



Air Quality Actions

Update for Subcommittee on

Permits/NSR/Toxics

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Overview

- NAAQS Update
 - Ozone
 - PM
 - SO₂
 - NO₂
- Transport Rules
- NSR Rule Reconsiderations
- GHG Permitting Update
- Power Plant Mercury and Air Toxics Standards



Current Schedule for Ongoing NAAQS Reviews

MILESTONE	POLLUTANT						
	NO ₂ Primary	SO ₂ Primary	Ozone Reconsideration	CO	PM	NO ₂ /SO ₂ Secondary	Lead
NPR	<u>Jun 26, 2009</u>	<u>Nov 16, 2009</u>	Jan 6, 2010	<u>Jan 28, 2011</u>	Late 2011	<u>July 12, 2011</u>	Nov 2013
NFR	<u>Jan 22, 2010</u>	<u>Jun 2, 2010</u>	Jul 29, 2011	<u>Aug 12, 2011</u>	TBD	<u>Mar 20, 2012</u>	Sept 2014

NOTE:

Underlined dates indicate court-ordered or settlement agreement deadlines

Next Ozone Review: Proposal in Jun 2013 and Final in Mar 2014



Anticipated NAAQS Implementation Milestones

Pollutant	NAAQS Promulgation Date	Designations Effective	110(a) SIPs due (3 yrs after NAAQS promulgation)	Attainment Demonstration Due	Attainment Date
PM _{2.5} (2006)	Sept 2006	Dec 2009	Sept 2009	Dec 2012	Dec 2014/2019
Pb	Oct 2008	Dec 2010/2011 (extra time for new monitors)	Oct 2011	June 2012/2013	Dec 2015/2016
NO ₂ (primary)	Jan 2010	No later than Feb 2012	Jan 2013	Aug 2013	Feb 2017
SO ₂ (primary)	June 2010	July 2012	June 2013	Jan 2014	July 2017
Ozone (all dates tentative)	July 2011	No later than Summer 2013	July 2014	No later than Summer 2016	No later than 2019 (moderate)
CO	August 2011	September 2013	August 2014	September 2015	September 2018
PM _{2.5} (current review)	TBD				
NO _x /SO _x Secondary	Mar 2012	April 2014	Mar 2015	Oct 2015	NA



8-hr Ozone NAAQS Reconsideration

- A final decision in the 2008 reconsideration is scheduled for the end of July 2011
 - CASAC supplemented advice regarding the level of the primary standard as requested
 - Will include final decision on deadline for state designation recommendations
 - Plan to propose Implementation Rule in conjunction with final reconsidered NAAQS
- Designations assistance
 - Guidance memo
 - Source apportionment modeling results
 - Other data relevant to 5-factor analysis



Revisions to Implementation Rule for 1997 8-hr Ozone NAAQS

- RFP credit for emissions reductions outside nonattainment areas
 - Proposed rule December 2010
- Anti-backsliding on 1-hr NAAQS nonattainment NSR major source definitions and offset requirements
 - Proposed rule August 2010
- Classification of former subpart 1 areas under subpart 2
 - Final rule Summer 2011



Draft 2011 Ozone NAAQS Implementation Rule

- Proposed approaches to classifying ozone nonattainment areas
 - Air quality thresholds for Marginal, Moderate, Serious, Severe, and Extreme
 - Impact of options will be illustrated using 2008-2010 air quality data
- Attainment deadlines for each classification
- State Implementation Plan (SIP) schedule and requirements for primary standard nonattainment areas
 - Planning and control requirements currently required for the 1997 NAAQS that must continue to be implemented (i.e., “anti-backsliding” requirements)
- Implementation approach for first-ever separate secondary standard, including classifications and SIP requirements
- Widespread Use of Onboard Refueling Vapor Recovery and Stage II Waiver to be proposed separate from implementation rule
 - Will address waiver of Serious and above area requirements for Stage II vapor recovery systems at gasoline refueling stations
 - Separate guidance memo will address technical aspects of removing existing Stage II from SIPs



PM_{2.5} NAAQS – 2006 Standard

- Nonattainment areas established effective December 2009
 - Attainment demonstration SIPs due December 2012
- Working on guidance memo to clarify several issues (preliminary):
 - RFP policy on crediting reductions from outside the nonattainment area
 - Appropriate base year emissions inventory and RFP milestone year inventory (i.e., 2014 and, where applicable, 2017)
 - Reminder that beginning January 1, 2011, PM_{2.5} attainment planning and control strategies must account for condensable PM_{2.5} emissions.
 - Clarify current requirements for what it means to model attainment "throughout the nonattainment area"
 - Which 3 years of AQ monitoring data EPA anticipates using to determine whether an area attains by its attainment deadline and how to qualify for a 1-year attainment date extension
- PSD Program SIP revisions due May 16, 2011
 - Sunset of 1997 PM₁₀ Surrogate Policy



PM NAAQS Policy Assessment Document

- For the PM_{2.5} health standards:
 - Revising the level of the annual health standard within a range of 11 to 13 $\mu\text{g}/\text{m}^3$
 - Staff concludes evidence most strongly supports range from 11-12 $\mu\text{g}/\text{m}^3$
 - Retaining the daily standard at 35 $\mu\text{g}/\text{m}^3$ would be appropriate if the annual standard were set at 11 to 12 $\mu\text{g}/\text{m}^3$; if annual set at 13 $\mu\text{g}/\text{m}^3$, consider revising to 30 $\mu\text{g}/\text{m}^3$
- For the PM_{2.5} welfare standards:
 - Concludes it is appropriate to consider setting a distinct secondary PM_{2.5} standard to address visibility impairment primarily in urban areas
- For the PM₁₀ standards:
 - Staff concludes scientific evidence and associated uncertainties could provide support for either retaining or revising the current primary 24-hour PM₁₀ standard
 - To the extent consideration is given to revising the standard, staff concludes it would be appropriate to consider a 98th percentile form in conjunction with a level within a range of 85 to 65 $\mu\text{g}/\text{m}^3$
 - CASAC recommends revising form to a 98th percentile form in conjunction with a level within a range of 75 to 65 $\mu\text{g}/\text{m}^3$
- If current review results in new/revised standards, revisions to implementation guidance/rule likely to be proposed in conjunction with the final NAAQS



Progress on Ozone and PM_{2.5} Attainment

	8-hr Ozone 2003 designations	1997 PM _{2.5} 2004 designations	2006 PM _{2.5} 2009 designations
Initial Nonattainment Areas	113	39	31
Current Nonattainment Areas	44	39	31
Clean Data Determinations	16	17	1
Redesignations Approved	69	0	0
Pending Redesignations Requests	6	6	1



SO₂ NAAQS Implementation

- SO₂ NAAQS revised June 2010
- SO₂ designations guidance issued March 24, 2011
- EPA anticipates an analytic approach that uses both air quality monitoring and modeling for determining compliance with the new SO₂ NAAQS
 - Consistent with EPA's historic practices for SO₂ NAAQS implementation
 - Single monitor may generally not be adequate to fully characterize ambient SO₂ concentrations around SO₂ stationary sources
- Refined dispersion modeling is able to fully characterize SO₂ air quality impact from modeled sources
 - Overcomes limitations of an approach based solely on monitoring



SO₂ NAAQS Implementation (cont.)

- 110(a)(1) and (2) SIP revisions addressing infrastructure and state-wide “maintenance” due by June 2013
 - Consistent with providing for “implementation, maintenance, and enforcement” of the NAAQS, EPA expects these SIP revisions to demonstrate, through refined modeling, that sources contributing to monitored and modeled violations will be sufficiently controlled to ensure timely attainment and maintenance of the new SO₂ NAAQS
 - “Timely” is expected to mean no later than the attainment date for nonattainment areas (o/a August 2017)
- EPA plans to issue additional SIP guidance after an opportunity for public review and comment
 - This will include additional modeling guidance for SIP attainment demonstrations
- Considering rulemaking to establish:
 - Hybrid modeling/monitoring approach for determining attainment
 - Modeling protocol for attainment demonstrations
 - Attainment deadline for “maintenance track” areas



NO₂ NAAQS Modeling Guidance

- NO₂ NAAQS revised January 2010
- Clarification memo on applicability of Appendix W guidance for new 1-hour NAAQS issued in June 2010
- AERMOD is the preferred model for estimating NO₂ impacts in near-field applications (out to 50 km)
 - Alternative models would need approval by EPA pursuant to Appendix W of 40 CFR 51
- Additional guidance issued March 1, 2011
 - Clarifies procedures for analyzing results given probabilistic form of NAAQS
 - Addresses treatment of intermittent emissions (e.g., emergency generators) in PSD modeling demonstrations, a key issue with implementation of the 1-hour NO₂ NAAQS
 - Discussion/recommendations regarding nearby background sources to include in modeling and combining modeled + monitored contributions for cumulative analysis



Pollution Transport Rules

- Transport Rule 1
 - On August 2, 2010 EPA proposed FIPs for 31 states and DC to address the CAIR remand
 - EPA issued three NODAs subsequent to the proposal: January 7, 2011 (allocations methods); Oct 27, 2010 (supplementing the record on emissions inventory data); September 1, 2010 (new version of the IPM model)
 - We anticipate final action by June 2011
- Transport Rule 2
 - Will address, as necessary, the revised 2011 ozone NAAQS
 - Review intended to be national in scope and examine contribution from multiple source categories



NSR RULE RECONSIDERATIONS

PM_{2.5} NSR Rule

Fugitive Emissions Rule

Reasonable Possibility Rule

Aggregation Rule



PM_{2.5} NSR Rule

Petitioners asked EPA to reconsider 4 elements of the final PM_{2.5} NSR Rule:

1. 3-year schedule for SIP revision submittal & policy to continue using PM₁₀ surrogate policy in the interim
2. Grandfathering of PM₁₀ surrogate policy under Federal PSD program (EPA + delegated states)
3. Transition period for condensable particulate matter (CPM)
4. Interpollutant Trading: Policy allowing precursor offsets for PM_{2.5} emissions increases and EPA-preferred offset ratios for PM_{2.5} precursors



PM_{2.5} NSR Rule

- Reconsideration of PM₁₀ Surrogate Policy:
 - On April 24, 2009, EPA issued a letter to the petitioners granting the petition for reconsideration in order to allow public comment on each of the four issues raised in the petition and also stayed the grandfathering provision for 3 months
 - Notice of the stay was published on June 1, 2009
 - On May 10, 2011 EPA issued a final rule to repeal the grandfather provision for PM_{2.5} contained in the federal PSD permit program
- Reconsideration of Condensable PM Waiver
 - Sought comments on shortening the NSR transition period for CPM in the NPRM for PM Test Method Rule
 - Because of delay in issuing final rule for PM Test Methods, EPA has decided not to take any action on shortening the transition period for CPM



PM_{2.5} NSR Rule

- Reconsideration of Interpollutant Trading Policy:
 - EPA agreed to reconsider on grounds that policy did not undergo public review
 - EPA is reviewing the basis for the recommended precursor trading ratios
 - EPA is also taking into consideration the effects of different NAAQs averaging periods (long-term vs short-term) for using ratios
 - Revised policy is expected to be released shortly
 - In the meantime, states may submit SIP revisions allowing for precursor trades along with appropriate offset ratios (including a technical demonstration of the net air quality benefits of such ratios subject to EPA approval)



PM_{2.5} Grandfathering

- On February 11, 2010, EPA proposed to repeal the grandfathering provision contained in the Federal PSD program
 - This action cites the fact that the technical difficulties which necessitated the 1997 PM₁₀ Surrogate Policy have been largely resolved
- Under the PSD programs for PM_{2.5} currently in effect for SIP-approved states, states would be allowed to continue using the PM₁₀ surrogate policy until May 2011, or until EPA approves the revised SIP for PM_{2.5}, whichever occurs first
- Page memorandum of March 23, 2010 provides recommendations on two aspects of the modeling procedures for demonstrating compliance with the PM_{2.5} NAAQS:
 - Technical issues that must be addressed by any applicant or permitting authority that is seeking to rely on the 1997 PM₁₀ surrogate policy
 - Additional information on modeling procedures to demonstrate compliance with PM_{2.5} NAAQS without relying upon the PM₁₀ surrogate policy



Fugitive Emissions Rule

- NSR Applicability for fugitive emissions
- Final Rule issued 12/19/08
 - This rule said to count fugitives only for modifications at “list of 28” sources, consistent with approach for counting new source PTE
- Reconsideration and stay granted 4/24/09
- Policy of including fugitives for all modifications is still in place

Reasonable Possibility Rule

- Requires recordkeeping and reporting when the projected increase in emissions to which the "reasonable possibility" test applies equals or exceeds 50 percent of the Clean Air Act's NSR significance levels for any pollutant
- Final 12/21/07
- Granted reconsideration (without stay) on 4/24/09
- Proposal scheduled for September 2011



Aggregation Rule

- September 8, 2006: EPA proposed three changes to the NSR program: Aggregation, Debottlenecking and Project Netting
- Final Rule on Aggregation only: January 15, 2009
 - Combine emissions when projects are “substantially related” either technically or economically
 - Debottlenecking rule withdrawn, no action on project netting
- Reconsideration granted February 2009
- The effective date of the final rule is postponed until no fixed date, as allowed under APA section 705, while litigation is pending



GHG PERMITTING



PSD Permitting Steps under the Tailoring Rule

Once the GHG standard for light duty vehicles took effect (January 2, 2011), GHGs became PSD regulated pollutants, but only from the following sources:

Step 1 January 2, 2011 to June 30, 2011:

Sources/modifications already subject to PSD “anyway”

But only if project would also increase GHG by 75,000 tpy CO₂e

Step 2 July 1, 2011 to June 30, 2013:

Continue Step 1 sources/modifications plus other large GHG emissions sources/modifications

New source: 100,000 tpy CO₂e PTE

Modification: 100,000 tpy CO₂e PTE and 75,000 tpy CO₂e increase from change

Step 3 Rulemaking to conclude no later than July 1, 2012 (and to take effect one year later)

The permitting threshold in Step 3 could be lower than the permitting threshold in Step 2, but it will be no lower than 50,000 tons CO₂e per year.



EPA Resources to Assist States and Industry

To ensure that GHG permitting runs smoothly for the larger sources that remain covered, EPA has provided the following:

- Guidance on key GHG Permitting topics (BACT, Biomass, etc.)
- White Papers on
 - utilities, refineries, cement, large commercial/industrial/institutional boilers, pulp and paper, iron and steel, and nitric acid plants
- Control Technology Clearinghouses
 - RACT/BACT/LAER
 - GHG Mitigation Strategies
- GHG Permitting Action Team
 - Primary and Secondary Contacts for each EPA Regional Office
 - Bi-weekly meetings for Permit Action Team
 - Weekly internal meetings to address and coordinate issues
- GHG Training for States, Industry and Other Interested Stakeholders
 - www.epa.gov/apti/broadcast2010.html#GHGTraining1210
- Website for GHG permitting resources: www.epa.gov/nsr/ghgpermitting
 - Contains links to White Papers, Clearinghouses, Permitting Action Team, etc.
 - Includes implementation Q&A's (3 posted; more likely)
 - Includes EPA comment letters on proposed permits involving GHG



GHG Permitting Guidance

- Issued November 2010; technical correction March 2011
- Provides statutory and regulatory background for the permitting and regulation of GHGs
- Explains that the PSD and Title V permitting requirements are generally no different for GHGs
- Emphasizes the importance of developing a good record supporting the BACT decision
- Document is guidance, not a rule
 - EPA and delegated permitting authorities should follow guidance when issuing permits
 - SIP-approved permitting authorities have discretion to establish alternative approaches, as long as they comply with CAA and Federal rules
 - Permitting authorities have the discretion to be more stringent than the policies in guidance
- More information available at <http://www.epa.gov/NSR/actions.html>



Highlights of Greenhouse Gas Permitting Guidance

- Long-standing and familiar permitting requirements and processes apply to GHGs
 - BACT determinations continue to be state- and project-specific decisions
 - GHG BACT is not prescribed for any source type
- In most cases, energy efficiency improvements will satisfy the BACT requirement for GHGs.
- Carbon Capture and Sequestration (CCS) should be considered an available control option for certain types of sources, but required consideration of costs will likely rule CCS out for now.
- Specific types of fuels or facility design neither required nor precluded
 - A BACT analysis for greenhouse gas emissions does not need to consider a fuel switch that would fundamentally redefine the source.



Biomass and GHG Permitting

- Debate about how to account for CO₂ emissions from bioenergy and other biogenic sources from stationary sources
- In Jan 2011, EPA announced an expedited rulemaking to defer completely the application of pre-construction permitting requirements to biomass-fired CO₂ and other biogenic CO₂ emissions for a period of three years
 - Deferral applies to CO₂ emissions only
 - Proposed deferral published March 2011
- EPA will use this time to conduct a detailed examination of the scientific and technical issues associated with biogenic CO₂ emissions and develop an accounting methodology, including a review by an independent panel
- We will use the results of this study to develop a rulemaking on how biogenic CO₂ emissions should be treated and accounted for in PSD and Title V permitting based on the feedback from the scientific and technical review



Interim Guidance – Biomass Permitting

- In March 2011 EPA issued interim guidance to help permitting authorities establish a basis for concluding that BACT for GHG at some sources is the combustion of biomass fuels alone.
 - May be used in permit actions where deferral is not available
 - May be revisited after biomass study is complete
- Provides a rationale to support elimination of GHG control options during the ‘Energy, Environmental, and Economic Impacts’ portion of the BACT analysis
 - Conclusion to eliminate an option must still be supported in the permit record
 - Applies only to control options being considered for GHG from biomass fuel combustion
 - cannot be used to eliminate control options for GHG emissions from non-combustion processes



Observations Concerning GHG Permits Reviewed by EPA

- Adequate support and explanation of GHG control considerations and decisions
- Inclusion of and adequate support and explanation for form of GHG BACT emissions limit
 - Numerical limit, design standard or some other type of requirement in lieu of numerical limit
- Practical enforceability, compliance monitoring to measure efficiency over time
- Bottom line: documentation of GHG control considerations and BACT limits is very important
- For more information: www.epa.gov/nsr/ghgpermitting



GHG Permitting: The Year Ahead

- Late June 2011 – Final Action on Biomass Deferral from Permitting
- July 1, 2011 – PSD and Title V begin to apply to large GHG sources ($\geq 100,000$ tpy CO₂e) and modifications ($\geq 75,000$ tpy CO₂e) that would not previously have been subject to those programs
- January 2012 – Proposed Tailoring Step 3 Rule
- Spring 2012 – Biomass scientific study released
- July 2012 – Final Tailoring Step 3 Rule (one year for states to adopt)
- Late 2012 – If necessary, proposed rule addressing biomass study
- July 2013 – Tailoring Rule Step 3 goes into effect
- Ongoing – Additional Q&A's, guidance as necessary



POWER PLANT MERCURY AND AIR TOXICS STANDARDS



Overview of Rule

- On March 16, EPA proposed Mercury and Air Toxics Standards, the first national standards to reduce emissions of toxic air pollutants from new and existing coal- and oil-fired power plants – often the biggest contributors to air pollution
- Standards would reduce emissions of:
 - Metals, including mercury (Hg), arsenic, chromium, and nickel
 - Acid gases, including hydrogen chloride (HCl) and hydrogen fluoride (HF)
 - Particulate matter
- These pollutants are linked to cancer, IQ loss, heart disease, lung disease and premature death
- Standards create uniform emissions-control requirements based on proven, currently in-use technologies and processes



Public Hearings and Comment

- The public is encouraged to provide EPA with comments on this proposed Toxics Rule
- The agency will seek comments for 60 days following publication in the Federal Register and the proposed rule will be available on the website before publication
- Public Hearings held in May 2011 in Philadelphia, Atlanta, and Chicago
- Public Comment period closes 7/5/11