

Overview of Air Quality Management and Current Challenges

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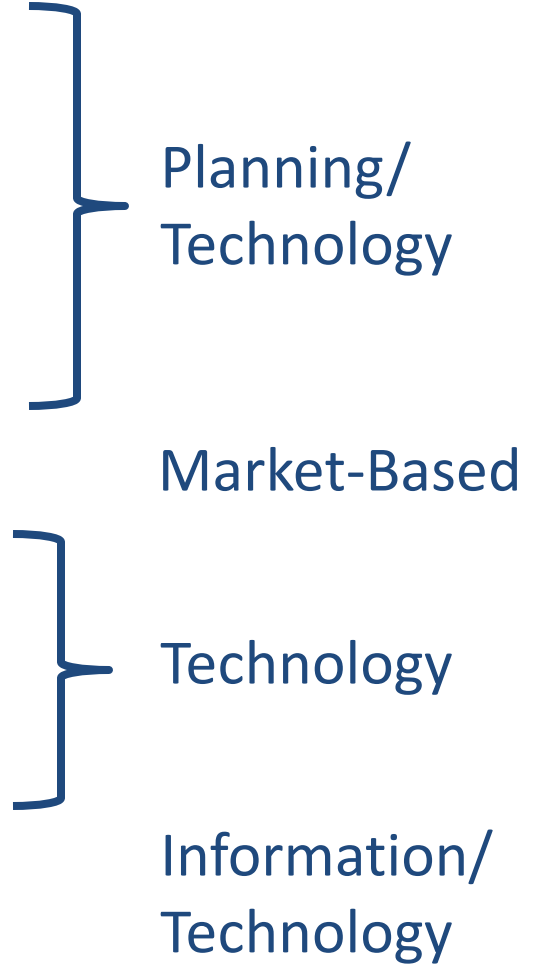
U.S. Environmental Protection Agency

Objectives of this Presentation

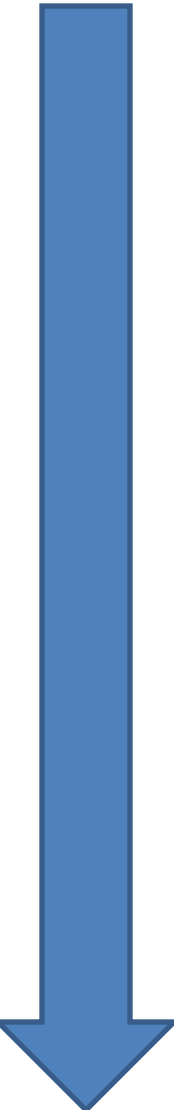

- Provide an overview of the Air Quality Management landscape and locating the topics to be addressed in later talks.
- Identify some current issues and challenges.
- Suggest a framework for relating Air Quality Management needs with opportunities for the use of satellite observations.

Different Problems/Different Approaches

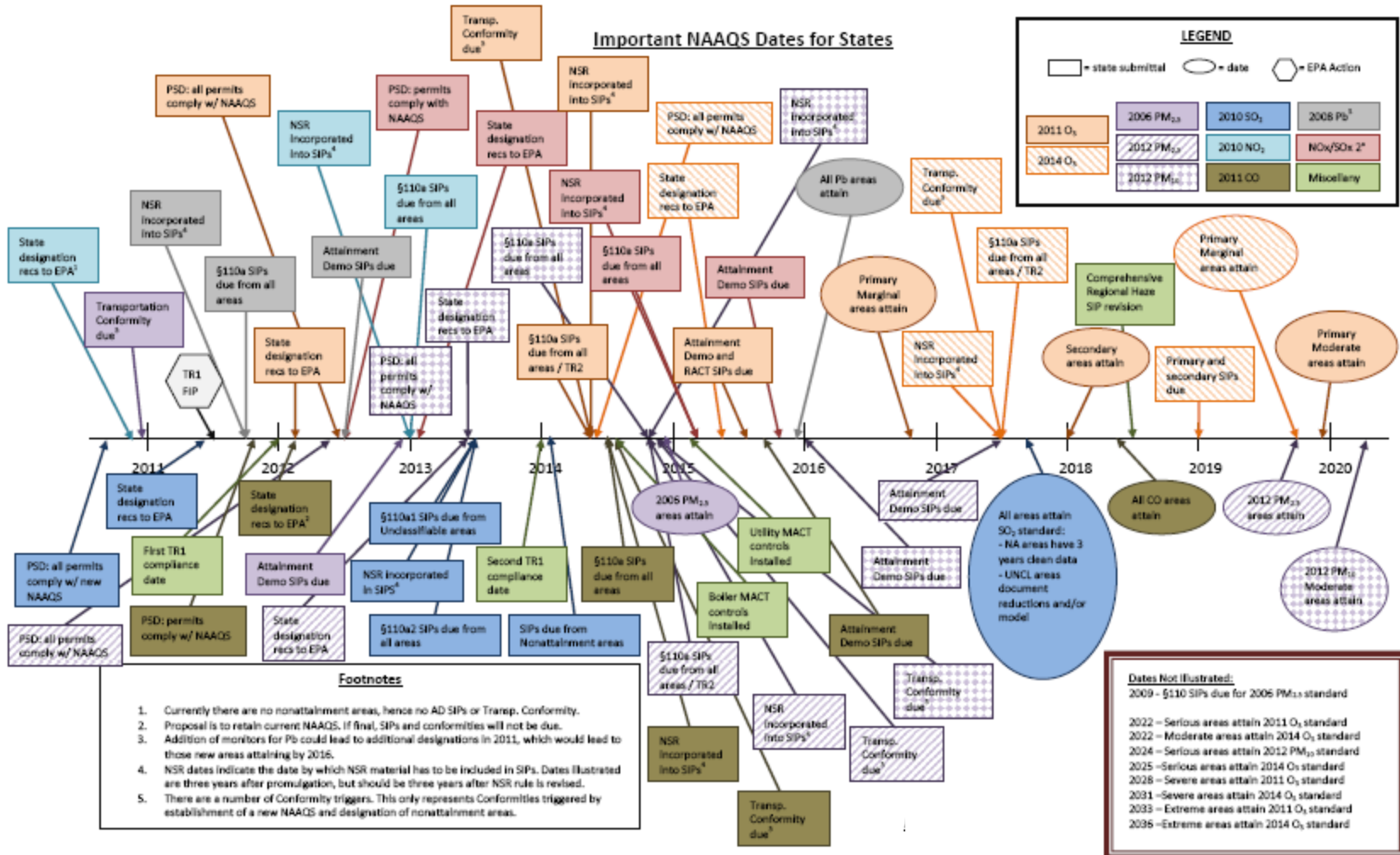
- “Criteria” Pollutants (O_3 , PM, SO_2 , NO_2 , CO, Pb)
 - NAAQS, SIPs, NSPS, Fuel/Engine Stds, NSR/PSD, AQI
- Visibility
 - Reasonable Progress Goals, BART, Long-Term Strategy
- Acidifying Deposition
 - Regional Cap and Trade
- Air Toxics (HAPs)
 - MACT, Risk & Technology Review
- Stratospheric Ozone Depletion
 - Phaseouts, Control Requirements, SNAP
- Greenhouse Gases
 - Voluntary Programs, Reporting, Permitting, Emission Standards



Air Quality Management for “Criteria Pollutants”

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- Standard Setting
 - Science Assessment
 - Exposure & Risk Assessment
 - Attainment Designation
 - Exceptional Events Analysis
 - Control Strategy Development
 - SIP Development
 - Design Condition Analysis
 - Model Evaluation
 - Source Apportionment
 - Cost Effectiveness Analysis
 - Attainment Demonstration & Weight of Evidence Determination
 - Benefits Assessment
 - National Rule Development
 - Fuels and Vehicle Standards
 - New Source Performance Standards
 - Inter-State Transport
 - Implementation
 - Source Permitting (NSR/PSD)
 - Emissions Reporting
 - Rule Enforcement
 - Monitoring
 - Air Quality Forecasting & Public Information (AQI)

NAAQS Milestones



Status and Schedule of Ongoing NAAQS Reviews

MILESTONE	POLLUTANT						
	NO ₂ Primary	SO ₂ Primary	Ozone Reconsideration	CO	PM	NO ₂ /SO ₂ Secondary	Lead
Proposal	<u>Jun 26, 2009</u>	<u>Nov 16, 2009</u>	Jan 6, 2010	<u>Jan 28, 2011</u>	2011	<u>July 12, 2011</u>	Jan 2014
Final	<u>Jan 22, 2010</u>	<u>June 2, 2010</u>	July 2011	<u>Aug 12, 2011</u>	TBD	<u>Mar 20, 2012</u>	Nov 2014

NOTES:

Underlined dates indicate court-ordered or settlement agreement deadlines;

TBD – to be determined

Next Ozone Review: Proposal in Sept 2013 and Final in June 2014

Implementing Recent National Air Quality Standards

Pollutant	Designations Effective	New Monitors Operational	State Implementation Plans Due		Attainment Date
			Infrastructure Demonstration	Attainment Demonstration	
Lead (October 2008)	Dec 2010/2011 <i>(extra time for new monitors)</i>	Jan 2011/ Dec 2011	Oct 2011	June 2012/2013	Dec 2015/2016
NO2 Primary (January 2010)	Feb 2012	Jan 2013	Jan 2013	Aug 2013	Feb 2017
SO2 Primary (June 2010)	July 2012	Jan 2013	June 2013	Jan 2014	July 2017

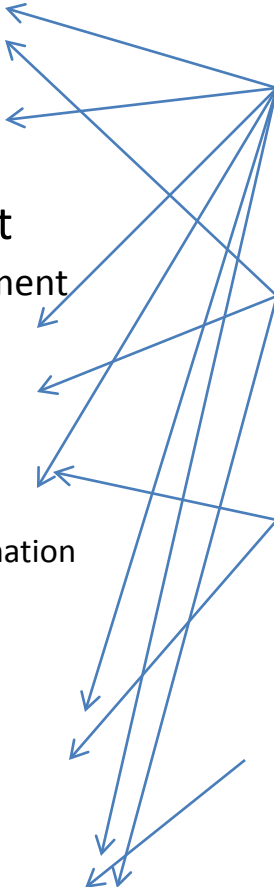
Schedule of Key Upcoming Rulemakings

Date	Rule
June 2011	Final Transport Rule
July 26, 2011	Proposed Greenhouse Gas New Source Performance Standards for Power Plants
July 2011	Proposed Risk and Technology Review and New Source Performance Standards for Oil and Natural Gas Production (Final November 30 th)
November 26, 2011	Final Power Plant Mercury and Air Toxics Rule
December 15, 2011	Proposed Greenhouse Gas New Source Performance Standards for Refineries
Spring 2012	Proposed Transport Rule II

Some Challenges

- Multi-Pollutant Technology Assessment
 - Criteria Pollutants/Air Toxics/Climate Forcing
 - NSPS/NSR/PSD/MACT/RTR/F&V
- Multi-Pollutant Impacts and Planning
 - Health (Criteria, Toxics)/Ecosystems/Climate Forcing
- Neighborhood Resolution Assessment
 - Air Toxics Cumulative Exposures
 - Near Roadway Environments
- International Transport
 - O₃ “Baseline” Concentrations, PM Events
 - Mercury and Persistent Organic Pollutants
 - Understanding Flows and Emissions
- Climate Change Mitigation and Adaptation
 - Implications of Energy and Technology Policies
 - O₃ Climate Change Penalty

Common Supporting Analyses Using Observations

- Standard Setting
 - Science Assessment
 - Exposure & Risk Assessment
 - Attainment Designation
 - Exceptional Events Analysis
 - Control Strategy Development
 - SIP and National Rule Development
 - Design Conditions
 - Model Evaluation
 - Source Apportionment
 - Cost Effectiveness Analysis
 - Attainment Demonstration & Weight of Evidence Determination
 - Benefits Assessment
 - Implementation
 - Source Permitting (NSR/PSD)
 - Emissions Reporting
 - Rule Enforcement
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 - Air Quality Forecasting & Public Information (AQI)
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- Air Quality Trends & Events Analysis
 - Air Quality Model Evaluation
 - Emissions Inventory Development & Evaluation
 - Forecasting & Near Real Time Information

Suitability Matrix

AQM Application	Satellite Instrument 1		Satellite Instrument 2	
	Data Product A	Data Product B	Data Product C	Data Product D
Air Quality Trends & Events	<ul style="list-style-type: none"> • Pollutant v. Application Type • Are these the right application types to organize our discussion? • What specific applications (rows) deserve attention? • What are the appropriate columns? • What questions should be addressed in each cell? 			
e.g., Attainment Design Conditions				
Air Quality Model Evaluation				
Emissions Inventory Development				
e.g., Fire Activity and Emissions				
e.g., Trends and Control Effectiveness				
Forecasting & Public Information				