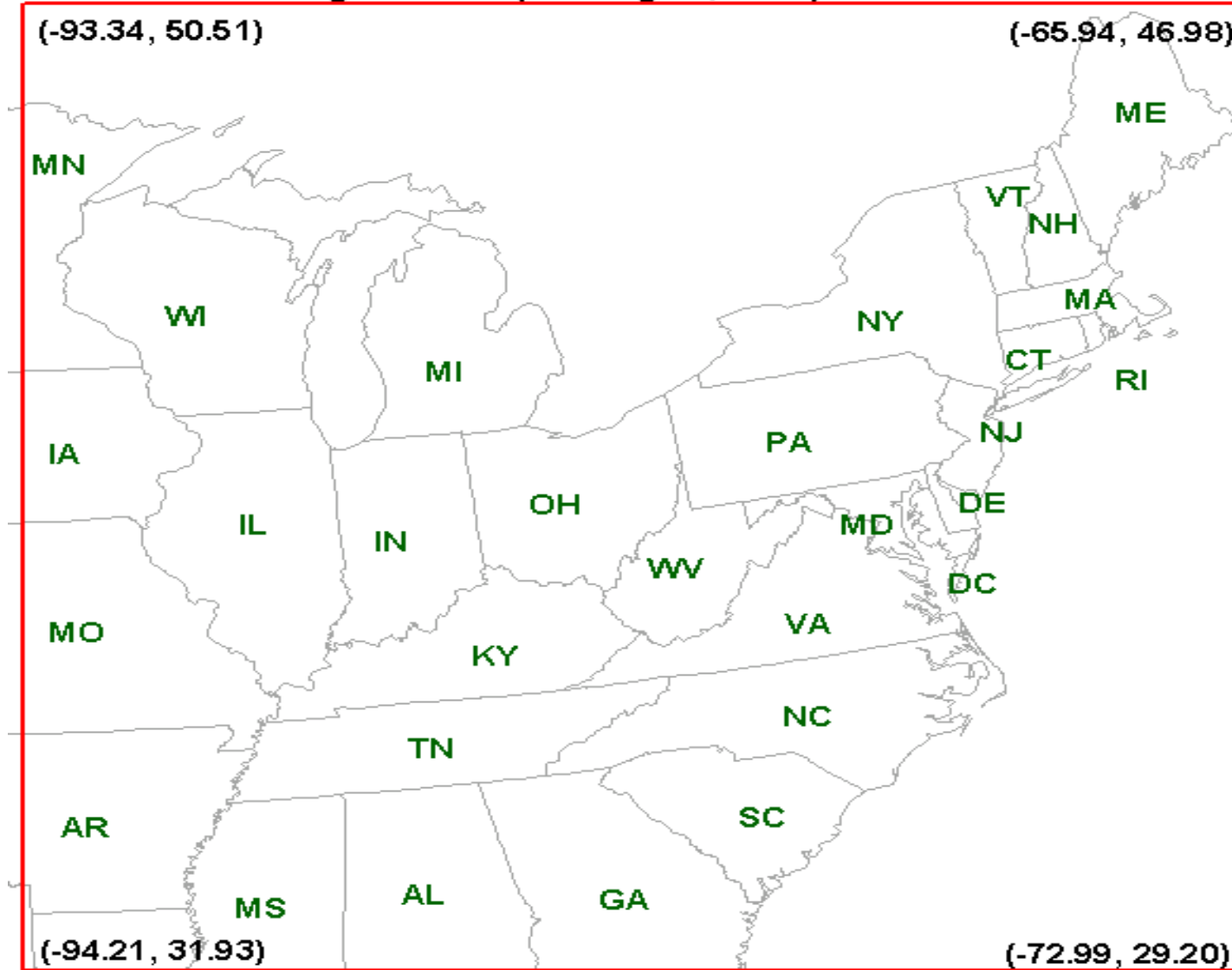


OTC 8-Hour Ozone SIP Modeling Update

OTC Fall Meeting
November 15, 2006

Modeling Domain for Ozone, PM2.5 and Regional Haze

Eastern Modeling Domain (12km grid, LCC)



What's New

- Use of CMAQ Version 4.5
- Updated the Base Year Inventory
- Updated the Future Year Inventory

Emission Inventories in the OTR Domain

<u>Region</u>	<u>2002</u>	<u>2009</u>
• OTC (MANE-VU)	Version 3 (BaseB1)	grown
• VISTAS	Version G	grown
• MRPO	Version K	grown
• CENRAP	Version B	grown
• Canada	Mixed 2000/2002	not grown

2002 BaseB1 Performance Evaluation

- NY DEC computed EPA-suggested evaluation statistics for 208 SLAMS/NAMS sites.
- NY DEC examined O₃ and precursor data on an overall basis as well as by non-attainment area.
- Overall performance for ozone and other pollutants is considered to be satisfactory.

2009 OTC Control Strategy Runs

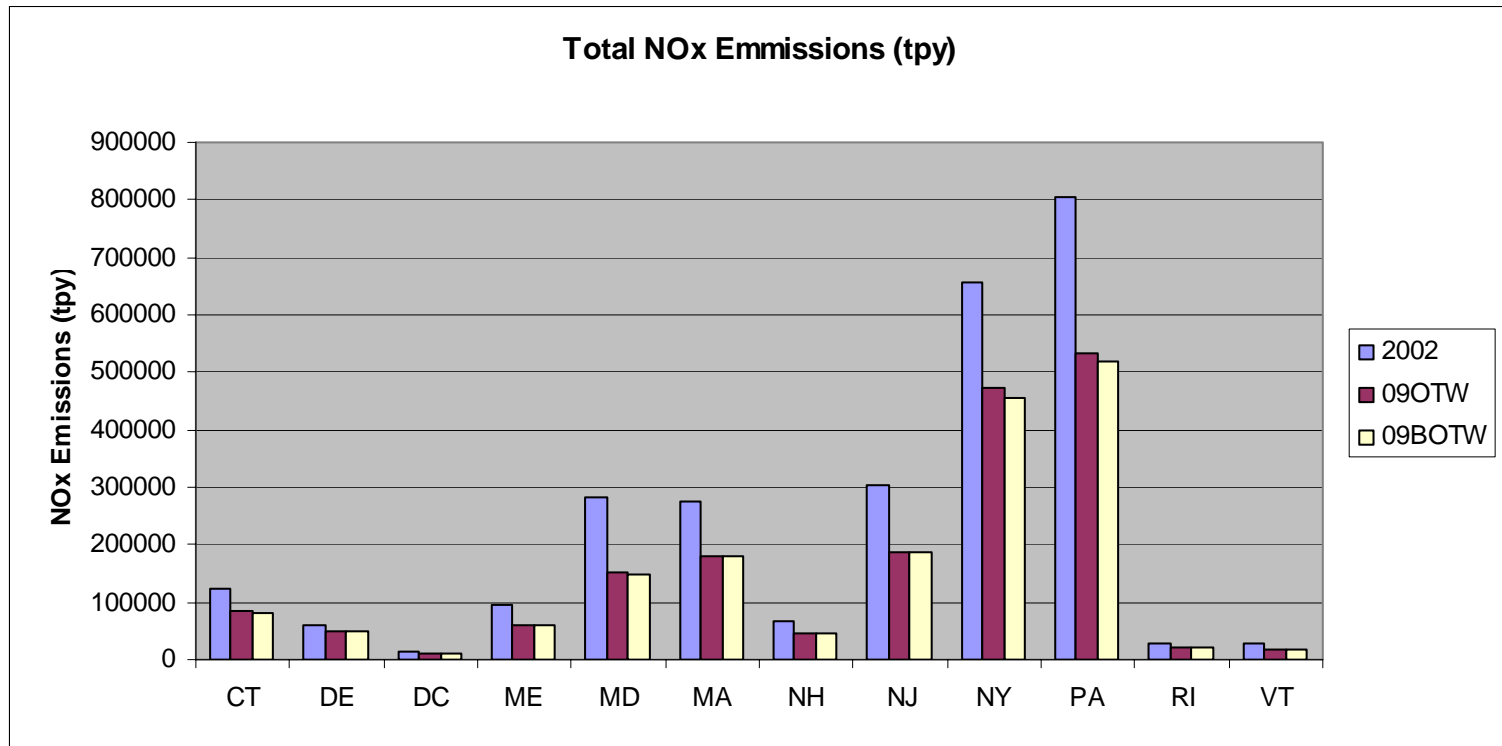
- 2009 OTB/OTW run (VA DEQ)
(OTB/OTW controls in all states in modeling domain)
- 2009 Beyond OTB/OTW run (NY DEC)
(Beyond OTB/OTW controls in OTC states only)

Note: OTB/OTW mean “on the books ” or “on the way”

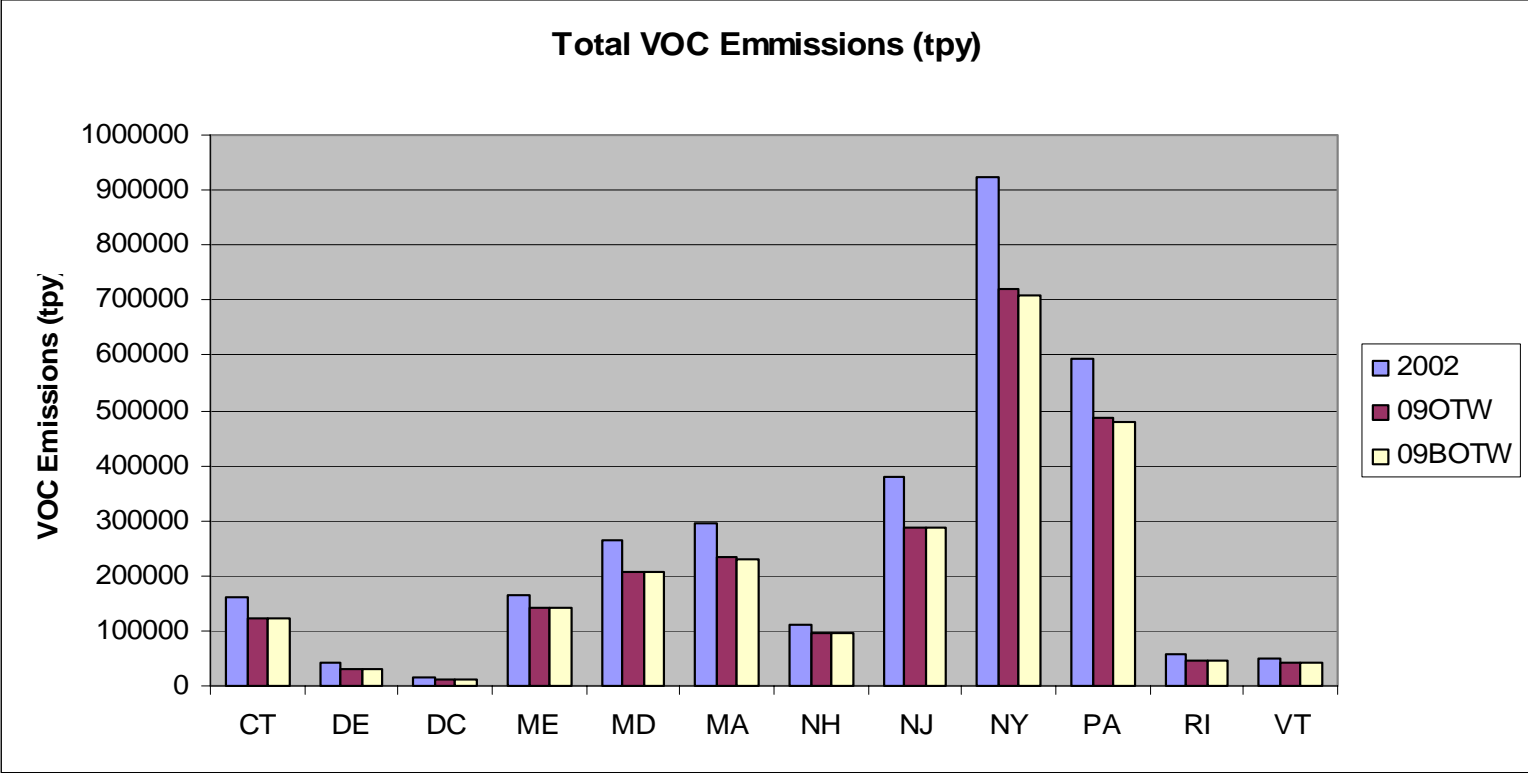
Beyond OTB/OTW Control Measures

- On Road No Changes
- Area Consumer products except for VT
 Portable fuel Containers except for VT
 Asphalt Paving in 2009 except for DC,
 MD, ME, PA, VT
 Adhesives and sealants in 2009 except for
 NH and DC
 ICI Boilers reduction in 5-county region of
 Philadelphia, PA, and MD, NY and NJ
- Non-EGU Point Individual state regulations

NOx Emissions in Tons per Year for 2002 Base Case, 2009 OTB/OTW, and 2009 Beyond OTB/OTW



VOC Emissions in Tons per Year for 2002 Base Case, 2009 OTB/OTW, and 2009 Beyond OTB/OTW



Preliminary 2009 Design Values above 84 ppb for OTW and BOTW control scenarios

AIRS-ID	State	Monitor	2002 BASE	2009 OTB	2009 BOTB	8-hr Ozone Nonattainment Area
340290006	NJ	Colliers Mills	106.0	93	93	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
90013007	CT	Stratford	98.3	91	91	New York-N. New Jersey-Long Island,NY-NJ-CT
90093002	CT	Madison	98.3	90	89	New York-N. New Jersey-Long Island,NY-NJ-CT
360290002	NY	Amherst	95.7	90	90	Buffalo-Niagara Falls, NY
361030009	NY	Holtsville	97.0	90	90	New York-N. New Jersey-Long Island,NY-NJ-CT
340070003	NJ	Camden	98.3	89	89	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
340155001	NJ	Clarksboro	98.3	89	89	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
420170012	PA	Bristol	99.0	89	89	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
510130020	VA	Arlington Co.	96.7	89	89	Washington, DC-MD-VA
90010017	CT	Greenwich	95.7	88	88	New York-N. New Jersey-Long Island,NY-NJ-CT
340071001	NJ	Ancora St. Hos	100.7	88	88	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
360631006	NY	Middleport	91.7	88	88	Buffalo-Niagara Falls, NY
421010024	PA	Northeast	96.7	88	88	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
510590018	VA	Fairfax Co.	96.7	88	88	Washington, DC-MD-VA
240251001	MD	Edgewood	100.3	87	86	Baltimore, MD
340210005	NJ	Rider Univ.	97.0	87	87	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
360450002	NY	Perch River	91.3	87	86	Jefferson Co, NY
361030002	NY	Babylon	93.7	87	86	New York-N. New Jersey-Long Island,NY-NJ-CT
510590030	VA	Fairfax Co.	95.0	87	86	Washington, DC-MD-VA
90011123	CT	Danbury	95.7	86	86	New York-N. New Jersey-Long Island,NY-NJ-CT
90019003	CT	Westport	94.0	86	86	New York-N. New Jersey-Long Island,NY-NJ-CT
90070007	CT	Middletown	95.7	86	85	New York-N. New Jersey-Long Island,NY-NJ-CT
90099005	CT	Hamden	93.3	86	85	New York-N. New Jersey-Long Island,NY-NJ-CT
240030019	MD	Ft. Meade	97.0	86	86	Baltimore, MD
340030005	NJ	Teaneck	91.7	86	86	New York-N. New Jersey-Long Island,NY-NJ-CT
361192004	NY	White Plains	91.3	86	86	New York-N. New Jersey-Long Island,NY-NJ-CT
510591005	VA	Fairfax Co.	94.0	86	85	Washington, DC-MD-VA
110010043	DC	McMillan Reser	92.7	85	84	Washington, DC-MD-VA
240030014	MD	Davidsonville	98.0	85	85	Baltimore, MD
340190001	NJ	Flemington	95.3	85	85	New York-N. New Jersey-Long Island,NY-NJ-CT
340230011	NJ	Rutgers Univ.	96.0	85	84	New York-N. New Jersey-Long Island,NY-NJ-CT
340250005	NJ	Monmouth Univ.	95.7	85	85	New York-N. New Jersey-Long Island,NY-NJ-CT
340273001	NJ	Chester	95.3	85	85	New York-N. New Jersey-Long Island,NY-NJ-CT
360130006	NY	Dunkirk	93.0	85	85	Jamestown, NY
360850067	NY	Susan Wagner	93.0	85	84	New York-N. New Jersey-Long Island,NY-NJ-CT
420070002	PA	Hookstown	91.3	85	85	Pittsburgh-Beaver Valley, PA

Preliminary 2009 Design Values for OTB and BOTW above 87 ppb WOE target)

AIRS-ID	State	Monitor	2002 BASE	2009 OTB	2009 BOTB	8-hr Ozone Nonattainment Area
340290006	NJ	Colliers Mills	106.0	93	93	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
90013007	CT	Stratford	98.3	91	91	New York-N. New Jersey-Long Island,NY-NJ-CT
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340155001	NJ	Clarksboro	98.3	89	89	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
420170012	PA	Bristol	99.0	89	89	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
510130020	VA	Arlington Co.	96.7	89	89	Washington, DC-MD-VA
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340071001	NJ	Ancora St. Hos	100.7	88	88	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
360631006	NY	Middleport	91.7	88	88	Buffalo-Niagara Falls, NY
421010024	PA	Northeast	96.7	88	88	Philadelphia-Wilmin-Atlantic Ci,PA-NJ-MD-DE
510590018	VA	Fairfax Co.	96.7	88	88	Washington, DC-MD-VA

Where are we now and what should be done

- Modeling to date indicates significant improvements in ozone air quality over the OTR from 2002 levels.
- Continued non-attainment is predicted over portions of the OTR, indicating the need for additional emissions reductions within and outside of the OTR.
- Additional control strategies need to be designed and evaluated with air quality models.