



EPA Update

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Presented to the Agricultural Air Quality Task Force

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Discussion Topics

- ▶ **Air Quality**
 - ▶ Grain Elevators New Source Performance Standard
 - ▶ National Ambient Air Quality Standards (NAAQS)
 - ▶ Particulate Matter
 - ▶ Ozone
 - ▶ Implementation
 - ▶ Ammonia
 - ▶ National Air Emissions Monitoring Study (NAEMS)
 - ▶ Best Management Practices (BMP)/Technologies for Animal Feeding Operations
- ▶ **Climate**
 - ▶ Biogenic CO₂
 - ▶ Methane Strategy
 - ▶ Power Sector Carbon Pollution Standards
 - ▶ Renewable Fuels Standard
- ▶ **Research and Development**
 - ▶ STAR Grants
 - ▶ RARE Projects

Grain Elevators New Source Performance Standard (NSPS)

- ▶ EPA is reviewing the NSPS for Grain Elevators as part of the periodic review required by the Clean Air Act and to address issues raised by industry
- ▶ EPA expects to release proposed amendments to the NSPS in the near future that would:
 - ▶ Clarify definitions and provisions for unloading facilities, grain dryers and temporary storage facilities in the new source performance standards for grain elevators
 - ▶ Propose a new subpart for grain elevators, which would apply to affected facilities that commence construction, modification, or reconstruction after the date of publication of the proposed rule
 - ▶ Address the treatment of temporary storage capacity for applicability
 - ▶ EPA's Office of Enforcement and Compliance Assurance planning to rescind letter from 2007 concerning temporary storage capacity
- ▶ Purpose of this standard is to reduce PM emissions

Ozone NAAQS – Update on Current Review

- ▶ On March 25-27, Clean Air Scientific Advisory Committee (CASAC) Ozone Review Panel met to discuss 2nd drafts of Policy Assessment and Risk and Exposure Assessments
 - ▶ Primary Standard – to protect public health
 - ▶ Panel agreed with preliminary staff conclusions that the level of the current primary standard (75 ppb) is not adequate to protect public health with an adequate margin of safety
 - ▶ Panel did not reach consensus on a recommended range of standard levels
 - ▶ Secondary Standard – to protect public welfare, including crops and vegetation
 - ▶ Panel agreed with preliminary staff conclusions that the current secondary standard (set at the same level as the current primary standard) is inadequate
 - ▶ Panel agreed that it is appropriate to set a distinct secondary standard based on a 3-month cumulative W126 based on a 12-hour daylight window
- ▶ EPA is currently awaiting CASAC's written recommendations and will then be finalizing the Policy Assessment and Risk and Exposure Assessments
- ▶ On May 28, CASAC has a public teleconference scheduled to further discuss their findings and what to include in a letter to the Administrator – the public can listen and provide comment
- ▶ Current schedule is pending litigation, with January 2015 and November 2015 as potential dates for proposed and final rules
 - ▶ Court hearing currently scheduled for April 29

Particulate Matter (PM) NAAQS

- ▶ On December 14, 2012, EPA revised the primary (health-based) annual $PM_{2.5}$ standard by lowering the level from 15.0 to 12.0 $\mu\text{g}/\text{m}^3$
 - ▶ EPA also eliminated spatial averaging from annual standard form to avoid potential disproportionate impacts on at-risk populations
 - ▶ Revised standard provides increased protection against effects associated with long- and short-term $PM_{2.5}$ exposures
- ▶ EPA retained:
 - ▶ Existing primary 24-hour $PM_{2.5}$ standard (35 $\mu\text{g}/\text{m}^3$, 98th percentile form)
 - ▶ Existing 24-hour PM_{10} standard (150 $\mu\text{g}/\text{m}^3$, one expected exceedance form)
 - ▶ Suite of secondary (welfare-based) standards (i.e., 24-hour and annual $PM_{2.5}$ standards and a 24-hour PM_{10} standard)
- ▶ EPA also made updates and improvements to the $PM_{2.5}$ monitoring network that include relocating a small number of monitors to measure $PM_{2.5}$ near heavily traveled roads in areas with populations ≥ 1 million
 - ▶ These relocations will be phased in over two years (2015-2017) and will not require additional monitors
- ▶ A lawsuit challenging the final PM NAAQS is on-going
 - ▶ Oral arguments were presented on Feb 20, 2014

Anticipated NAAQS Implementation Milestones

(updated March 2014)

Pollutant	Final NAAQS Date	Infrastructure SIP Due	Designations Effective	Attainment Plans Due	Attainment Date
PM _{2.5} (2006)	Oct 2006	Oct 2009	Dec 2009	Dec 2014	Dec 2015 (Mod) Dec 2019 (Ser)
Pb (2008)	Oct 2008	Oct 2011	Dec 2010/2011	June 2012/2013	Dec 2015/2016
NO ₂ (2010) (primary)	Jan 2010	Jan 2013	Feb 2012	N/A	N/A
SO ₂ (2010) (primary)	June 2010	June 2013	Oct 2013 + (+2 rounds)	April 2015	Oct 2018
Ozone (2008)	Mar 2008	Mar 2011	July 2012	Mid 2015/2016	2015/2032
PM _{2.5} (2012)	Dec 2012	Dec 2015	Early 2015	Mid 2016	Dec 2021 (Mod) Dec 2025 (Ser)

+There is ongoing litigation over the SO₂ designation dates

Ammonia

- ▶ Ammonia as a PM_{2.5} precursor
 - ▶ Due to a January 2013 D.C. Circuit decision remanded the 2007 PM_{2.5} implementation rule and the 2008 New Source Review (NSR) rule for PM_{2.5}
 - ▶ Instructs EPA to implement the PM_{2.5} NAAQS according to the PM-specific provisions of the Clean Air Act
 - ▶ Due to this decision, EPA will no longer be able to presume that ammonia does not contribute significantly to PM_{2.5} nonattainment across the country
 - ▶ Instead, states with a nonattainment area will need to determine whether ammonia contributes significantly to that areas nonattainment problem; EPA will be proposing approaches for making this determination in the upcoming PM_{2.5} NAAQS implementation rule proposal
- ▶ Agency has received several petitions/lawsuits to regulate ammonia from animal feeding operations

National Air Emissions Monitoring Study (NAEMS) for Animal Feeding Operations

- ▶ EPA's Science Advisory Board (SAB) review in April 2013
 - ▶ Overarching recommendations
 - ▶ Apply statistical approaches to assess emissions while developing and evaluating process-based models
 - ▶ EPA should not apply current versions of the models for estimating emissions beyond those farms covered in the data set
 - ▶ The SAB also made several specific recommendations related to development of the emission estimating methodologies:
 - ▶ Use “other relevant data” in addition to the NAEMS data
 - ▶ Investigate using a lower “data completeness criteria”
- ▶ Status update
 - ▶ Acquiring additional datasets to supplement NAEMS
 - ▶ Evaluating NAEMS data using lower “completeness criteria”

BMP/Technologies for Animal Feeding Operations

- ▶ EPA in coordination with USDA will develop a Best Management Practices/Control Technologies guide for animal feeding operations
- ▶ This reference guide will provide a compilation of conservation measures for air pollutant emission reductions and/or reduction of air quality impacts
- ▶ Anticipate the final document to be complete by the end of 2014

Biogenic CO₂

- ▶ Definition: Biogenic CO₂ emissions are defined as emissions of CO₂ from a stationary source directly resulting from the combustion or decomposition of biologically-based materials other than fossil fuels and mineral sources of carbon
- ▶ In July 2011, EPA deferred the application of Clean Air Act permitting requirements to CO₂ emissions from bio-energy and other biogenic sources until July 2014 so we could learn more about the scientific and technical issues related to accounting for biogenic CO₂
- ▶ In July 2013, the D.C. Circuit Court of Appeals vacated EPA's deferral of the treatment of biogenic CO₂ emissions in Clean Air Act permitting
- ▶ The Court's mandate making the vacatur effective is not expected to issue until after the Supreme Court decision on greenhouse gas (GHG) permitting, expected in June 2014
 - ▶ Deferral will expire per its own terms in July 2014
- ▶ EPA is considering the recommendations made by the Science Advisory Board (SAB) in order to determine next steps
 - ▶ EPA is in the process of revising its previous Framework, which was reviewed by the SAB; EPA's focus in revising the Framework is to closely consider that feedback to develop scientifically sound approach to considering biogenic CO₂ emissions in the air permitting program

Methane Strategy

- ▶ Methane has a global warming effect that is more than 20 times greater than carbon dioxide; currently methane accounts for 9% of national GHG emissions
- ▶ The President's Climate Plan identifies curbing methane emissions as critical to our overall effort to address global climate change and identifies agriculture, landfills, coal mines, and oil and gas development as sectors in which methane emissions can be reduced
- ▶ As part of the work to reduce carbon pollution, the EPA and the Departments of Agriculture, Energy, Interior, Labor and Transportation released on 3/28/14 a comprehensive, interagency methane strategy; the strategy can be located at:
http://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf
 - ▶ The interagency group focused on assessing current emission data, addressing data gaps, identifying technologies and best practices for reducing emissions, and identifying existing authorities and incentive-based opportunities to reduce methane emissions
- ▶ Methane and nitrous oxide emissions from livestock manure account for 13% of agricultural non-carbon dioxide emissions in the U.S.
- ▶ USDA and EPA will continue to support biodigester technology deployment by providing financial (USDA) and technical assistance (EPA AgStar) through voluntary programs

Power Sector Carbon Pollution Standards

- ▶ EPA is currently working on an important part of the President's plan to fight climate change – setting carbon pollution standards for power plants
 - ▶ In this effort, EPA has engaged with states and a diverse set of partners, including the power sector, environmental groups, and the public, to identify approaches to cut carbon pollution from power plants
- ▶ For new power plants, EPA issued a new proposal for carbon pollution standards on September 20, 2013
- ▶ EPA will propose emission guidelines to reduce carbon pollution at existing power plants by June 2014 and issue final guidelines, as appropriate, by June 2015; state plans will be due in June 2016
- ▶ EPA has been conducting a robust stakeholder engagement process that will continue throughout the development of the guidelines
 - ▶ www2.epa.gov/carbon-pollution-standards/regulatory-actions

2014 RFS Volume Proposal – Key Points

- ▶ The rulemaking proposes volume requirements for the RFS program for 2014, and outlines a potential path forward for 2015 and beyond
- ▶ The proposal, issued last November, was the starting point in seeking input from the public
 - ▶ EPA held a public hearing in December
 - ▶ Comment periods closed at the end of February
- ▶ The proposal offered a number of approaches and ranges of volumes in setting the 2014 standards
- ▶ Stakeholders have weighed in with well over 300,000 comments
 - ▶ We are in the process of reviewing the comments and new data and are working to develop the final rule
 - ▶ In addition to the hundreds of thousands of written comments, we also had a very well-attended public hearing last December, where we heard from a broad range of stakeholders on the challenges faced in 2014 under the RFS program
- ▶ Our goal is to issue the final 2014 volume rule in late spring or early summer

Contact

- ▶ If you have further questions please contact:

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Appendix

Science to Achieve Results (STAR) Grants

- ▶ EPA's Office of Research and Development has funded projects for improvement of the ammonia inventory and development of a process-based model
 - ▶ \$500K STAR grant awarded in April 2010 to use novel measurements and modeling methods to create a software tool for predicting site-specific ammonia emissions (scheduled for completion in spring 2014)
 - ▶ \$483K STAR grant awarded in May 2010 to develop a set of emissions modeling tools that predict the seasonality and amount of ammonia emissions from livestock operations (scheduled for completion in spring 2014)

Regional Applied Research Effort (RARE) Projects

- ▶ EPA Region 10's AgBurn 2013 RARE project is working to give smoke managers a better tool to predict smoke dispersion during agricultural burning so that they can minimize smoke impacts to people living in agricultural areas of the Pacific Northwest
- ▶ EPA Region 7 and ORD are collaborating with the State of Kansas and Kansas State University to establish a user-friendly visualization tool to better understand grassland management tradeoffs
 - ▶ This graphical tool, using a sophisticated set of models, will utilize ecological biomass data to predict air quality and can be used by stakeholders to assess how alternative management (burning and grazing) scenarios affect tradeoffs among grassland plant biomass production and fuel loads, carbon sequestration, and water quality and quantity
 - ▶ Additionally, an economic tradeoff module, as well as a specific look at greater prairie chicken habitat, is now being added to the visualization tool set
- ▶ To better understand the deposition of ammonia in the San Joaquin Valley, Region 9 is proposing a study to quantify ammonia dry deposition spatially as a function of distance from dairy processes, to provide input to model the localized variation near a dairy in the average atmospheric ammonia concentrations in the Valley
 - ▶ Dairy industry and academic interests have requested a concurrent continuous monitoring project to relate emissions fluxes from specific practices on the dairy to deposition as well as wet deposition monitoring
 - ▶ Region 9 has committed RARE funding for the localized dry deposition study and the San Joaquin Valley APCD Study Agency is currently considering funding the additional monitoring