

PREPARATION OF THE REGIONAL SIP MODELING EMISSIONS INVENTORY

Julie McDill, PE

2008 Emission Inventory Progress

- Eastern Regional Technical Advisory Committee (ERTAC) Projects
 - Rail
 - Area Source Calculation Methods
- Documentation of Future Year EGU Growth Methodology
- Condensable EGU Emission Factor revision
- Mobile source Organic Carbon Emission Factor revision
- Residential Wood Combustion ACCESS Calculation tool
- Emission Inventory Committee Coordination
- IPM Analysis Paper presented at 2008 Emission Inventory Conference
- Analysis of 2007 CEM data for EGU emissions
- Development of Inter-RPO Post-CAIR 2005 inventory for modeling analysis
- Provided funding for seven participants at the 2008 Emission Inventory Conference in Portland Oregon
- Sponsored a regional Emission Inventory Workshop in Albany, New York

A new round of regional modeling to support State Implementation Plans for NAAQS:

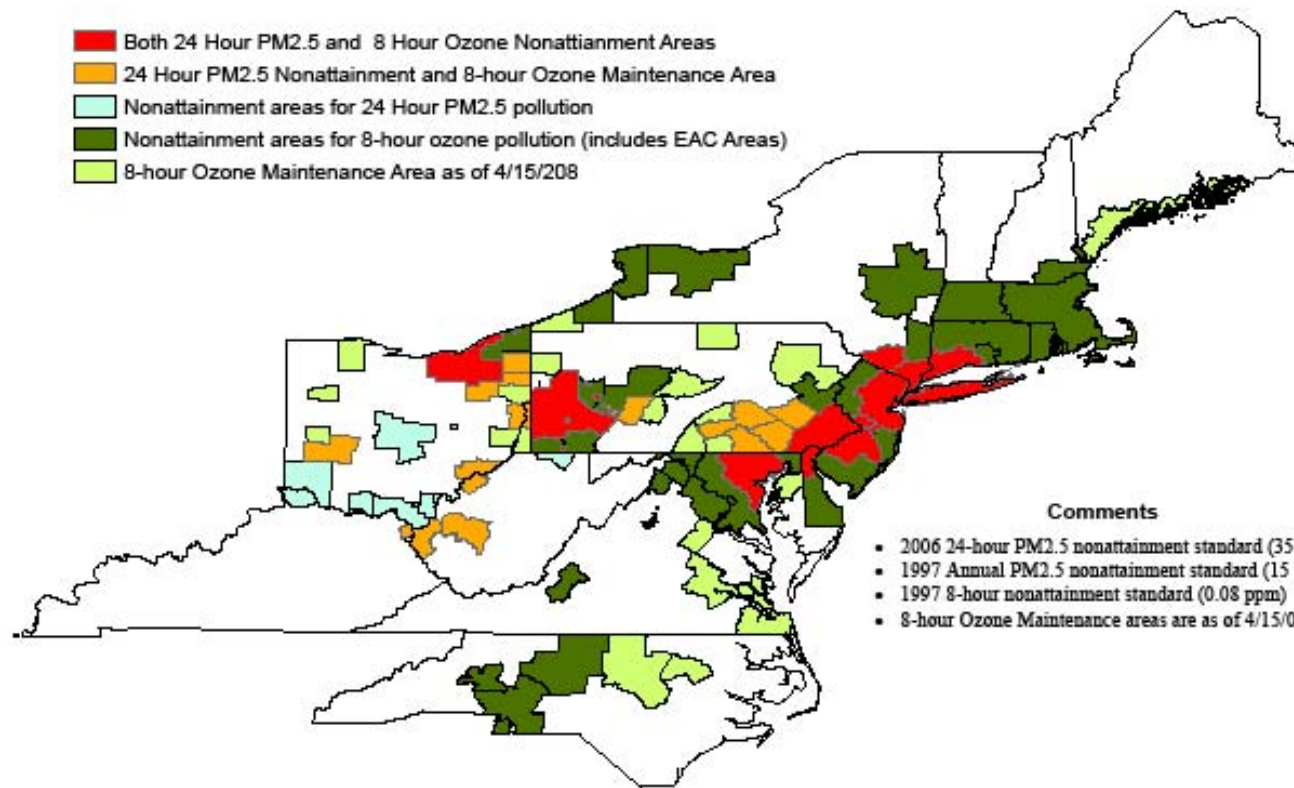
Ozone,
PM2.5, and
Visibility 5 year look back.

MARAMA will coordinate development of the regional SIP modeling inventory

QA and Oversight by states AND stakeholders will be time consuming and is key to success

PM2.5 and Ozone Nonattainment Areas

- Both 24 Hour PM2.5 and 8 Hour Ozone Nonattainment Areas
- 24 Hour PM2.5 Nonattainment and 8-hour Ozone Maintenance Area
- Nonattainment areas for 24 Hour PM2.5 pollution
- Nonattainment areas for 8-hour ozone pollution (includes EAC Areas)
- 8-hour Ozone Maintenance Area as of 4/15/2008



Comments

- 2006 24-hour PM2.5 nonattainment standard (35 $\mu\text{g}/\text{m}^3$)
- 1997 Annual PM2.5 nonattainment standard (15 $\mu\text{g}/\text{m}^3$)
- 1997 8-hour nonattainment standard (0.08 ppm)
- 8-hour Ozone Maintenance areas are as of 4/15/08

Data Sources

- <http://www.epa.gov/pmdesignations/2006standards/state.htm>
- <http://www.epa.gov/ozonedesignations/statedesig.htm>
- <http://www.epa.gov/ozonedesignations/redesig/redestbl.htm>
- <http://www.epa.gov/pmdesignations/1997standards/state.htm>

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Mid-Atlantic
Regional Air
Management
Association, Inc.



BASE YEAR – 2007

- States choose
 - Fore-cast from 2005 or:
 - Back-cast from 2008
- Open-ended Request for Proposals
 - Closed February 2
 - Received ____ Bids
 - State panel will help with contractor selection
 - First task is to develop a workplan
- States provide inputs for calculations, QA and state specific calculations

SECTORS TO CONSIDER

- Non-EGU Point
- EGU Point
- Mobile On-Road
- Mobile Non-Road & Off-Road
- Area
 - Agricultural Fires & Wildfires
 - Ammonia
 - Residential Wood Combustion
 - Residential Heating
 - Area VOC sources
 - Other area sources

2007 Non-EGU Point

- Most straightforward sector
- States can supply by June 2009
- Same schedule for reporting to USEPA
- 2007 CEM data used where available
- EGU and Non-EGU sources separated to avoid double counting
- State team evaluate growth factors
- Target public notice of base and grown inventory by September 2009

2007 EGU Point

- Base year estimated by CEM data
- 2007 CEM data downloaded and reviewed by MARAMA as part of the Inter-RPO post-CAIR planning work
- Evaluation by states of emissions adjustments for units down for maintenance in 2007
- Growth of emissions using AEO factors
- State team evaluate growth factors

On-Road Mobile

- Emission factors are applied to VMT data and a series of temperature/speed/temporal adjustments
- States supply VMT data and MOBILE model input files
- States cannot provide 2007 information.
- It may be possible to use state-developed activity data (speed, vehicle mix, temporal profiles) from 2008 and apply these to VMT data for 2007 which are readily available for major highways
- MARAMA will collect additional information from member state about the timing of 2008 mobile inventory development to propose a schedule to complete
- MOVES will not be available until late 2009. Therefore MARAMA recommends MOBILE6

Mobile Non-Road & Off-Road

- States cannot provide 2007-specific information
- MARAMA recommends that 2005 or 2008 state-developed activity data be adjusted to estimate 2007
- MARAMA will collect additional information from state about the timing of 2008 non-road inventory development to propose a schedule to complete this sector
- The ERTAC process will provide material for the rail sector
- States must provide state-specific activity data for other areas
- Subsectors include:
 - Marine
 - Rail
 - Air
 - Agricultural
 - Construction
 - Residential

AREA – Agricultural & Wild Fires

- Category substantially unchanged from year to year,
- Emissions from northeast not very important to air quality
- MARAMA recommends using state 2008 emissions for this category unchanged
- MARAMA recommends that states commit to collecting input information and performing 2008 calculations to MARAMA by June 2009
- Consistent approach developed as part of emissions inventory work plan.

AREA – Ammonia

- Annual ammonia emission estimation model was developed by Carnegie Mellon University in the last SIP modeling exercise
- Updated CMU model with 2007 agricultural census
- Emission factors used in the model should be reevaluated
- Use LADCO sponsored ammonia model to reevaluate the temporal distribution of ammonia emissions

AREA – Residential Wood Combustion

- OMNI study evaluated emission factors from a wide variety of wood burning appliances.
- OMNI factors incorporated into EPA ACCESS calculation tool by EPA.
- MARAMA recommends ACCESS tool for state residential wood combustion with 2007 demographic information
- MARAMA will coordinate distribution of the tool and review and state approval of the assumptions contained in the tool
- State team evaluate growth and control factors

AREA – Residential Wood Combustion

- Emissions are dependant on meteorology so should be calculated using 2007 meteorology

Area – Miscellaneous Sources

- ERTAC process developed “best practices” to estimate emissions from many miscellaneous area sources
- Documented in a spreadsheet on the ERTAC website.
- MARAMA recommends that ERTAC factors and approaches be used for the modeling inventory
- State team evaluate growth and control factors

BIOGENIC

- MARAMA assumes the modeling centers will estimate biogenic emissions

KEY POINTS

- MEETING THE SCHEDULE WILL BE A CHALLENGE
- WE NEED TO START WORKING ON WHAT CAN BE DONE NOW
- WE WILL SEEK TO GIVE PRODUCTS TO STATES TO REVIEW SEQUENTIALLY RATHER THAN ALL AT ONCE

PREPARATION OF THE EMISSION INVENTORY FOR STATE IMPLEMENTATION PLAN MODELING

		<i>Contract</i>	<i>Develop workplan</i>	<i>HEDD</i>	<i>Mobile</i>	<i>Off road</i>	<i>Point</i>	<i>Ammonia</i>	<i>Res wood</i>	<i>Misc. Area</i>	<i>Ag burn</i>	<i>Wild fire</i>	<i>EGU</i>
2009	Feb	Planning											
2009	Mar	Planning	Planning	Planning	Planning	Planning	Planning	Planning	Planning	Planning	Planning	Planning	Planning
2009	Apr			Base Year Estimation			Base Year Estimation	Base Year Estimation					Base Year Estimation
2009	May		Planning				Base Year Estimation	Base Year Estimation					Base Year Estimation
2009	Jun		Planning				Base Year Estimation	Base Year Estimation					Base Year Estimation
2009	Jul			Base Year Estimation		Base Year Estimation	Base Year Estimation	Quality Assurance					Future Year Estimation
2009	Aug			Base Year Estimation		Base Year Estimation	Quality Assurance	Quality Assurance	Future Year Estimation				Future Year Estimation
2009	Sep			Base Year Estimation		Quality Assurance	Quality Assurance	Quality Assurance	Future Year Estimation				Future Year Estimation
2009	Oct			Quality Assurance	Base Year Estimation	Base Year Estimation	Quality Assurance	Quality Assurance	Future Year Estimation	Base Year Estimation			Future Year Estimation
2009	Nov			Future Year Estimation	Base Year Estimation	Base Year Estimation	Quality Assurance	Quality Assurance	Quality Assurance	Base Year Estimation			Quality Assurance
2009	Dec			Future Year Estimation	Base Year Estimation	Quality Assurance	Quality Assurance	Quality Assurance		Base Year Estimation			
2010	Jan			Future Year Estimation	Quality Assurance	Quality Assurance				Quality Assurance			
2010	Feb			Quality Assurance	Future Year Estimation	Future Year Estimation				Future Year Estimation			
2010	Mar				Future Year Estimation	Future Year Estimation				Future Year Estimation			
2010	Apr				Future Year Estimation	Future Year Estimation				Future Year Estimation			
2010	May				Quality Assurance	Quality Assurance				Quality Assurance			
2010	Jun									Base Year Estimation	Base Year Estimation		
2010	Jul									Base Year Estimation	Base Year Estimation		
2010	Aug									Future Year Estimation	Future Year Estimation		
2010	Sep									Quality Assurance	Quality Assurance		

- Planning
- Base Year Estimation
- Quality Assurance
- Future Year Estimation