

Stationary Sources  
and  
Oil and Gas  
VOC Emission Control Issues  
and Options

Ozone Stakeholders Meeting  
December 14, 2007

Air Pollution Control Division

# Overview of APCD Activities

## Stationary Source VOC Emission Control Options

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# Overview

- Current APCD ozone activities
- Ozone non-attainment implications (current regulations)
- Stationary Sources VOC emission reduction options

# APCD Current Activities

- Ozone non-attainment status ramifications
- Emissions Reviews
  - Inventory
  - Previously unreported sources
- Reconsider Current Exemptions
- Control Technique Guideline (CTG) reviews
- In-process regulatory revisions (minor source RACT)

# APCD Current Activities (Continued)

- Implications of NOX as an ozone precursor
- Consideration of other rulemaking co-benefits
  - Regional Haze SIP/Reasonable Progress
  - Federal coatings manufacturing specs
  - Federal non-road engine manufacturing specs
  - Federal NSPS
    - Diesel engines
    - Natural gas/LPG engines
  - Other
- Potential regulatory clarifications
- Consideration of stakeholders' suggestions

# Nonattainment Implications for All Stationary Sources and Oil & Gas Sources

# 8-hr Non-attainment Area Reg 3 Implications

Beginning with issuance on November 20, 2007

- APEN thresholds
  - VOC: 2 tpy → 1 tpy
  - NOX: 2 tpy → 1 tpy
  
- Permitting thresholds
  - VOC: 5 tpy → 2 tpy
  - NOX: 10 tpy → 5 tpy
  
- Public Comment thresholds
  - 50 tpy → 25 tpy

# 8-hr Non-attainment Area Reg 3 Implications (Continued)

- Major stationary source threshold:
  - VOC: 250 tpy → 100 tpy
  - NOX: 250 tpy → 100 tpy
- Major modification significance levels
  - Ozone: 40 tpy of VOCs
  - NOX: 40 tpy

# Revise Reg. 3 VOC RACT requirements to apply throughout NA Area

- Applicable to new/modified sources
- 5 tpy VOC permitting/RACT revised to 2 tpy permitting/RACT throughout the full NA area (7-county metro Denver area plus eastern Adams and Arapahoe Counties and much of Larimer and Weld Counties)
- Outlined in federal SIP
- AQCC Regulation Proposal November 2007
  - Assuming AQCC adoption, will be effective March 30, 2008
- Permitting required beginning November 20, 2007

# NOx RACT in NA Area

- NOx RACT will be required for 5 tpy new/modified sources
- Existing major sources subject to RACT
- Permitting required beginning November 20, 2007

# Lowest Achievable Emission Rate (LAER) and Offsets for Major Stationary Sources

- LAER and 1 to 1.1 emission for new (100 tpy) sources and modifications at existing 100 tpy stationary sources (40 tpy significance threshold)
- VOC and/or NO<sub>x</sub> sources
- No current “bank” of emissions
- Approximately 45 current sources affected (if modified)

# Stationary Source VOC Strategies/Options

# Evaluate Control Options for Largest VOC Processes, Sources and Source Categories

- Based on actual emissions
- Focus attention on largest emitters in the three categories

# Architectural/Traffic/Industrial and Consumer Products Standards

- Proposed EPA VOC limits for paints, solvents, adhesives, sealants, consumer products (as manufactured) to take effect January 2009
- AIM (Architectural/Industrial Maintenance) and Consumer Products to be reduced ~ 30% by 2010, based on NEI projections
- South Coast VOC limits are  $\frac{1}{4}$  to  $\frac{1}{2}$  the EPA proposed limits
- Assessing potential for further reductions in Colorado.

# Control Techniques Guidelines (CTGs)

- EPA VOC emission control guidelines
- Establishes RACT
- Not adopted by reference

# CTGs Continued

- Incorporation into Reg 7 thru 1978
- 16 issued since then
- CTG review
  - Not duplicative of NSPS or NESHAP
  - Have significant number of subject sources
  - Achieve significant amount of reductions

# CTG's Being Considered

- Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants
- Control Techniques Guidelines for Industrial Cleaning Solvents
- Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing
- Control of Volatile Organic Compounds from Wood Furniture Manufacturing Operations
- Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners
- Others

# Expand Regulation No. 7's Applicability to Entire NA Area

- Currently applicable to sources in the 7-county Denver-metro area (1-hour area)
- Expand to apply to eastern Adams and Arapahoe Counties and to much of Larimer and Weld Counties (8-hour area)

# Increase Stringency of Regulation No. 7's RACT Requirements

- Presumptive RACT
- Presumptive BACT

# Other

## VOC Emission Control Options

- Stage I Vapor Recovery Expansion
  - For stations in Larimer, Weld and eastern Adams/Arapahoe Counties
  - Most stations have Stage I, evaluate which ones do not
- Stage II Vapor Recovery
  - For all gas stations
  - For largest gas stations
- Emission Control Requirements for Back-up Generators
  - New
  - Existing

# Other Regulation 7 Clarifications

- Recordkeeping requirements
- RACT analysis for modifications
- Tank reflective paint requirement
- Others

# Next Steps

- Inventory analysis
- Target significant VOC processes, sources, source categories
- Define options
- Estimate associated VOC emissions reductions
- Target significant CTGs

Questions?

Suggestions?