

Overview of PM_{2.5} NAAQS SIP Requirements Rule Proposal

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MARCH 18, 2015



Overview of Briefing

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 - Revocation of the 1997 primary annual PM_{2.5} NAAQS
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- Key dates
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Background

- Final PM NAAQS rule signed December 14, 2012
 - Revised the primary annual PM_{2.5} standard to 12 µg/m³
 - Retained secondary annual PM_{2.5} standard of 15 µg/m³ and 24-hr PM_{2.5} standards of 35 µg/m³
- January 2013 DC Circuit decision regarding litigation on 2007 PM_{2.5} implementation rule and 2008 NSR rule for PM_{2.5}
 - Court held that EPA must implement PM_{2.5} NAAQS under subpart 4
- This rulemaking provides the framework for planning requirements for 2012 and future PM_{2.5} NAAQS, and will inform implementation for areas still violating 1997 and/or 2006 PM_{2.5} NAAQS
- Implementation schedule for initial round of designations for 2012 PM_{2.5} NAAQS
 - December 2014: Initial area designations (all nonattainment areas classified as Moderate initially)
 - April 2015: Initial area designations become effective
 - October 2016: Moderate area SIPs due (18 months from date of designations)
 - December 2021: Moderate area attainment date (end of 6th calendar year after designations)
 - December 2025: Serious area attainment date (end of 10th calendar year after designations)

Background

- Proposal written to apply to all existing and future annual and 24-hr PM_{2.5} NAAQS
- Started with existing guidance on subpart 4 (e.g., 1992 General Preamble, and 1994 Serious Area Addendum to General Preamble)

1. Classifications, attainment plan due dates, attainment dates, and reclassifications

- Subpart 4 introduces a two-tier classification system (Moderate and Serious)
- Moderate areas
 - All elements of attainment plan due in 18 months
 - Attain “as expeditiously as practicable,” but no later than end of 6th calendar year after designation
 - Two 1-year attainment date extensions are possible if:
 - Air quality data meets specific criteria (e.g., last year is below level of the standard)
 - Proposal requests comment on options for interpreting 1-year extension provision in subpart 4 for PM_{2.5} NAAQS
 - Area complies with requirements of implementation plan
- Serious areas
 - Attain “as expeditiously as practicable,” but no later than end of 10th calendar year after designation
 - State can submit request for attainment date extension of up to five additional years, based on certain criteria
- Proposal is intended to provide clarity on what is expected to be in attainment plans and discusses potential flexibility where appropriate
 - Proposal is laid out to explain the requirements associated with Moderate area plans vs. Serious area plans and their similarities/differences

1. Classifications, attainment plan due dates, attainment dates, and reclassifications (cont.)

- Proposal clarifies the conditions and process for EPA to reclassify Moderate areas to Serious, and seeks comment on due dates for certain plan elements
- Mandatory reclassification to Serious
 - EPA has mandatory duty to determine that an area failed to attain by the applicable Moderate area attainment date (typically done by Federal Register notice)
 - Reclassification occurs by operation of law
 - Due dates for Serious area plan elements
 - BACM/BACT and emission inventory are due within 18 months
 - Two options proposed for due dates for attainment demo and other plan elements:
 - 1) within 18 months; 2) within 3 years
- Discretionary reclassification to Serious
 - Can be issued by EPA prior to Moderate area attainment date
 - Requires notice-and-comment rulemaking by EPA if agency determines that the area “cannot practicably attain” by the Moderate area attainment date
 - Due dates for Serious area plan elements
 - BACM/BACT and emission inventory are due within 18 months
 - Attainment demo is due: 1) within 18 months (if BACM/BACT is tied to attainment in final rule); OR 2) within 4 years (if BACM/BACT is independent requirement in final rule)
 - Other plan elements: due between 18 months and 4 years

2. Changes to PM_{2.5} precursor policy

- January 2013 DC Circuit decision: all precursors (SO₂, NO_x, VOC, and ammonia) are “in” for purposes of control requirements
 - Cannot have initial presumptions that control measures are not required to be evaluated for certain precursors, as was included in 2007 implementation rules and 2008 NSR rule (see Appendix for more background)
- Proposal interprets the statute to mean that states must consider control measures for all four PM_{2.5} precursors from all stationary, mobile and area sources
 - This is the statutory interpretation that has been applied for PM₁₀
 - Subpart 4 section 189(e) provides a specific exception for major stationary sources of precursors where EPA determines that such sources do not “contribute significantly” to PM_{2.5} levels which exceed the standard in the area; those major sources would be exempt from “control requirements” (which EPA interprets to include requirements such as RACM, BACM, and nonattainment NSR requirements such as LAER and offsets)
- Proposal includes options that would allow a state plan to control emissions only of certain precursors where they demonstrated that the remaining precursors do not significantly contribute to nonattainment
 - Proposal also includes technical criteria for states to apply for evaluating precursors and demonstrating that a given precursor does not “contribute significantly” to ambient PM_{2.5} concentrations in an area
 - Separately addresses the lack of Significant Emissions Rates (SERs) for certain PM_{2.5} precursors for purposes of nonattainment NSR

2. Changes to PM_{2.5} precursor policy (cont.)

- Proposed approaches for optional air agency demonstration to show that a particular precursor should be exempt from evaluation for potential control requirements in a given PM_{2.5} nonattainment area plan:
 1. Two independent analyses: A) RACM/RACT analysis will determine which precursors must be controlled for expeditious attainment of the area (i.e., for attainment planning); and B) a separate analysis would be required to determine if major stationary sources of a particular precursor can be exempted from nonattainment NSR requirements per section 189(e)
 2. A single technical analysis could be conducted to demonstrate that emissions from all sources of a precursor do not significantly contribute to PM_{2.5} levels that exceed the standard. Control requirements for the precursor therefore would not be required for attainment planning or for nonattainment NSR
 3. The RACM/RACT analysis will determine which precursors would not need to be controlled for expeditious attainment of the area (similar to option 1). This analysis then would be deemed to meet the section 189(e) requirement, and would define the “initial” set of precursors covered under the nonattainment NSR program. (An additional 189(e) analysis focused on contributions of another precursor emitted from major stationary sources could also be conducted by the state.)
- Proposed options for technical analysis
 1. Total contribution of precursor emissions to PM_{2.5} concentration
 2. Sensitivity of PM_{2.5} concentration to increases or decreases of precursor

3. Moderate area attainment plan requirements

- Proposal seeks comment on a range of options for meeting requirements for Moderate areas:
 - Base year emissions inventory (subpart 1)
 - Reasonably available control measures (RACM), including RACT (subparts 1 and 4)
 - Additional reasonable measures (subpart 1)
 - Attainment demonstration (subpart 4)
 - Reasonable further progress (subparts 1 and 4)
 - Quantitative milestones (subpart 4)
 - Contingency measures (subpart 1)
 - Control requirements for precursors from major stationary sources (subpart 4)
- Proposal also includes interpretations of other subpart 4 requirements that relate to Moderate area plans, such as attainment date extension criteria, to ensure that states have clear requirements and guidance

3. Moderate area attainment plan requirements

- Subpart 4 requires that states implement RACM (and RACT) within 4 years of designation, even though they may attain as late as the end of the 6th calendar year after designation
- Subpart 4 also allows a state to submit an “impracticability” demonstration for a Moderate area that cannot attain the NAAQS by the statutory attainment date
- These subpart 4 provisions require further explanation of the definition of RACM/RACT for PM_{2.5}, which in the past has limited RACM/RACT to those controls needed for expeditious attainment in a given nonattainment area

3. Moderate area attainment plan requirements

- Proposal includes a step-by-step process and criteria for states to follow to determine RACM and RACT and “additional reasonable measures”
 - Implementation of additional reasonable measures after the 4th year is required if they help bring area into attainment within the statutory time period
 - Requests comment on concept of *de minimis* source categories for Moderate area plan (similar to *de minimis* source category concept for Serious areas in 1992 General Preamble), and on whether there should be an air quality threshold of 1-3% of the NAAQS, or no threshold (case-by-case approach)
- For areas that cannot demonstrate attainment by the Moderate area attainment date, the proposal would require a state to apply all RACM and RACT and additional reasonable measures
 - An “impracticability demonstration” submitted to EPA would also trigger reclassification to Serious under the Agency’s general discretionary authority
 - Proposal seeks comment on whether state should be allowed to eliminate from RACM/RACT those measures that collectively would not reduce ambient PM_{2.5} levels

4. Serious area attainment plan requirements

- Serious area attainment plans must meet the Moderate area plan requirements and certain additional requirements, including:
 - Base year emissions inventory (subpart 1)
 - Best available control measures (BACM), including BACT (subpart 4)
 - Additional feasible measures (subpart 1)
 - Attainment demonstration (subpart 4)
 - Reasonable further progress (subparts 1 and 4)
 - Quantitative milestones (subpart 4)
 - Contingency measures (subpart 1)
 - Control requirements for precursors from major stationary sources (subpart 4)
- The rule also proposes interpretations of other subpart 4 requirements that relate to Serious area plans, such as attainment date extension criteria

4. Serious area attainment plan requirements

- Subpart 4 BACM / BACT requirement was not previously applied to PM_{2.5} NAAQS, so proposal includes extensive discussion of existing guidance and past actions on PM₁₀ Serious nonattainment areas to set the foundation for the two proposed options:
 1. Determine BACM and BACT independent of attainment needs of the area (approach consistent with existing guidance)
 - Approach would allow states to exempt *de minimis* source categories from controls
 - All other source categories would be subject to BACM or BACT controls even if that led to over-controlling emissions (i.e., were not necessary to demonstrate expeditious attainment)
 2. Determine BACM and BACT based on attainment needs of the area (new approach similar to proposed approach for RACM and RACT determination)
 - Approach avoids having to determine how to define *de minimis* source categories, how to run analysis and determine *de minimis* threshold
 - Implicitly allows states not to control sources contributing relatively small share of emissions inventory as long as state could show that selected controls would achieve expeditious attainment of the NAAQS
- As for RACM and RACT determinations, proposal lays out step-by-step process that states would follow, and criteria for determining technological and economic feasibility for potential BACM and BACT measures

4. Serious area attainment plan requirements

- Attainment demonstrations for Serious areas must either demonstrate attainment of the $\text{PM}_{2.5}$ NAAQS as expeditiously as practicable but no later than the statutory attainment date; or demonstrate that attainment by such date is impracticable, and provide the most expeditious alternative attainment date
 - An “impracticability/alternative attainment date” submittal to EPA would have to be accompanied by a Serious area attainment date extension request, including a revised attainment plan that includes “most stringent measures” (MSM) in addition to BACM and BACT
- If a Serious area fails to attain the NAAQS by the applicable attainment date (either the statutory date or an extended date), then the state must submit a new attainment plan that will achieve 5% reductions in direct $\text{PM}_{2.5}$ and precursors annually until the area attains the standard [per section 189(d)]

5. Attainment demonstrations and unmonitored areas

- CAA language regarding where to show attainment is vague, and prior implementation rule did not contain clear requirements to show attainment in unmonitored areas (it relied on the modeling guidance)
 - Lack of requirement to show attainment in unmonitored areas has led to challenges on attainment demos
- Proposal seeks comment on four options:
 1. Require modeling analysis to show attainment only at existing monitors
 - States would be expected to require rules and emissions reductions such that attainment year modeling shows no potential violations at all monitors in the nonattainment area
 2. Require modeling analysis to show attainment in all locations in nonattainment area (including unmonitored areas)
 - States would be expected to require rules and emissions reductions such that attainment year modeling shows no potential violations throughout the entire nonattainment area, including in unmonitored areas
 3. Require modeling analysis to show attainment at existing monitors; require modeling analysis to examine attainment in unmonitored areas
 - Results of analysis in unmonitored areas could be used to inform additional actions by the state, such as additional emission reductions requirements or the siting of a new monitor
 4. Require modeling analysis to show attainment only at existing monitors; recommend additional analysis in unmonitored areas as needed
 - Results of any analysis conducted for unmonitored areas could be used to inform additional actions by the state, such as additional emission reductions requirements or the siting of a new monitor

6. RFP and quantitative milestones

- Subpart 1 requirement for reasonable further progress (RFP) still applies to $\text{PM}_{2.5}$ nonattainment areas, but subpart 4 introduces a new requirement for states to submit quantitative milestones with their attainment plans (for both Moderate and Serious areas)
 - Milestones are to be achieved every 3 years and demonstrate RFP
- While RFP is associated with emissions reductions on an annual basis, milestones are associated with implementation of control measures, and states should be able to track them in a timely way
 - Subpart 4 requires a state to submit a report to EPA within 90 days of a milestone date, in which the state must demonstrate compliance with its approved milestones for a $\text{PM}_{2.5}$ nonattainment area
- Proposal presents options for calculating RFP for a $\text{PM}_{2.5}$ nonattainment area and requirements for an RFP plan to be submitted with other subpart 1 plan elements
- Proposal also includes guidelines for states to select milestones, and on the content of the milestone compliance report

7. Nonattainment NSR requirements

- Subpart 4 provisions are written to apply to PM_{10} , which raises question of how they should apply in the context of nonattainment NSR permitting for $PM_{2.5}$ nonattainment areas
- Proposal includes options for interpreting statutory provisions that are ambiguous in how they should apply to $PM_{2.5}$ NAAQS, including:
 - Major source threshold: Subpart 4 defines a major source threshold of 70 tpy of PM_{10} (potential to emit) in Serious PM_{10} areas, so proposal seeks comment on whether Serious area threshold should also be 70 tpy of $PM_{2.5}$ or something less, and whether threshold for all $PM_{2.5}$ precursors should also be 70 tpy
 - Precursors covered by Appendix S program: Appendix S of Part 51 (the transition program until EPA approves a state program for nonattainment NSR permitting for $PM_{2.5}$) currently regulates only SO_2 as a $PM_{2.5}$ precursor based on prior precursor policy. Proposal seeks comment on which precursors must be covered under interim NNSR program requirements in Appendix S (prior to submittal of SIP revisions). Preferred option: include SO_2 and NO_x
 - Precursors covered by approved state program: Options discussed on slides 7-8

8. Revocation of the 1997 primary annual PM_{2.5} NAAQS

- Two options for revoking the 1997 primary annual standard are included in the proposal:
 1. Revoke the 1997 primary annual PM_{2.5} NAAQS for all purposes in attainment areas for that NAAQS 1 year after the effective date of the designations for the 2012 primary annual PM_{2.5} NAAQS
 2. Revoke the 1997 primary annual PM_{2.5} NAAQS for all purposes in all nonattainment and attainment areas for that NAAQS 1 year after the effective date of the designations for the 2012 primary annual PM_{2.5} NAAQS
 - Would involve anti-backsliding requirements for areas designated nonattainment at time of revocation
- Proposal also seeks comment on not revoking at this time

Other topics discussed in proposal

- Codifying Clean Data Policy for PM_{2.5} NAAQS
 - Planning requirements are suspended with clean data determination
 - However, NNSR and inventory requirements would still apply
 - If final rule defines BACM/BACT as independent requirement, these control requirements would continue to apply after an area receives a CDD
- Environmental justice considerations for control strategies and attainment plans
 - Discusses options and actions for air agencies to consider to insure appropriate protections from PM_{2.5} exposure for overburdened populations
- Waivers under section 188(f) and relationship to Exceptional Events Rule
 - Under the CAA, EPA can waive the attainment date if nonanthropogenic sources contribute significantly to violation of “PM₁₀” standard in an area, or can waive any Serious area requirement if anthropogenic sources do not contribute significantly to the violation of the standard
 - Discusses the relationship of this provision to the more current exceptional events policy/rule
- Conformity requirements
 - Changes the general conformity direct PM_{2.5} and PM_{2.5} precursor *de minimis* levels to 100 tpy for Moderate nonattainment areas and maintenance areas, and to 70 tpy for Serious nonattainment areas

Other topics discussed in proposal

- Section 179B/international border areas
 - CAA provision applies to areas that could attain by the Moderate area attainment date but for foreign emissions of direct PM_{2.5} or its precursors
 - Proposing options for domestic control obligations:
 - 1) adopt all technologically and economically feasible control measures on sources in the area
 - 2) adopt control measures that would achieve a reduction in PM_{2.5} levels in proportion to the area's contribution (i.e., from domestic emissions) to overall PM_{2.5} levels
- Enforcement and compliance requirements
 - Discussion of critical elements of SIP regulations and emission limits
- Tribal Issues
 - Overview of Tribal Air Rule and Tribal implementation plans
 - Encourages coordination between states and tribes in nonattainment area planning
- Improved source monitoring and stationary source test methods for condensable PM_{2.5} emissions
 - Control measures for direct PM_{2.5} from sources in a nonattainment area must specify PM_{2.5} emission limits in its SIP that include both filterable and condensable emissions
 - Compliance testing must include measurement of condensable emissions

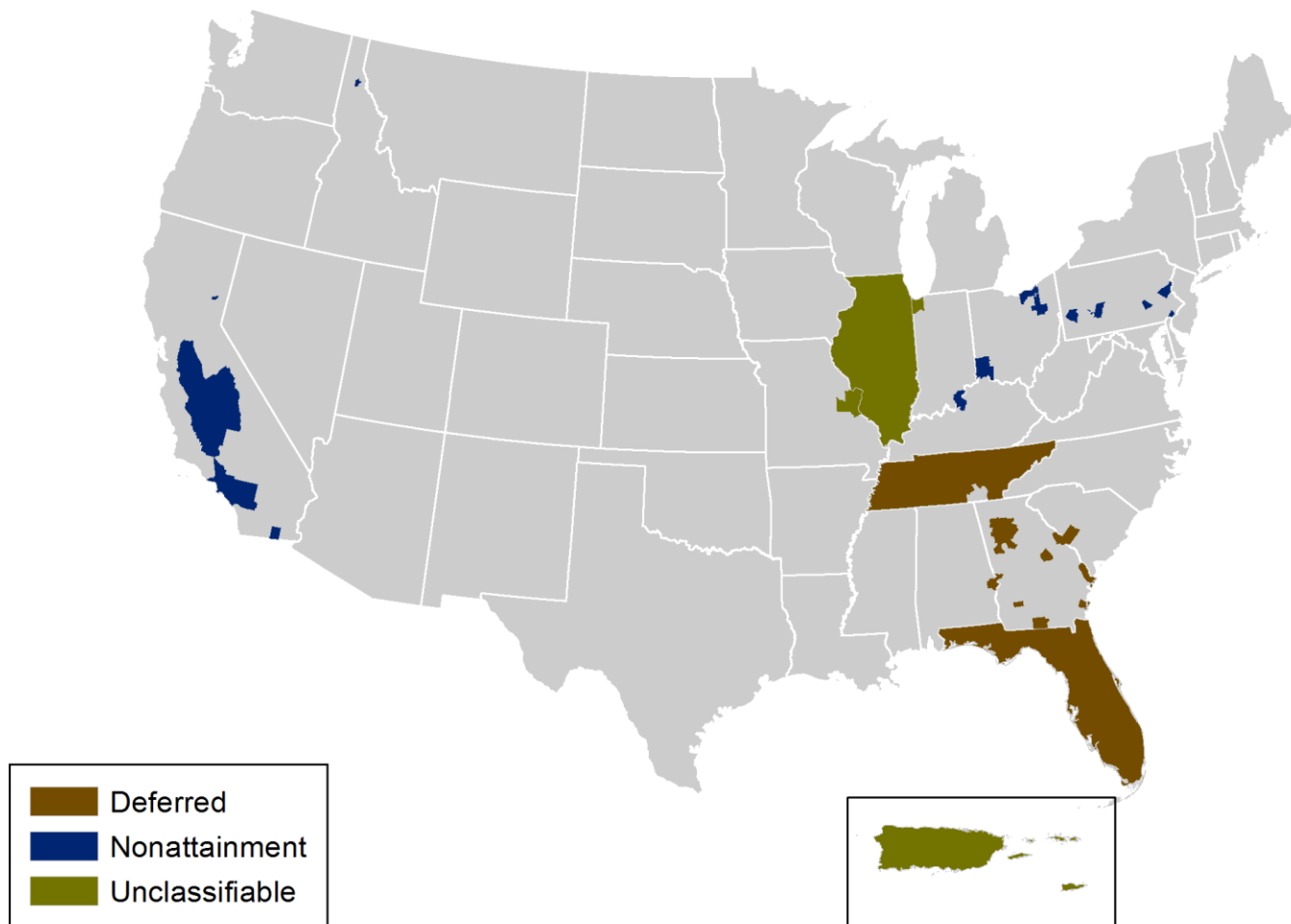
Anticipated Schedule

- March 10, 2015: Proposal signed by Administrator
 - Posted on the web at: <http://www.epa.gov/pm/actions.html>
- March 18, 2015: Webinar for air agencies
- Late March 2015: Federal Register publication
 - 60 day comment period
- Late April 2015: Public hearing in Washington, DC
- Late May 2015: Close of public comment period
- Late 2015-early 2016: Final rule

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Appendix

2012 Annual PM2.5 Designations



Background: Precursor policies in remanded 2007 PM_{2.5} Implementation Rule and 2008 NSR Rule

- In remanded rules, EPA defined “scientific precursors” for PM_{2.5} as SO₂, NO_x, VOC, and ammonia and established rebuttable presumptions for three of these for purposes of attainment planning/control requirements:
 - SO₂ was to be evaluated in all cases
 - NO_x was presumed “in” (i.e., had to be evaluated for controls unless state and EPA demonstrated non-significance)
 - VOC and ammonia were presumed “out” (unless state or EPA demonstrated significance)
- PSD and NNSR – precursor policies are largely the same; e.g., “Appendix S” of Part 51 (interim program for NNSR until state adopts revised rules) regulates only SO₂ as a PM_{2.5} precursor
 - If ammonia was demonstrated “in” for NNSR in a specific NAA, it would not be presumed “in” for PSD or other NAAs
- Transportation conformity PM_{2.5} precursor requirements, finalized in 2005, are slightly different from those for nonattainment planning and NNSR/PSD and have never been challenged in court
 - Presume NO_x is “in” and SO₂, VOC, and ammonia are “out”
 - However, if a state determines through its SIP development process that on-road emissions of SO₂, VOC, and/or ammonia are significant and the SIP includes an adequate or approved emissions budget(s), transportation conformity would be required for the relevant precursor(s)

Background: Precursor policies in remanded 2007 PM_{2.5} Implementation Rule and 2008 NSR Rule (cont.)

- Jan. 2013 DC Circuit decision addressed EPA's precursor presumptions:
 - "Ammonia is a precursor to fine particulate matter... For a PM₁₀ nonattainment area governed by subpart 4, a precursor is presumptively regulated."
 - "When Congress enacted subpart 4, it sought to end... administrative gamesmanship" such as that created by rebuttable precursor presumptions
- The court stated that for these reasons, they "need not address the petitioners' challenge to [EPA's] presumptions ... that VOC and ammonia are not PM_{2.5} precursors, as subpart 4 expressly governs precursor presumptions."