

# USDA Agricultural Air Quality Taskforce Meeting

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# Overview

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- ▶ Air Quality
  - ▶ Grain Elevators NSPS
  - ▶ National Air Emissions Monitoring Study
  - ▶ NAAQS
    - PM
    - Ozone
    - NO<sub>x</sub> and SO<sub>x</sub>
  - ▶ Ammonia
  - ▶ Nitrogen Strategy
  - ▶ Phosphoric Acid and Phosphate Fertilizer Risk and Technology Review (RTR)
  - ▶ RICE NESHAP Reconsideration
- ▶ Climate Change
  - ▶ Clean Power Plan for Existing Power Plants and the Carbon Pollution Standard for New and Modified and Reconstructed Sources
  - ▶ The Inter-agency Methane Strategy
  - ▶ Biogenic CO<sub>2</sub>
  - ▶ Renewable Standard Fuel Program

# Grain Elevators New Source Performance Standard (NSPS)

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- ▶ 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 issued proposed amendments on July 9, 2014 to the NSPS 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 (July 9, 2014)
  - ▶ Address the treatment of temporary storage capacity for applicability
    - EPA's Office of Enforcement and Compliance Assurance issued a letter on July 1, 2014 rescinding their earlier letter from 2007 concerning temporary storage capacity
  - ▶ There is a 90 day comment period which closes on October 7, 2014; to review relevant documents and provide comments go to:  
<http://www.regulations.gov/#!docketDetail;D=EPA-HQ-OAR-2010-0706>

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

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- ▶ The EPA continues to move forward to address the Science Advisory Board's (SAB) recommendations related to development of the emission estimating methodologies
- ▶ The agency has focused on the following recommendations:
  - ▶ Evaluating National Air Emissions Monitoring Study (NAEMS) data using lower "completeness criteria"
  - ▶ Acquiring additional datasets to supplement the NAEMS data
- ▶ Status of these activities:
  - ▶ Evaluating NAEMS data
    - The study's Science Advisor is currently analyzing the data and has submitted the reanalyzed data for the California broiler site
    - The agency is evaluating the data
  - ▶ EPA has obtained the following data sets for:
    - The Air Pollutant Emissions from Confined Animal Buildings (APECAB) Project
    - Studies of dairies located in Wisconsin and Idaho
    - A study that measured ammonia emissions from broiler operations that raise roasters (large broilers)
    - A study that measured volatile organic compound (VOC) emissions from broilers at a California location
  - ▶ EPA is trying to obtain the data sets for broiler studies in Pennsylvania and Arkansas

# Particulate Matter (PM) NAAQS

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- ▶ 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  $\mu\text{g}/\text{m}^3$ , 98<sup>th</sup> 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 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  $\geq 1$  million
  - ▶ These relocations will be phased in over two years (2015-2017) and will not require additional monitors
- ▶ U.S. Court of Appeals, DC Circuit issued its decision on May 9, 2014 regarding a lawsuit challenging the final PM NAAQS
  - ▶ Court denied petitions for review on all counts

# Particulate Matter (PM) NAAQS (cont.)

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- ▶ Status of Designations
  - ▶ State (and tribal) recommendations were due to EPA by December 13, 2013
  - ▶ EPA received recommendations from 50 states, 2 territories, D.C. and 6 tribes
- ▶ Next Steps
  - ▶ EPA intends to notify states/tribes of intended modifications to recommendations in “120-day” letters in August 2014
  - ▶ Final designations expected in December 2014

# Ozone NAAQS – Update on Current Review

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- ▶ EPA completed drafts of Health and Welfare Risk and Exposure Assessments (REAs) and Policy Assessment (PA)
  - ▶ EPA released 2nd drafts of the REAs and PA in January 2014
- ▶ Clean Air Scientific Advisory Committee (CASAC) review of draft REAs and PA completed
  - ▶ Meeting in March 2014
  - ▶ Follow-up teleconferences in May and June 2014
  - ▶ CASAC recommendations provided June 18, June 26, July 1-letters available on EPA's SAB website
  - ▶ Final REAs and PA will be released summer 2014
- ▶ Pursuant to court order, EPA intends to issue a proposal by December 1, 2014 and a final rulemaking by October 1, 2015
- ▶ The current primary (and secondary) standard is 75 ppb

# Secondary NO<sub>x</sub>/SO<sub>x</sub> NAAQS Review

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## Background

- ▶ The last review of the NO<sub>x</sub>/SO<sub>x</sub> Secondary NAAQS concluded in March 2012 and the secondary standards for NO<sub>2</sub> and SO<sub>2</sub> were not changed
  - This review was done independently from the reviews for the primary NO<sub>2</sub> NAAQS and primary SO<sub>2</sub> NAAQS
  - On May 27, 2014, the D.C. Circuit Court upheld EPA's decision to not establish a new secondary standard
- ▶ In the last review, NO<sub>x</sub> and SO<sub>x</sub> were considered jointly for their effects on public welfare (secondary NAAQS)
- ▶ Because the last review focused on the effects of acidification on aquatic ecosystems, it was important to consider both of these pollutants jointly as they both contribute to acidification

## Status

- ▶ In July 2013, the Office of Research and Development's National Center for Environmental Assessment put out a call for information relating to the public welfare effects of NO<sub>x</sub> and SO<sub>x</sub>
- ▶ On March 4-6, 2014, EPA held a NO<sub>x</sub>/SO<sub>x</sub> workshop to bring in experts to discuss the state of the science on oxides of nitrogen and sulfur
- ▶ Planning for the scope of the review and the development of the Integrated Science Assessment (ISA) is ongoing
- ▶ A draft planning document is anticipated in Fall 2014, and a first draft ISA is anticipated in Summer 2015



# Anticipated NAAQS Implementation Milestones (updated July 2014)

Pollutant	Final NAAQS Date	Infrastructure SIP Due	Designations Effective	Attainment -Plans Due	Attainment Date
PM <sub>2.5</sub> (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 <sub>2</sub> (2010) (primary)	Jan 2010	Jan 2013	Feb 2012	N/A	N/A
SO <sub>2</sub> (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 <sub>2.5</sub> (2012)	Dec 2012	Dec 2015	Early 2015	Mid 2016	Dec 2021 (Mod) Dec 2025 (Ser)
Ozone (2015)	Oct 2015	Oct 2018	Dec 2017	Dec 2020/21	2020-2037

# Ammonia

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- ▶ Ammonia as a PM<sub>2.5</sub> precursor
  - ▶ A January 2013 D.C. Circuit decision remanded the 2007 PM<sub>2.5</sub> implementation rule and the 2008 New Source Review (NSR) rule for PM<sub>2.5</sub>
  - ▶ Instructs EPA to implement the PM<sub>2.5</sub> 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<sub>2.5</sub> nonattainment across the country
  - ▶ Instead, states with a nonattainment area will need to determine whether ammonia contributes significantly to that area's nonattainment problem
    - EPA will be proposing approaches for making this determination in the upcoming PM<sub>2.5</sub> NAAQS implementation rule proposal which is targeted for December 2014
- ▶ Agency has received several petitions/lawsuits to regulate ammonia from animal feeding operations
- ▶ Summer 2014, we formed an interagency (USDA and USEPA) ammonia work group to discuss a path forward

# Ammonia Work Group Members

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## USDA Representatives

- ▶ Dr. Andy Cole, Research Animal Nutritionist
- ▶ Dr. Jerry Hatfield, Laboratory Director of the USDA-ARS National Laboratory for Agriculture and the Environment
- ▶ Dr. Greg Johnson (USDA Primary Contact), Leader, USDA-NRCS Air Quality and Atmospheric Change Technology Development Team
- ▶ Dr. Bill Jokela, Research Soil Scientist, USDA-ARS US Dairy Forage Research Center
- ▶ Dr. April Leytem, Research Scientist, USDA-ARS Northwest Irrigation and Soils Research Laboratory
- ▶ Dr. Jack Meisinger, Research Soil Scientist, USDA-ARS Crop Systems and Global Change Laboratory
- ▶ Dr. Al Rotz, Agricultural Engineer, USDA-ARS Pasture Systems and Watershed Management Research Laboratory
- ▶ Dr. Rick Todd, Lead Scientist and Research Soil Scientist, USDA-ARS Renewable Energy and Manure Management Research Laboratory
- ▶ Greg Zwicke, Air Quality Engineer, USDA-NRCS Air Quality and Atmospheric Change Technology Development Team

## USEPA Representatives

- ▶ Dr. Jesse Bash, National Exposure Research Lab, Atmospheric Modeling and Analysis Division, Office of Research and Development
- ▶ Rich Damberg, Air Quality Policy Division, State and Local Programs, Office of Air Quality Planning and Standards
- ▶ Robin Dunkins, (USEPA Primary Contact) Group Leader- Natural Resources Group, Sectors Policy and Programs Division, Office of Air Quality Planning and Standards
- ▶ Bill Harnett, Associate Director for Program Integration and International Air Quality Issues, Office of Air Quality Planning and Standards
- ▶ Dr. Jim Kelly, Air Quality Assessment Division, Air Quality Modeling Group, Office of Air Quality Planning and Standards
- ▶ Bill Schrock, Senior Technical Advisor-Natural Resources Group, Sector Policy and Programs Division, Office of Air Quality Planning and Standards
- ▶ Dr. John T. Walker, National Risk Management Research Lab, Air Pollution Prevention and Control Division, Office of Research and Development

# Nitrogen Strategy

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- ▶ In response to the 2011 SAB Reactive Nitrogen Report, the agency is developing a cross-cutting multimedia strategy for researching ecological effects, source controls, and environmental changes of reactive nitrogen and co-pollutants (sulfur, phosphorus, sediments)
- ▶ Future plans to include other federal agencies
- ▶ Goal is to prioritize nitrogen research and improve collaboration
- ▶ Action Items
  - ▶ June 24-26, USDA, USGS and EPA participated in a meeting, entitled: Management Strategies for Reactive Nitrogen and Co-pollutants
  - ▶ Purpose of meeting – develop a partnership between EPA, USDA and USGS to promote sustainable management of N and co-pollutants
- ▶ Expected products
  - ▶ Workshop Report, October 2014
  - ▶ Joint Science and Management Action Plan (date TBD)
- ▶ The Nitrogen Cross Cutting Research Roadmap Report is available at:  
[http://yosemite.epa.gov/sab/sabproduct.nsf/0/337ECE7064DEE1F185257CF3005F5367/\\$File/NCoPollutant%20DRAFT%20Cross-cutting%20Roadmap%20070214.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/0/337ECE7064DEE1F185257CF3005F5367/$File/NCoPollutant%20DRAFT%20Cross-cutting%20Roadmap%20070214.pdf)

# Phosphoric Acid and Phosphate Fertilizer RTR

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- ▶ EPA will be proposing a rule that addresses the residual risk and technology reviews for the phosphoric acid manufacturing and phosphate fertilizer production source categories regulated by NESHAP and NSPS
- ▶ The rule proposes to set numerical emission limits for mercury and hydrogen fluoride emissions from calciners and work practice standards for cooling ponds and gypsum dewatering ponds, which were previously unregulated in the initial 1999 rulemaking
- ▶ The rulemaking is currently undergoing internal agency review
- ▶ EPA is planning to propose the Phosphoric Acid and Phosphate Fertilizer RTR by October 21, 2014

# RICE NESHAP Reconsideration

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- ▶ EPA granted reconsideration and published a *Federal Register* notice on September 5, 2013, requesting public comment on the following issues:
  - ▶ Timing for compliance with the ultra low sulfur diesel and reporting requirements for emergency engines used for emergency demand response
  - ▶ Conditions for operation of emergency engines for up to 50 hours per year in financial arrangements for local system reliability
- ▶ EPA sent letters to the petitioners on August 1, 2014, indicating that, after consideration of the public comments received on the notice of reconsideration, the EPA is not proposing any changes to the regulation
- ▶ EPA published a *Federal Register* notice on August 15, 2014, announcing our decision on the reconsideration; to view the notice please visit: <http://www.gpo.gov/fdsys/pkg/FR-2014-08-15/pdf/2014-19062.pdf>

# Climate Change

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- ▶ In June 2013, President Obama issued the Climate Action Plan that included:
  - ▶ Steps to cut greenhouse gas pollution
  - ▶ Steps to prepare U.S. for impacts of climate change
  - ▶ Continue U.S. leadership in international efforts to combat climate change
- ▶ As part of the President's Climate Action Plan the agency has been charged with a number of activities (the below is not an exhaustive list):
  - ▶ Promulgating and finalizing the Clean Power Plan for Existing Power Plants and the Carbon Pollution Standard for New and Modified and Existing Sources
  - ▶ Issuing a methane strategy (including a biogas roadmap)
  - ▶ Addressing biogenic CO<sub>2</sub>
  - ▶ Exploring options for renewable fuels

# Carbon Pollution Standard for New Power Plants

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- ▶ On January 8, 2013, EPA issued a new proposal for carbon pollution from new power plants
- ▶ This action proposes:
  - ▶ A separate standard of performance for fossil fuel-fired electric utility steam generating units and integrated gasification combined cycle units that burn coal, petroleum coke and other fossil fuels that is based on partial implementation of carbon capture and storage as the best system of emission reduction
  - ▶ Standards for natural gas-fired stationary combustion turbines based on modern, efficient natural gas combined cycle technology as the best system of emission reduction
  - ▶ This action also includes related proposals concerning permitting fees under Clean Air Act Title V, the Greenhouse Gas Reporting Program, and the definition of the pollutant covered under the prevention of significant deterioration program
- ▶ A public hearing for the rulemaking was held on February 6, 2014
- ▶ The comment period for this rulemaking ended on May 9, 2014; we have received over 2 million comments
- ▶ For more information on this rulemaking please visit:  
<http://www2.epa.gov/carbon-pollution-standards/regulatory-actions>



# Clean Power Plan for Existing Power Plants and Carbon Pollution Standard for Modified and Reconstructed Sources

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- ▶ EPA proposed a commonsense plan to cut carbon pollution from power plants; the science shows that climate change is already posing risks to our health and our economy; the Clean Power Plan will maintain an affordable, reliable energy system, while cutting pollution and protecting our health and environment now and for future generations
- ▶ Rules were published in the *Federal Register* on June 18, 2014
- ▶ EPA held public hearings in DC, Atlanta, Denver and Pittsburgh
  - ▶ Across all four locations we had a total of nearly 2,800 participants in the public hearings on the proposed Clean Power Plan, including more than 1,300 speakers and about 1,500 attendees
- ▶ EPA will continue to take comment on this proposal for several more weeks; the comment period is open until October 16, 2014; as part of the Climate Action Plan, the President directed EPA to finalize these rules by June 1, 2015
- ▶ Currently, we have received more than 400,000 comments
- ▶ For more information please visit: <http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule>

# The Inter Agency Methane Strategy

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- ▶ Methane is a potent greenhouse gas and every ton of methane in the atmosphere has a global warming effect that is more than 20 times greater than a ton of carbon dioxide; 9 percent of all the greenhouse gas emitted as a result of human activity in the United States. The plan focuses on four sectors:
  - ▶ Landfills (EPA)
  - ▶ Agriculture (EPA, USDA, DOE)
  - ▶ Coal Mines (DOI, EPA)
  - ▶ Oil & Gas (EPA, DOE, DOI)
  
- ▶ Reducing Methane Emissions: Builds on best practices and activities to reduce methane emissions in each sector
  - ▶ Combination of regulatory and voluntary domestic activities, depending on sector
  - ▶ Call for continued international data collection through global methane initiative (GMI), non CO<sub>2</sub> mitigation report
  
- ▶ Improving Methane Data: Also calls for assessment of current methane emissions data
  - ▶ Identifies ways in which EPA can improve the GHG inventory and GHGRP
  - ▶ Focuses on improving global estimates
  
- ▶ For more information on the strategy please visit:  
<http://www.whitehouse.gov/blog/2014/03/28/strategy-cut-methane-emissions>

# Biogas Opportunities Roadmap

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- ▶ Released August 1, 2014 by USDA, DOE and EPA in support of the *Climate Action Plan – Strategy to Reduce Methane Emissions* and the USDA-dairy industry partnership to reduce GHG emissions from the dairy sector
- ▶ The Biogas Opportunities Roadmap builds on progress made to date and reflects a commitment by USDA, DOE and EPA to continue working with industry stakeholders on identifying voluntary actions to reduce emissions and expand the biogas industry
- ▶ Actions are focused on four areas:
  - ▶ Promoting biogas utilization through existing agency programs
  - ▶ Fostering investment in biogas systems
  - ▶ Strengthening markets for biogas systems and system products
  - ▶ Improving communication and coordination
- ▶ EPA will continue to engage stakeholders and provide tools through existing programs, such as AgSTAR, the Combined Heat and Power Partnership and the Sustainable Materials Management Program
- ▶ For more information please visit:  
[http://www.usda.gov/oce/reports/energy/Biogas\\_Opportunities\\_Roadmap\\_8-1-14.pdf](http://www.usda.gov/oce/reports/energy/Biogas_Opportunities_Roadmap_8-1-14.pdf)

# Biogenic CO<sub>2</sub>

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- ▶ Definition: Emissions of CO<sub>2</sub> from a stationary source directly resulting from the combustion or decomposition of biologically-based materials other than fossil fuels and mineral sources of carbon, as well as CO<sub>2</sub> emissions related to the natural carbon cycle

## Permitting

- ▶ In July 2011, EPA deferred the application of Clean Air Act permitting requirements to CO<sub>2</sub> emissions from bio-energy and other biogenic sources until July 2014 to learn more about the scientific and technical issues related to accounting these emissions
- ▶ However, In July 2013 the D.C. Circuit Court of Appeals vacated the EPA's deferral of the treatment of biogenic CO<sub>2</sub> emissions in Clean Air Act permitting and the deferral also expired by its own terms on July 21, 2014.
- ▶ On July 24, 2014, the EPA issued a memorandum (<http://epa.gov/nsr/documents/20140724memo.pdf>) explaining that while the June 23, 2014 Supreme Court decision related to the GHG Permitting Tailoring Rule did not directly address the application of the CAA permitting requirements to biogenic CO<sub>2</sub> emissions, sources would not be required to obtain air permits if greenhouse gases, which include biogenic CO<sub>2</sub> emissions, are the only pollutants triggering permitting requirements
  - ▶ The memo also clarifies that EPA could continue to require that Prevention of Significant Deterioration (PSD) permits contain limitations on GHG emissions if the permit is otherwise required for conventional pollutants

# Biogenic CO<sub>2</sub> (cont.)

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## **Accounting Framework for Biogenic CO<sub>2</sub> Emissions**

- ▶ In September 2011, EPA published the *Draft Accounting Framework for Biogenic CO<sub>2</sub> Emissions from Stationary Sources*, which described a methodology for how to consider biogenic CO<sub>2</sub> emissions from stationary sources
- ▶ In September 2012, the Science Advisory Board concluded its peer review of this draft framework
- ▶ EPA is making considerable progress in revising the draft framework based on the recommendations made by the Science Advisory Board

# Renewable Standard Fuel (RFS) Program

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- ▶ The Energy Policy Act of 2005 established the Renewable Fuel Standard (RFS) program; the Energy Independence and Security Act (EISA) of 2007 expanded it
  - ▶ The agency is required to publish the **annual standards** for use of total, advanced, biomass based diesel, and cellulosic renewable fuels that apply to obligated parties, which are typically refiners and importers of gasoline and diesel
- ▶ The 2014 proposal, issued last November, was the starting point in seeking input from the public
  - ▶ EPA held a public hearing in December
  - ▶ Comment period closed at the end of February
  - ▶ More than 340,000 comments were received
  - ▶ EPA heard from a broad range of stakeholders on the challenges faced in 2014 under the RFS program
  - ▶ Dialogue with stakeholders is ongoing
- ▶ These are highly complex issues and we are working to complete the package and move the package forward for interagency review in the near future

# Contact

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- ▶ If you have further questions please contact:  
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