

Clean Air Action Plan Meeting

MACT/RACT/CTG Overview

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MISSOURI
DEPARTMENT OF
NATURAL RESOURCES



Outline

- Kansas:

- What are MACT, RACT, GACT rules?
- What are CTGs?
- KC area ozone history
- Ozone standard
- Phase I implementation of the Maintenance Plan
 - Idle Reduction and NOx Emission Reduction Rules

- Missouri:

- Status of Phase I implementation of the Maintenance Plan
- What happens next?
 - Maintenance Plan Phase II
 - Level of Non-attainment designation and pursuant requirements



Acronyms

- CTGs – Control Technique Guidelines
- LAER – Lowest Achievable Emission Rate
- NAAQS – National Ambient Air Quality Standards
- NSPS – New Source Performance Standard
- NESHAPS – National Emission Standards for Hazardous Air Pollutants
- RFP – Reasonable Further Progress
- GACT – Generally Available Control Technology
- RACT – Reasonably Achievable Control Technology
- RACM – Reasonably Achievable Control Measures
- HAPs – Hazardous Air Pollutants
- MACT – Maximum Achievable Control Technology
- PSD – Prevention of Significant Deterioration
- BACT – Best Available Control Technology
- BART – Best Available Retrofit Technology
- SIP – State Implementation Plan



Clean Air Act – Title I

- Part A—Air Quality and Emission Limitations
 - National Ambient Air Quality Standards (Section 109)
 - 40 C.F.R. Part 50
 - RACT, RACM
 - State Implementation Plans (Section 110)
 - 40 C.F.R. Part 51
 - Standards of performance for new stationary sources (Section 111)
 - 40 C.F.R. Part 60
 - NSPS, CTGs
 - Hazardous Air Pollutants (Section 112)
 - 40 C.F.R. Part 63
 - MACT, GACT (Area Sources)
- Part C—Prevention of Significant Deterioration (PSD) of Air Quality
 - Subpart 1: PSD – BACT (Section 165) – 40 C.F.R. §52.21
 - Subpart 2: Visibility – BART (Section 169A) – 40 C.F.R. Part 51
- Part D—Plan Requirements for Nonattainment Areas
 - 40 C.F.R. Part 51
 - Lowest Achievable Emission Rate LAER (Section 171, 173)



Ozone Standard

- Revised in 1997
 - 8-hour standard of 0.08 ppm
 - Rounding error to 0.084 ppm
- Revised in 2008
 - 8-hour standard of 0.075 ppm
 - Primary equals Secondary
- January 6, 2010 – **Proposed** new Standard
 - primary “public health” 8-hour 60-70 ppb (.060-.070 ppm)
 - secondary “public welfare” 7-15 ppm-hours



RFP, RACT, RACM & LAER

- A SIP demonstration that RFP will be made and all RACM have been required in the Nonattainment area. RACM need to show reductions within a year or can't be used?
- RACT for existing sources
- LAER for new sources
- Reduced thresholds for major sources, depending on classification
- Emissions offsets for new major sources, depending on classification
- Highway plan conformity review
- All depends process laid out in the new Implementation Rule



KC Region Ozone History

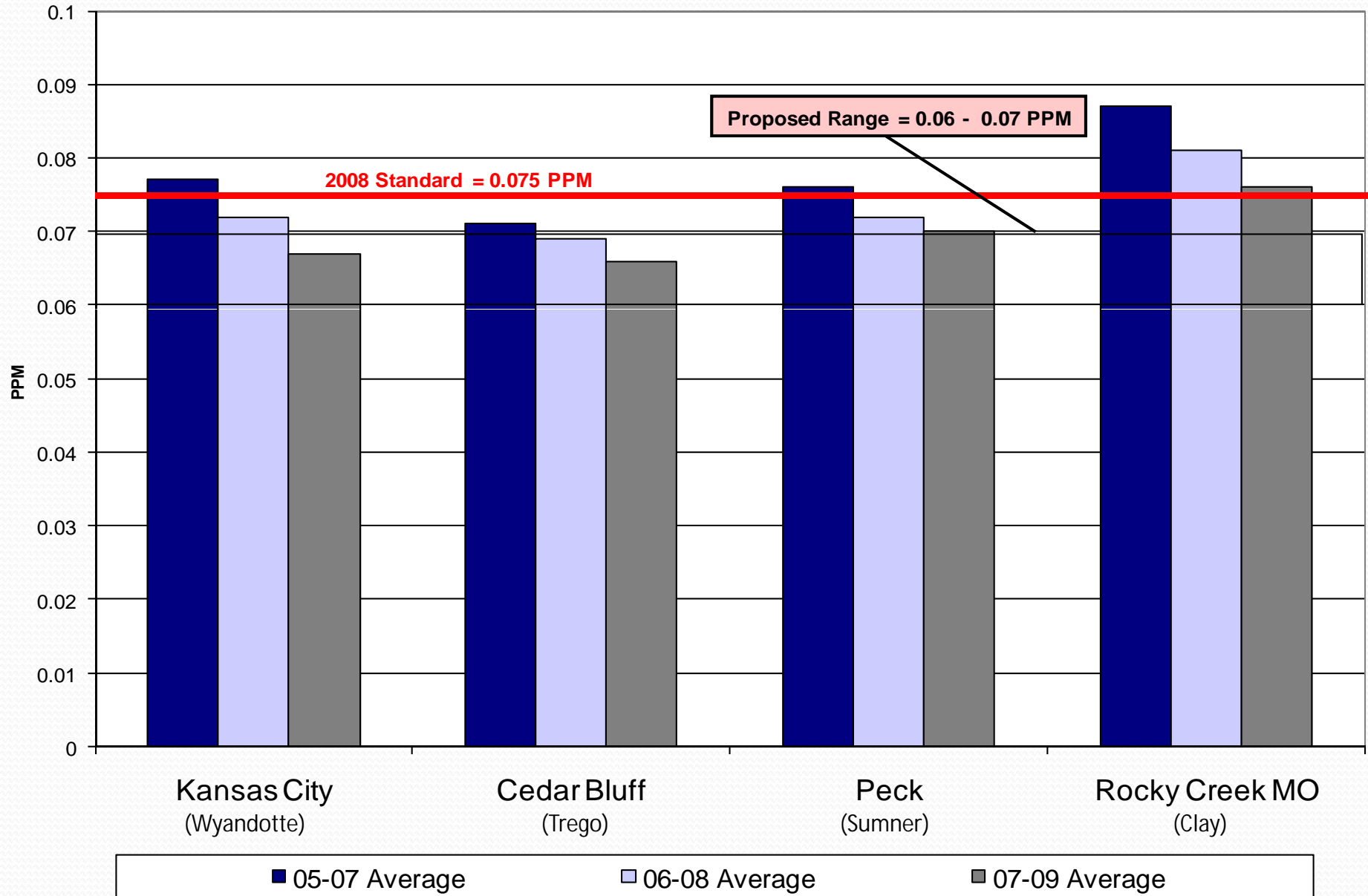
- From mid-1970s through early 1990s, KC did not meet 1-hour ozone standard
- In 1992, area was redesignated attainment for 1-hour ozone standard
- Area violated 1 hour standard in mid-1990s
- Area has met the 1-hour standard in 2000s
- June 2004 KC Designated “unclassifiable” for 8-hour ozone standard
- Kansas City Designated in attainment for the 8-hour standard in June 2005
- Largely due to a fluke of weather – record cool summer in 2004
- 2005 & 2006 ozone seasons were above average



Kansas Ozone Status

- KC violated the 2008 - 0.075 ppm standard
 - Standard under reconsideration by EPA
- KDHE in final stages of adopting new rules for industry and trucks in KC
- Wichita met 0.075 ppm standard
- 2008 and 2009 were relatively good years for ozone due to cool summers
- Under proposed EPA standard, Kansas will have to designate counties included in ozone planning area

Kansas Ozone Data



Phase I – Maintenance Plan Contingency Measures

- **Kansas**
 - Idle Reduction Rule
 - Reduction in NO_x emissions from point sources > 1000 tons of actual emissions per year in Wyandotte and Johnson Counties achieved by agreements or NO_x Emission Reduction Rule
- **Missouri**
 - Idle reduction rule
 - Reduction in NO_x emissions from CAIR affected point sources in Clay, Platte, and Jackson Counties



Kansas Air Quality Regulations

- Definitions K.A.R. 28-19-200 – 201
- Enabling K.A.R. 28-19-16
- VOC rules K.A.R. 28-19-61 to 77

- RACT rules **K.A.R. 28-19-712 & 713**
K.A.R. 28-19-714 to 719

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Kansas Idle Reduction Rule

- Johnson and Wyandotte Counties Only
- Commercial, public and institutional heavy-duty diesel vehicles
 - Gross Vehicle Weight Rating \geq 14,001 pounds
 - Limits idling to no more than 5 minutes in any 60 minute period
 - Exceptions (public safety, agriculture, 15 minute bus, etc.)
- Load/Unload locations
 - Limits idling to no more than 30 minutes in any 60 minute period

<p>CLASS 1: 0-6,000 lbs</p>		
<p>CLASS 2: 6,001-10,000 lbs</p>		
<p>CLASS 3: 10,001-14,000 lbs</p>		
<p>CLASS 4: 14,001-16,000 lbs</p>		
<p>CLASS 5: 16,001-19,500 lbs</p>		
<p>CLASS 6: 19,501-26,000 lbs</p>		
<p>CLASS 7: 26,001-33,000 lbs</p>		
<p>CLASS 8: Over 33,000 lbs</p>		

Kansas Nitrogen Oxides Emission Reduction Rule

- NOx Emission Limits
 - Electric Generating Units – Wall-Fired
 - Nearman Creek Unit 1 - 0.26 pounds per million Btu
 - Quindaro Unit 2 – 0.20 lbs/MMBtu
 - Flat Glass Furnace
 - AGC – 7.0 pounds per ton of glass produced



Missouri Idle Reduction Rule

- 10 CSR 10-2.385 Control of Heavy Duty Diesel Vehicle Idling Emissions
- Clay, Platte, Jackson counties
- Very similar to Kansas rule, but some differences
- GVWR over 10,000 pounds
- Similar exemptions
- Has been in effect since February 2009
- Have received a couple of calls regarding idling vehicles (tour buses, etc)



Missouri NO_x Reductions

- CAIR affected facilities (25 MW or greater)
 - Coal fired EGUs
- Based on CAIR emission levels
- CAIR delayed by court decisions
- Restarted conversations last year
- Finalizing agreements with one entity
- Discussing most viable options with other
- Once completed, will require a SIP amendment for submittal to EPA



Phase II of Current Maintenance Plan

- Two different potential triggers
 - Three year design value for area at or above 89 ppb
 - This trigger activated one year after end of ozone season that triggered Phase I

or

- Three consecutive years following the Phase I trigger year with a design value above 84 ppb



Phase II Control Measure Options

- Not all measures were to be enacted
- Would be chosen based on cost effectiveness and greatest benefits to air quality

Potential Measures Included:

- NO_x reduction for coal fired EGUs emitting over 100 tons per year
- NO_x reduction for industrial boilers and process heaters emitting over 100 tons per year
- NO_x reduction on cement kilns releasing over 100 tons per year
- Diesel Engine Chip Reflashing
- Emissions offsets of 1.1:1.0
- Lowering the threshold for major sources of VOCs to 75 tons per year
- Enacting VOC regulations on AIM coatings
- Gas cap testing
- Eliminating the 1.0 psi waiver for 10% ethanol fuel during ozone season



Disclaimer

- The following information is based on the 1997 ozone implementation rule
- The new standard may have different requirements based on an area's classification level
- New implementation rule is expected late August 2010



Ozone Area Classifications

- Classification and years to attain standard
 - Marginal – 3 years
 - Moderate – 6 years
 - Serious – 9 years
 - Severe – 15 years
 - Extreme – 20 years
- If area does not attain standard in allocated time, an area can be “bumped up” to the next higher classification level



Requirements under the CAA

- Kansas City was designated as a marginal nonattainment area
- Required control measures put in place then will remain in place
- Additional control measures were designed to allow the area to be redesignated to attainment.
 - Early RACT/CTG rules
 - Low RVP fuel
- Marginal nonattainment requirements
 - Inventory of emission sources every three years
 - Impose RACT on sources over 100 tons per year for nine categories
CTGs were released for prior to 1990
 - Offset of 1.1 to 1.0, or equivalent controls



Moderate Level Requirements

- Everything for marginal areas plus
 - 15% reduction in VOC emission in six years (15% ROP plan)
 - Basic I/M program
 - RACT for sources where CTGs are issued (newer ones since 1990)
 - Vapor recovery (Stage II) at gas stations over 10,000 gallons per month
 - 1.15 to 1 offsets
 - These can be negotiated for alternative controls if the reductions are equivalent



New/updated CTGs since 1990

1994 – 1997 CTGS

- Consumer products
- Architectural coatings
- Autobody refinishing coatings
- Shipbuilding and repair coatings
- Wood furniture coatings
- Aerospace coatings



Post 1990 CTGs (cont.)

2006 – 2008 CTGs

- Flat wood paneling coatings
- Industrial cleaning solvents
- Flexible package printing
- Lithographic printing
- Letterpress printing
- Large appliance surface coatings
- Metal furniture coatings
- Paper, film and foil coatings
- Misc. metal and plastic parts coatings
- Auto and Light-duty truck assembly coatings
- Fiberglass boat manufacturing
- Miscellaneous Industrial Adhesives



CTG status in Missouri

- Pre-1990 CTG rules in place in both St. Louis and Kansas City
- Both areas have other VOC controls in order to achieve/maintain standards
- Rule development underway for 2006 – 2008 CTGs in St. Louis
 - Required before area's redesignation request
- These CTGs affect very small sources
 - Industrial solvent cleaning: 15 lbs/day
- If required, new CTG rules will be identical for Kansas City



In Summary

- States working to finish work on maintenance plan control measures
- Starting the planning for development of new SIP
- Nonattainment will require new control measures on stationary sources
 - Point and area will both most likely be affected
- Depending on classification level Kansas City may be required to implement newer CTGs
- New implementation rule will provide guidance



Questions/Comments?



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Our Vision – Healthy Kansans living in safe and sustainable environments.

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