas formerly

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<sup>2</sup> If assessing future emissions the state should attempt to represent a future year that is no further in the future than the year in which attainment of the NAAQS is required in the downwind state. In most cases we expect the attainment date to be no later than 5 years from the date of nonattainment designations. Since designations are expected to be issued in 2009, the maximum attainment date would be 2014.

designated nonattainment that are subject to a maintenance SIP. Therefore, the state's submission must explain whether or not emissions from the state have this impact and, if so, address the impact.

A state's submission for this requirement should provide the technical information which the state deems appropriate to support its conclusions. Suitable information might include, but is not limited to, information concerning emissions in the state, meteorological conditions in the state and the potentially impacted states, monitored ambient concentrations in the state and the potentially impacted states, and air quality modeling.

Using these kinds of evaluations, it is EPA's intention to complete a rule to address interstate pollution transport in the eastern half of the continental United States. However, all states must submit complete 110 SIPs at this time that address the requirements of section 110(a)(2)(D) for the 2006 24-hour PM<sub>2.5</sub> NAAQS and states cannot wait for the CAIR replacement rule without getting a finding of failure to submit at this time.

### **3. SIP submissions pertaining to the "prevention of significant deterioration" requirement of section 110(a)(2)(D)(i).**

Section 110(a)(2)(D)(i)(II) contains a requirement for all states to submit SIPs that contain adequate provisions prohibiting "... any source or other type of emission activity within the state from emitting any air pollutant in amounts which will interfere with measures required to be included in the applicable implementation plan for any other state ....to prevent significant deterioration of air quality ..."

EPA believes this requirement is satisfied for PM<sub>2.5</sub> if a state's SIP includes preconstruction review programs for major sources that satisfy the requirements of 40 CFR 51.165(b)(1) and 40 CFR 51.166 (i.e., New Source Review for major stationary sources locating in attainment areas when the source will cause or contribute to a violation of the NAAQS, and Prevention of Significant Deterioration (PSD), respectively). Unless the area has known outstanding permit program deficiencies, it is not necessary, at this time, for states to make a SIP submission containing rule changes specifically to address section 110(a)(2)(D)(i)(II) for the 2006 24-hour PM<sub>2.5</sub> NAAQS. If this is the case, the state can submit an appropriate certification as described previously in this guidance.

All areas are currently required to have some form of preconstruction permitting program for PM<sub>2.5</sub>. This program may include a transitional program or a program that conforms with the minimum requirements of EPA's May 2008 final rule on implementation of the NSR program for PM<sub>2.5</sub>. 73 Fed. Reg. 28321. In this action, EPA issued new final rules for certain components of PM<sub>2.5</sub> preconstruction permitting programs for attainment and nonattainment areas. States are currently required to revise their preconstruction review permit programs to incorporate these new requirements into an approved SIP by May 2011. However, this provision under the May 2008 rules has been challenged and is now under a petition for reconsideration whereby EPA has agreed to reconsider the schedule for revising state PSD programs for PM<sub>2.5</sub>. Accordingly, EPA may revise the schedule for submitting the revised PSD SIPs for EPA approval. For the present time, however, the deadline for adopting and submitting PM<sub>2.5</sub> SIPs for NSR/PSD is May 2011. Thus, states are not required to adopt the May 2008 rules for the

purposes of satisfying the section 110(a) SIP requirement by September 2009 and may rely instead on implementing a transitional program for PM<sub>2.5</sub>. For example, the state's PSD program would satisfy the requirements of 40 CFR 51.166 at this time if the applicable rule defines the pollutants subject to regulation, e.g., "regulated NSR pollutant," in such way as to automatically include any new NAAQS, e.g., 24-hour PM<sub>2.5</sub> NAAQS, that EPA may promulgate.

States with PSD FIPs in place generally are required under a delegation agreement with EPA to implement PSD in accordance with the federal PSD program, which provides for the automatic protection of any new NAAQS that EPA may promulgate. These states must ensure that their delegation agreement clearly authorizes them to implement the federal PSD program requirements as amended in May 2008. If a delegation agreement is deficient in this regard, the state should work with EPA to modify the agreement to enable implementation of PM<sub>2.5</sub> requirements.

In addition to the PSD permitting program, a state's SIP may include additional measures as necessary to prevent air pollution in excess of the PSD increment that defines significant deterioration for each area. 40 CFR 51.166(a). However, EPA has not yet established PSD increments for PM<sub>2.5</sub>. Without these components of a PSD program, it is difficult for states to determine if additional measures are needed to prevent significant deterioration within the state. Likewise, a neighboring state cannot determine whether its SIP would interfere with such additional measures in another state's SIP. However, notwithstanding the absence of PSD increments for PM<sub>2.5</sub>, EPA believes that at this time states may continue to rely on their existing PSD and NNSR permitting programs to prevent significant deterioration of air quality within their own boundaries and in adjacent states until such increments are established.

#### **4. SIP Submissions from States pertaining to the "protect visibility" requirement of section 110(a)(2)(D)(i).**

Section 110(a)(2)(D)(i)(II) also contains a requirement for all states to submit SIPs that contain adequate provisions prohibiting "... any source or other type of emission activity within the state from emitting any air pollutant in amounts which will interfere with measures required to be included in the applicable implementation plan for any other state ....to protect visibility."

EPA believes this requirement can be satisfied by an approved SIP addressing reasonably attributable visibility impairment (RAVI), if required, and an approved SIP addressing regional haze. EPA promulgated regulations in 1980 to address RAVI in Class I areas that is caused by the emissions of air pollutants from one source, or a small number of sources. See 45 FR 80084 (December 2, 1980) and current 40 CFR 51.300 – 51.307. A state must take specified steps to address RAVI after a Federal Land Manager at any time certifies that RAVI exists at a specific Class 1 Area. 40 CFR 51.302(c)(1).

Under the 1980 regulations, 35 states and the U.S. Virgin Islands were required to submit SIPs to address RAVI. EPA issued FIPs to address the requirements of RAVI for those states that had failed to submit SIPs. See 50 FR 28544 (July 12, 1985) and 52 FR 45132 (November 24, 1987). EPA is not aware of any certification by a Federal Land Manager of existing RAVI that remains unaddressed by a currently approved SIP or FIP. Accordingly, we believe that states for which EPA has approved into the state's current SIP some or all RAVI elements,

should be able to make a relatively simple SIP submission verifying that no source within the state emits pollutants that interfere with RAVI measures included in the applicable implementation plan (SIP or FIP) of any other state. As noted above for PSD, those states having full or partial FIPs in place will not satisfy the independent section 110(a)(2)(D)(i)(II) requirement unless they submit, and EPA approves into the SIP, all required RAVI elements.

In 1999, EPA issued regulations requiring states to address regional haze impacting visibility in Class I areas. See 64 FR 35714 (July 1, 1999) and current 40 CFR 51.308 - 51.309. Regional haze is visibility impairment that is produced by a multitude of sources and activities which emit visibility-impairing pollutants and their precursors and which are located across a broad geographic area. States are currently under an obligation to submit SIPs that contain measures to address regional haze, including a long-term strategy to address visibility impairment for each Class I area which may be affected by emissions from a state. These SIP submissions were due on December 17, 2007. In January 2009, EPA found that 37 states, the District of Columbia, and the U.S. Virgin Islands had failed to make all or part of the required SIP submissions to address regional haze. See 74 FR 2392 (January 15, 2009). These findings require EPA to issue FIPs within 2 years, by January, 2011, unless the states submit SIPs and EPA approves them before that date. States that intend to rely on the required regional haze SIPs to satisfy this element of their section 110(a) SIP but have not formally indicated this intention in a SIP submission, or have not yet submitted the regional haze SIP, may receive an additional finding of failure to submit this element of their section 110(a) SIP. EPA will be able to fully approve the submittal as satisfying section 110(a)(2)(D)(i)(II) only after we have taken final action approving the regional haze SIP.

### **Guidance for Satisfying the Section 110(a)(2)(G) Requirement**

To address the section 110(a)(2)(G) element, states with air quality control regions identified as either Priority I, Priority IA, or Priority II by the "Prevention of Air Pollution Emergency Episodes" rules at 40 CFR 51.150, must develop emergency episode contingency plans. Currently, those regulations do not specifically address PM<sub>2.5</sub>.

Until the Agency finalizes changes to the emergency episode regulations to establish for PM<sub>2.5</sub> specific levels for classifying areas as Priority I, IA, and II for PM<sub>2.5</sub>, and to establish a significant harm level (SHL), EPA recommends that states through their public processes set Priority levels and emergency action levels for PM<sub>2.5</sub> necessary to develop emergency episode plans consistent with the requirements in 40 CFR 51.150 through 51.153. We further recommend that states consider the levels discussed in the February 12, 2007 EPA issue paper titled "Revising the Air Quality Index and Setting a Significant Harm Level for PM<sub>2.5</sub>" and to Attachment B to this guidance in establishing Priority levels and emergency action levels, including a SHL.<sup>3</sup> Using the recommendations in Attachment B, for the purposes of satisfying the requirements of section 110(a)(2)(G), states would develop emergency episode plans for any area that has monitored and recorded 24-hour PM<sub>2.5</sub> levels greater than 140.4 µg/m<sup>3</sup> since 2006. If this level was never exceeded in any area of the state, the state can certify that it has appropriate general emergency powers to address PM<sub>2.5</sub>-related episodes, and that no specific

<sup>3</sup> The issue paper can be found at [http://www.epa.gov/ttn/caaa/gen/aci\\_issue\\_paper\\_020707.pdf](http://www.epa.gov/ttn/caaa/gen/aci_issue_paper_020707.pdf)

emergency episode plans are necessary at this time, given the existing monitored levels.<sup>4</sup> States should develop submissions to meet this requirement through appropriate public processes.

In submittals addressing the 1997 PM<sub>2.5</sub> NAAQS, several states committed to make SIP submittals addressing section 110(a)(2)(G) only after EPA completed a rulemaking to establish a SHL for PM<sub>2.5</sub>. We understand the motivation for taking this approach, and EPA is working to complete this rulemaking. Nevertheless, under section 110(k)(1)(B), EPA cannot find such submittals to be complete. It is for this reason that EPA is providing the recommendations in this memorandum as guidance for states to make submittals to address section 110(a)(2)(G). The SHL, Priority levels, and emergency action levels recommended in Attachment B are relevant for both the 1997 PM<sub>2.5</sub> NAAQS and the 2006 PM<sub>2.5</sub> NAAQS. If a state elects not to make a submittal that addresses section 110(a)(2)(G) for the 2006 24-hour PM<sub>2.5</sub> NAAQS in accordance with the Agency's recommendations or otherwise meeting the statutory requirements, EPA will have reason to make a finding of failure to submit for this NAAQS.

### **For Further Information**

If you have any questions concerning this guidance, please contact 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: Brian McLean, OAP  
Kevin McLean, OGC  
Margo Oge, OTAQ  
Steve Page, OAQPS  
Peter Tsirigotis, OAQPS  
Richard Wayland, OAQPS  
Lydia Wegman, OAQPS

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<sup>4</sup> Under these conditions the contingency plan portion of section 110(a)(2)(G) for the 1997 PM<sub>2.5</sub> NAAQS, for which we issued a finding for failure to submit in October 2008, may also be resolved (73 FR 62902).

## Attachment A: Required Section 110 “Infrastructure” SIP Elements<sup>5</sup>

**Section 110(a)(2)(A) - Emission limits and other control measures:** requires SIPs to include enforceable emission limits and other control measures, means, or techniques, and schedules for compliance.

**Section 110(a)(2)(B) - Ambient air quality monitoring/data system:** requires SIPs to provide for establishment and operation of ambient air quality monitors, collection and analysis of ambient air quality data, and to make these data available to EPA upon request.

**Section 110(a)(2)(C) - Program for enforcement of control measures:** requires SIPs to include a program providing for enforcement of all SIP measures and the regulation of construction of new and modified stationary sources as necessary to assure that the NAAQS are achieved, including a permit program as required in parts C and D.

**Section 110(a)(2)(D) – Interstate transport provisions:** requires SIPs to contain adequate provisions prohibiting emissions generated within the state from contributing significantly to nonattainment in, or interfering with maintenance by, any other state with respect to the NAAQS, or from interfering with measures required to be included in the SIP of any other state to prevent significant deterioration or to protect visibility.

**Section 110(a)(2)(E) - Adequate resources:** requires SIPs to provide necessary assurances for adequate personnel, funding, and authority under state law to carry out its SIP, to contain requirements addressing potential conflicts of interest, and to provide necessary assurances that the state retains responsibility for ensuring adequate implementation of the SIP where the state relies on a local or regional government for implementation of any SIP provision.

**Section 110(a)(2)(F) - Stationary source monitoring system:** requires SIPs to establish a system to monitor emissions from stationary sources, to submit periodic emissions reports, to correlate the emissions reports with the corresponding SIP emission limits and standards, and to make emissions reports available to the public.

**Section 110(a)(2)(G) - Emergency episodes:** requires SIPs to provide for authority to address activities causing imminent and substantial endangerment to public health and to provide for adequate contingency plans to implement such authority.

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

**Section 110(a)(2)(J) - Consultation with government officials, public notification, PSD and visibility protection:** requires states to provide a process for consultation with local governments and Federal Land Managers carrying out NAAQS implementation requirements;

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<sup>5</sup> The specific nonattainment area plan requirements of sections 110(a)(2)(C) and 110(a)(2)(I) are subject to the timing requirement of section 172, not the timing requirement of section 110(a)(1), and therefore not considered required elements of the “infrastructure SIP.”

requires SIPs 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; and requires SIPs to meet applicable requirements of part C related to prevention of significant deterioration and visibility protection.

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

**Section 110(a)(2)(L) - Permitting fees:** requires SIPs to require each major stationary source to pay permitting fees to cover the cost of reviewing, acting upon, implementing and enforcing a permit until such fee requirement is superseded by EPA approval of a fee program under title V of the Clean Air Act.

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

**Attachment B: Recommended Interim Significant Harm Level, Priority Levels, and Action Levels for PM<sub>2.5</sub> Emergency Episode Plans (EEPs)**

Current AQI - PM <sub>2.5</sub>			AQI Under Consideration - 24-hour Average (µg/m <sup>3</sup> )†	Recommended EEP Priority Region Classification *	Recommended EEP Action Level **
Category	Index Values	24-hour Average (µg/m <sup>3</sup> )			
Good	0-50	0.0-15.4	0.0-15.4		
Moderate	51-100	15.5-40.4	15.5-35.4		
Unhealthy for Sensitive Groups	101-150	40.5-65.4	35.5-55.4		
Unhealthy	151-200	65.5-150.4	55.5-140.4		
Very Unhealthy	201-300	150.5-250.4	140.5-210.4	Priority Level II	Alert
Hazardous 1	301-400	250.5-350.4	210.5-280.4	Priority Level I and IA	Warning
Hazardous 2	401-500	350.5-500	280.5-350.4		Emergency
Significant Harm Level (SHL)			350.5		

† For a discussion of possible revisions to the AQI and SHL, see the EPA issue paper found at [http://www.epa.gov/ttn/caaa/gen/aqi\\_issue\\_paper\\_020707.pdf](http://www.epa.gov/ttn/caaa/gen/aqi_issue_paper_020707.pdf)

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

\*\* See 40 CFR Part 51 Appendix L "Example Regulations for Prevention of Air Pollution Emergency Episodes" for an example of the application of emergency action levels.