

## Bay Area 2004 Ozone Strategy Draft Control Measures and Further Study Measures

The following tables summarize the draft control measures and further study measures proposed for the Bay Area 2004 Ozone Strategy.

### Draft Stationary and Area Source Control Measures

CM #	BAAQMD Reg - Rule	Source Category	Description	Estimated ROG Reduction tons/day	Estimated NOx Reduction tons/day
<b>Industrial – Commercial Processes</b>					
SS-1	8-45	Auto Refinishing	Reduce VOC limits for some coating categories	0.7	N/A**
SS-2	8-20	Graphic Arts Operations	Reduce VOC limits for flexographic ink and clean up solvent	0.15	N/A**
SS-3		High Emitting Spray Booths	Require additional controls on spray booths that emit > 20 tons ROG/yr	0.5	N/A**
SS-4	8-50	Polyester Resin Operations	Reduce allowable monomer content for some types of polyester resins	0.3	N/A**
SS-5	8-32	Wood Coating Operations	Reduce VOC limits for some coating categories	0.68	N/A**
<b>Petroleum Products Production and Distribution</b>					
SS-6	12-11	Flares*	Reduce flaring or set emissions limits for flares	TBD***	TBD***
SS-7	8-33, 39	Gasoline Bulk Terminals and Plants	Require automatic shutoff and backpressure monitors, set more stringent leak, emission standards	0.14	N/A**
SS-8	8-44, 46	Marine Loading Operations	Control additional cargoes, set more stringent leak standards and/or control housekeeping emissions	0.7 – 1.0	N/A**
SS-9	8-5	Organic Liquid Storage	Tighten existing requirements and/or control lower vapor pressure liquids	0.27 – 0.44	N/A**
SS-10	8-28	Pressure Relief Devices	Reduce ROG emissions from PRD's	TBD***	N/A**
SS-11	8-8	Wastewater Systems	Control emissions from wastewater collection systems	2.1	N/A**
<b>Combustion Processes</b>					
SS-12	9-7	Boilers Less than 10 MM Btu	Extend existing limits to smaller boilers and/or set a more stringent standard	N/A**	0.5 – 1.0
SS-13	9-6, 7	Large Water Heaters and Small Boilers	Require new, small boilers and large water heaters to meet NOx limits	N/A**	0.39
SS-14	9-9	Stationary Gas Turbines	Implement BARCT NO <sub>x</sub> limits on existing turbines	N/A**	1.2
<b>Education Programs</b>					
SS-15		Energy Conservation	Educate government, industry and the public in energy efficient choices	unknown	unknown

\* SS-6, Flares would be adopted as an amendment to Air District Rule 12-11. The rule currently requires monitoring of refinery flare emissions, while the proposal in SS-6 is to require control of refinery flare emissions.

\*\* N/A – Except for SS-6 Flares, SS-1 through SS-11 will result in ROG emission reductions, and there are no anticipated NOx emission reductions for these measures. SS-12 through SS-14 will result in NOx emission reductions, and there are no anticipated ROG emission reductions for these measures. SS-6 may reduce both ROG and NOx emissions.

\*\*\* TBD – emissions reductions to be determined.

### Draft Mobile Source Control Measures

Measure #	Title	Estimated ROG Reduction (tpd)	Estimated NO <sub>x</sub> Reduction (tpd)	Estimated PM Reduction (tpd)
MS-1	Diesel Equipment Idling Model Ordinance	0.13	1.96	0.08
MS-2	Green Contracting Model Ordinance	unknown	unknown	unknown
MS-3	Low-Emission Vehicle Incentives	0.03	0.06	0.01
MS-4	Vehicle Buy-Back Program	0.30	0.15	0.05
<b>Total</b>		<b>0.46</b>	<b>2.17</b>	<b>0.14</b>

### Draft State Transportation Control Measures

#	Title	Phase 1: 2006		Phase 2: 2015	
		ROG Reductions (tons/day)	NO <sub>x</sub> Reductions (tons/day)	ROG Reductions (tons/day)	NO <sub>x</sub> Reductions (tons/day)
TCM 1	Voluntary Employer Based Trip Reduction Programs	0.53	0.57	0.23	0.22
TCM 3	Improve Local and Areawide Bus Service	0.50	1.41	0.16	0.14
TCM 4	Improve Regional Rail Service	0.23	0.21	0.08	0.06
TCM 5	Improve Access to Rail and Ferries	0.17	0.15	0.06	0.05
TCM 6	Improve Interregional Rail Service	N/A*	N/A*	0.05	0.05
TCM 7	Improve Ferry Service	N/A*	N/A*	0.06	0.06
TCM 8	Construct Carpool/Express Bus Lanes on Freeways	N/A*	N/A*	0.62	0.65
TCM 9	Improve Bicycle Access and Facilities	0.30	0.25	0.59	0.43
TCM 10	Youth Transportation	0.03	0.03	0.02	0.01
TCM 11	Install Freeway Traffic Management System	0.24-0.31	0.10-(0.31)	0.12-0.16	(0.03)-(0.25)
TCM 12	Arterial Management Measures	0.06-0.12	0.06-0.11	0.23	0.25
TCM 13	Transit Use Incentives	0.04-0.20	0.04-0.19	0.02-0.08	0.01-0.07
TCM 14	Carpool and Vanpool Services and Incentives	0.01	0.01	0.01	0.01
TCM 15	Local Land Use Planning and Development Strategies	0.09	0.14	TBD**	TBD**
TCM 16	Public Education/Intermittent Control Measures	1.65***	1.27***	TBD**	TBD**
TCM 17	Conduct Demonstration Projects	0.01-0.04	0.01-0.03	TBD**	TBD**
TCM 18	Transportation Pricing Reform	0.95	0.82	1.40	0.99
TCM 19	Improve Pedestrian Access and Facilities	0.04-0.18	0.02-0.10	0.08-0.17	0.04-0.08
TCM 20	Promote Traffic Calming	NC****	NC****	NC****	NC****

\* N/A – No new service is anticipated between 2004 and 2006 for TCM 6 and TCM 7; therefore, no additional emission reductions are expected in Phase 1. Emission reductions for TCM 8 were only calculated for 2015, reflecting full implementation of MTC's HOV Master Plan.

\*\* TBD – Long-term effectiveness of TCM 15, TCM 16 and TCM 17 is unknown. Emission reductions are not currently estimated for Phase 2.

\*\*\* TCM 16 emissions reductions are calculated for the Spare the Air program. STA is an episodic measure, so the emission reductions are assumed to occur only on STA days.

\*\*\*\* NC – Traffic calming is an important support program for other TCMs, particularly bike/ped programs, but it is uncertain how much additional emission reductions can be attributed specifically to traffic calming projects. Therefore, no additional reductions are claimed for TCM 20.

Further study measures are measures for which insufficient information was available during the development of the control strategy to allow the Air District, MTC and ABAG to commit to them as control measures. For example, there may be remaining questions regarding emissions data, cost effectiveness, or technological feasibility. The agencies will continue to evaluate the further study measures. If the evaluations indicate that the measures are viable control measures, they will be considered for implementation, either as regulations or programs (on a schedule to be determined).

### **Draft Further Study Measures**

<b>FS #</b>	<b>Further Study Measure (existing Reg and Rule, if any)</b>
FS 1	Adhesives and Sealants (Reg 8-51)
FS 2	Architectural Coatings (Reg 8-3)
FS 3	Commercial Charbroilers
FS 4	Composting Operations
FS 5	Food Product Manufacturing and Processing
FS 6	Livestock Waste
FS 7	Limitations on Solvents Based on Relative Reactivity
FS 8	Solvent Cleaning and Degreasing
FS 9	Emissions from Cooling Towers
FS 10	Refinery Wastewater Treatment Systems (Reg 8-8)
FS 11	Vacuum Trucks
FS 12	Valves and Flanges (Reg 8-18)
FS 13	Wastewater from Coke Cutting Operations
FS 14	Cumulative Risk
FS 15	NO <sub>x</sub> Reductions from Refinery Boilers (Reg 9-10)
FS 16	Stationary Internal Combustion Engines (Reg 9-8)
FS 17	Encourage Use of Biodiesel Fuel
FS 18	Mitigation Fee for Federal Sources
FS 19	Indirect Source Mitigation Program
FS 20	Free Transit on Spare the Air Days
FS 21	Episodic Measures