

## Emission Control Strategies for Ozone

2008 Ozone Action Plan <i>(All strategies apply to the entire Denver/North Front Range nonattainment area (NAA) unless otherwise noted)</i>					Potential Strategies Requiring Additional Evaluation for Near-Term Plan/SIP Amendment	
Measures Adopted for Federally-Enforceable State Implementation Plan (SIP)		Potential Emission Reduction	Measures Adopted and Enforced as State- only Measures		Potential Emission Reduction	Potential Emission Reduction
			➤ Inspection/maintenance program in North Front Range – eff. July 1, 2010	~ 1 tpd VOC, ~1 tpd NOx, ~17 tpd CO	<b>Ozone Fuels Strategies:</b> ➤ 7.0 RVP gasoline	~ 10 tpd VOC
			➤ More stringent Reg. 11 I/M cut-points (Denver area) – adopted, effective May 1, 2008	~ 1 tpd VOC, ~3 tpd NOx, ~13 tpd CO		
			➤ Mandatory high-emitter <u>pilot</u> program (Denver area) – began January 1, 2008	<i>Pilot program results are not available</i>	➤ Federal Reformulated Gasoline	~ 18 tpd VOC
			➤ Tighten up collector plate requirements for older vehicles (statewide)-legislation being pursued	~ 1 tpd VOC ~ 7 tpd CO	➤ Eliminate ethanol waiver	~ 10 tpd VOC + 360 tpd CO
➤ Increase system-wide condensate tank control requirements to 85% in 2010 and 90% in 2011 for all tanks greater than or equal to 2 tpy	<i>Total from 2010 base ~ 34 tpd (2010)/ 49 tpd (2011) VOC</i>	➤ Statewide Oil & Gas regulations -- Controls on existing reciprocating internal combustion engines	~4 tpd VOC ~16 tpd NOx	➤ Statewide Oil & Gas regulations – control requirements for new condensate tanks and pneumatic valves	<i>Scope of the potential controls has not been determined</i>	
		➤ Pneumatic valves controls - require low/no bleed valves on all new and existing valves by 2009	~ 23 tpd VOC	➤ Increase system-wide condensate tank control requirements to 95% for all tanks	<i>Total from 2010 base ~61 tpd VOC</i>	
➤ Remove current exemptions in Reg. 3 for selected small sources required to file air pollution emission notices and obtain permits	<i>Emission reductions are difficult to quantify at this time, but are expected to be small in the short-term</i>	➤ Expand Reg. 7 (VOC control requirements) to entire NAA	<i>Emission reductions are difficult to quantify at this time, but are expected to be small in the short-term</i>	➤ Emission controls on large NOx sources ▪ power plants ▪ boilers ▪ cement kilns	~ 30-45 tpd NOx	
➤ Require Reasonably Available Control Technology (RACT) for minor sources in NAA (Reg. 3)						
					➤ California Paints/Solvents/ Consumer Products Rule	~ 8 tpd VOC
<b>TOTAL EMISSION REDUCTIONS</b>	<b>VOC NOx CO</b>	~34 tpd(2010) 49 tpd (2011)		<b>VOC NOx CO</b>	~30 tpd ~20 tpd >37 tpd	

## **Additional Ozone Emission Control Strategies**

- Minor source Best Available Control Technology (BACT) for existing stationary sources of NO<sub>x</sub> and VOCs
- New/updated VOC emission controls for smaller facilities, termed “Control Technique Guidelines”
- Control of emissions on back-up power generators
- Leak detection and repair at oil and gas well sites
- Control of emissions when completing oil and gas wells (“well completions”)
- NO<sub>x</sub> controls on oil and gas drill rigs
- Employer trip reduction programs (mandatory or pilot program)
- California clean car standards
- Mandatory vehicle high-emitter program
- Anti-vehicle idling measures
- Stage II vapor recovery at gas stations
- Tree planting guidelines
- Other VMT reduction strategy categories (details to be developed as year progresses)