

Ozone Transport Commission
Control Strategies Committee
RACT/RACM Workgroup

January 24, 2006

Baltimore, MD

RACT/RACM Workgroup

- Assessing “Beyond on the Way” Strategies for Stationary/Area Sources
- Additional Reductions Required for States SIPs for Attainment in 2009/2010 Timeframe
- 13 Categories under Consideration
- Choose Based on Ease of Implementation & Potential Reductions
- Work with Modeling Committee to Assess Efficacy of Controls

Cement Kilns

- Process/Burner Modifications/Mid Kiln Firing
 - NO_x Reductions of 25 to 40 %
 - \$ -460 to 2,000/ton
- SNCR
 - NO_x Reductions of 10 to 50 %
 - \$ -310 to 2,500/ton
- SCR
 - NO_x Reductions of 70 to 90 %
 - \$ 1,500 to 2,000/ton

Glass/Fiberglass Furnaces

- Low NO_x Burners
 - NO_x Reductions of 40 % at \$ 924 to 2,232/ton
- SNCR
 - NO_x Reductions of 40 % at \$ 977 to 2,337/ton
- SCR
 - NO_x Reductions of 75 % at \$ 938 to 3,341/ton
- Oxyfiring
 - NO_x Reductions of 85 % at 1,254 to 4,400/ton

Lime Kilns

- SNCR and Combustion Modifications
 - NO_x Reductions of 60 %
 - \$ 1,107/ton
- SCR
 - NO_x Reductions of 70 to 90 %
 - \$ 1,500 to 2,000/ton

ICI Boilers

- Investigating NO_x Controls beyond RACT for 100 to 250 MMBtu/Hr
- Investigating NO_x Controls for Small Boilers (< 100 MMBtu/Hr)
- Investigating Impact of Lower Sulfur Fuels on SO₂ Emissions

Municipal Waste Combusters

- More Stringent than MACT NO_x Limits
 - Similar to those adopted by CT
 - SNCR
 - \$ 0 to 1,500/MMBTu/Hr Depending on if SNCR Already Installed
 - May be of Limited Use Considering the December 19, 2005 Federal Proposal

Adhesives and Sealants

- Solvent-Based Adhesives and Sealants Comprise 75 % of VOC Emissions from this Category
- Potential for 60 % VOC Reductions
- Reformulation
 - > \$ 2,500/ton
- Add-on Controls (e.g., Carbon & Thermal Oxidizers)
 - \$ 10,000 to 100,000/ton

Industrial Surface Coatings

- Adopt EPA CTG for VOC RACT
Uniformly Throughout OTR
- Improve Inventory to Aid Decisions to go
Beyond RACT
- \$ 1,500 to 8,000/ton (???)

Asphalt Production Plants

- Low NO_x Burners and Flue Gas Recirculation
 - Reduce NO_x 35 to 50 %
 - \$ 500 to 2,000/ton
- Lower Sulfur Fuel
 - Limit Fuel Sulfur to 500 ppm
 - Reduce SO₂ 25 to 75 %

Asphalt Paving

- Cutback
 - Ban during Ozone Season
 - Expand Ozone Season ban by lowering VOC to 4 %
- Emulsified
 - Lower VOC Limits by 20 % or Establishing Limit

AIM Coatings

- Complete Implementation of OTC Model Rule Throughout OTR
- Eliminate 1 Liter Exemption
- South Coast AQMD VOC Limits for Certain Categories
 - 13 of 20 Categories have Significant Sales
 - Up to \$ 20,000/ton

Consumer Products

- Complete Implementation of OTC Model Rule Throughout OTR
- Adopt CARB July 20, 2005 Amendments
 - New/Revised Limits for 13 Product Categories
 - 12 % Reduction beyond OTC Model Rule
 - \$ 4,800/ton
- Adopt New CARB Limits as Available & Appropriate

Publicly Owned Treatment Works

- Expand NESHAP to All OTC POTWs
 - 85 % VOC Control at Affected Plants
- Pre-treatment of Primary Waste Streams
 - Steam Strippers or other Appropriate Methods
 - Costs Site Specific

Auto Refinishing

- Complete Implementation of OTC Model Rule Throughout OTR
- Apply More Stringent Bay Area AQMD VOC Limits
- Apply Even More Stringent South Coast AQMD VOC Limits

Portable Fuel Containers

- Adopt 2005 CARB Amendments
 - Expand Definition to Include Kerosene and Utility Cans
 - Improve Existing Spillage Control Requirements
 - No Additional Cost Expected for Gasoline
 - Kerosene Cans Could go for \$ 8.50/can
 - 18 TPD Throughout OTR