

A large, faint watermark of the Environmental Protection Agency (EPA) logo is centered in the background. The logo consists of a circular seal with the words "UNITED STATES" at the top and "ENVIRONMENTAL PROTECTION AGENCY" at the bottom. In the center of the seal is a stylized flower with three leaves and a circular center.

PSD/NNSR Rulemakings and Guidance to Address Air Quality Analysis Issues

November xx, 2013



Overview

- Four Drivers for EPA Action
- Rulemakings
 - Near and long term
- PSD Modeling Guidance
- Planned AERMOD Modeling System Updates



Four Drivers for EPA Action

1. Challenges with 1-hour NAAQS
2. Challenges with 2006 and 2012 PM_{2.5} NAAQS
3. Sierra Club Petition Grant – Ozone and PM_{2.5}
4. Two NNSR/PSD Court Decisions for PM_{2.5}



1. Challenges with 1-hour NAAQS

- States and sources report difficulty demonstrating compliance with 1-hour NO_2 and SO_2 NAAQS.
- Accuracy of models receiving greater scrutiny. EPA has been asked to address model inputs and science for existing regulatory models.
- Need for screening criteria to address source burden.



2. Challenges with 2006 and 2012 PM_{2.5} NAAQS

- With the end of the PM₁₀ Surrogate Policy, PSD compliance demonstrations must now be completed for PM_{2.5}, include primary PM_{2.5} and, if applicable, secondarily-formed PM_{2.5} from precursor emissions.
- With stringent 2006 24-hour NAAQS and 2012 annual NAAQS, the NAAQS are closer to local air quality before construction.
- We need to refine approaches used in the past in order to address more recent NAAQS.



3. Sierra Club Petition Grant – Ozone and PM_{2.5}

- In January 2012, the EPA granted a petition submitted by the Sierra Club.
- In the petition grant, the EPA committed to engage in rulemaking to evaluate updates to Appendix W to 40 CFR 51, and, as appropriate, incorporate new analytical techniques or models for ozone and secondary PM_{2.5} for new and modified sources.
 - As part of this commitment, and in compliance with Section 320 of the Clean Air Act, the EPA conducted the 10th Conference on Air Quality Modeling in March 2012.
 - The release of the Draft Guidance for PM_{2.5} Permit Modeling was consistent with the EPA's commitments in granting the Sierra Club petition.



4. Two NNSR/PSD Court Decisions for PM_{2.5}

- SMC/SILs - In January 2013, the U.S. Court of Appeals for the D.C. Circuit vacated the SMC for PM_{2.5}, and vacated and remanded the provision for PM_{2.5} SILs in EPA's two PSD regulations.
 - EPA's assessment of implications of decision communicated via two web postings.
 - Q & A to address the Circuit Court decision on PM_{2.5} SILs and SMC.
 - Draft Guidance for PM_{2.5} Permit Modeling.
- Subpart 4 - In January 2013, the D.C. Circuit held that the EPA should have issued its 2008 NSR Implementation rule for the 1997 PM_{2.5} NAAQS according to Subpart 4, not Subpart 1.



Near-Term Rulemakings

1. PM_{2.5} SILs/SMC “Good Cause Final Rule”
 - Remove PM_{2.5} SMC and certain SILs reg text in 40 CFR 52.21 and 51.166.
 - Timing: Nov 2013, effective on publication.
2. 2012 PM_{2.5} NAAQS Implementation Rule
 - This rule will:
 - Include provisions to ensure NNSR implementation of 2012 PM_{2.5} NAAQS is consistent with court decision on Subpart 4, particularly regarding precursor status.
 - NPRM Timing: Spring 2014



Near-Term Rulemakings (con't)

3. PM_{2.5} SIL Reconsideration Rule

- To address remand of PM_{2.5} SILs.
- To close out the TCEQ petition for reconsideration of the 2010 PM_{2.5} Increments, SILs and SMC Rule.
- Rulemaking to:
 - Re-establish PM_{2.5} SILs.
 - Establish revised SERs for PM_{2.5} precursors for triggering PSD and NNSR applicability and the requirement for air quality analysis, logically linked to the SILs.
- NPRM Timing: Fall 2014



Long-Term Rulemakings

1. Revisions to EPA's Guideline on Air Quality Models, published as Appendix W to 40 CFR Part 51
 - In response to Sierra Club petition grant for ozone & PM_{2.5}, and technical updates to address 1-hour NAAQS.
 - Rulemaking to:
 - Incorporate new analytical techniques to address ozone and secondary PM_{2.5}.
 - Updates for conducting individual source and cumulative impact analysis for new 1-hour NAAQS.
 - Update, as appropriate, current EPA-preferred models to address input and science issues.
 - NPRM Timing: March 2015 (in connection with 11th Modeling Conference)



Long-Term Rulemakings (con't)

2. Ozone PSD and NNSR Requirements Rule

- To address screening criteria associated with planned Appendix W revisions regarding quantification of ozone impacts.
- Rulemaking to:
 - Establish SILs for ozone.
 - Establish revised SERs for VOC and NO_x as ozone precursors, for triggering PSD and NNSR applicability and the requirement for air quality analysis, logically linked to the SILs.
- Leverage outcomes from PM_{2.5} SIL rulemaking to inform approach and reduce time and resources needed for rule development.
- Timing considerations – Will likely coordinate this rulemaking with the Appendix W revisions (long-term rulemaking #1).



PSD Modeling Guidance

1. Applicability of Appendix W Modeling Guidance for the 1-hour NO₂ NAAQS, June 28, 2010.
2. Applicability of Appendix W Modeling Guidance for the 1-hour SO₂ NAAQS, August 23, 2010.
3. Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ NAAQS, March 1, 2011.
4. Draft Guidance for PM_{2.5} Permit Modeling issued March 2013.
 - Focused on form of standard, precursor impacts on secondary PM_{2.5} formation, and cumulative impact analysis for NAAQS and increments.
 - Revised guidance anticipated to be issued January 2014.



Planned AERMOD Modeling System Updates

1. EPA updates to regulatory model in late November including but not limited to:
 - Improvements to the beta ‘low wind speed’ options (EPA and stakeholder assessments).
 - Incorporate update to NO₂ tier 2 Ambient Ratio Method (API sponsored technical work).
 - Formulation bug fix for NO₂ tier 3 PVMRM approach that uses total dispersion for stable conditions (API comment).
 - Add capabilities for including directionally varying monitored background concentrations.
2. Continue work with modeling community to evaluate the modeling system and develop improvements for consideration as part of regulatory updates to Appendix W.
 - Example includes ORD wind tunnel research to improve source characterizations and downwash algorithm.