

Suggested Measures Not Passing Screen

Mobile Source

Aircraft

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Reduce Emissions from Aircraft including Taxiing, Take-Offs, and Landings	Implementation methods include engine emission retrofit kits, low-emission new purchases, aircraft taxiing emissions reduction by using a single engine, and electricity as auxiliary power.	Aircraft are a federal source and emission standards are set at the national level. However, ARB may have authority to control aircraft emissions through several mechanisms. Implementation methods include those identified by ARB in the Clean Air Plan such as engine emission retrofit kits, low-emission new purchases, aircraft taxiing emissions reduction by using a single engine, and electricity as auxiliary power. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	SMAQMD
		Aircraft are a federal source and emission standards are set at the national level. However, ARB may have authority to control aircraft emissions through several mechanisms. Implementation methods include those identified by ARB in the Clean Air Plan such as engine emission retrofit kits, low-emission new purchases, aircraft taxiing emissions reduction by using a single engine, and electricity as auxiliary power. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	Kenneth Hayes

Fuels

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Emulsified Diesel	Require heavy duty vehicles that currently utilize diesel fuel to use emulsified diesel, such as Lubrizol's PuriNOx.	Barriers - Higher cost of fuel. Opportunities: Products are readily available; Decreased fuel economy and torque; No change to fueling infrastructure necessary. Lifetime Cost Effectiveness (\$/ton): NOx - \$38,989; ROG - NA; NOx + ROG \$38,989. Assumptions in cost effectiveness calculation: Incremental fuel cost for PuriNOx is \$0.25; No incremental cost associated with technology; PuriNOx is 20% water by volume; estimated fuel economy penalty is 20%; Average fuel economy 4 mpg. The PuriNOx product is ready for distribution. Existing fueling infrastructure can be used. No modifications to engines/vehicles are necessary. No additional resources appear to be necessary. State entities should have sufficient authority to implement this control	Lack Authority	SMAQMD

measure. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.

Marine

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Lower emission standards for new marine vessels	Set more stringent emission standards for new harbor craft and ocean-going ships and pursue approaches to reduce land based port emissions.	This proposal would set more stringent emission standards for new harbor craft and ocean-going ships and pursue approaches to reduce land based port emissions – alternative fuels, cleaner engines, retrofit controls, electrification, education programs, operational controls. US EPA is planning future standards development for diesel ships and boats before 2007. This measure cannot be implemented by BAAQMD or MTC; it is within EPA's regulatory authority.	Lack Authority	SMAQMD

Off Road

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Lower Emission Standards for New Off-road Compression Ignition Engines	Set lower emission standards for new off-road compression ignition engines that are 25 hp or greater.	Off-road compression ignition engine standards are set by EPA for construction and agricultural equipment less than 175hp (i.e., "preempted engines") and by ARB for the remaining equipment (i.e., "non-preempted equipment"). Some non-preempt off-road engines in California are currently uncontrolled, such as pleasure craft. EPA is currently developing additional non-road standards for 2008+ engines; Emission controls under development for on-road vehicles may be viable for off-road applications as well. Newly proposed Federal non-road engine standards would not go into effect until 2008 at the earliest. State regulations could be enacted for non-preempted engines, including currently uncontrolled sources, but would not likely take effect by 2005. Preliminary measures may be taken to promote advanced adoption of current measures, but new state emission regulations would likely not take effect until after 2007. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's or EPA's regulatory authority.	Lack Authority	SMAQMD
Lower Emission Standards for New Off-road Spark-ignited Engines	Set lower emission standards for new off-road spark-ignited engines that are 25 hp or greater.	Off-road spark-ignited engine standards are set by EPA for construction and agricultural equipment less than 175hp (i.e., "preempted engines") and by ARB for the remaining equipment (i.e., "non-preempted equipment"). Some non-preempt off-road engines in California are currently uncontrolled, such as pleasure craft. EPA is currently developing additional non-road standards for 2008+ engines; Emission controls technologies under development for on-road vehicles may be viable for off-road applications as well. Newly proposed Federal non-road engine standards would not go into effect until 2008 at the	Lack Authority	SMAQMD

		earliest. State regulations could be enacted for non-preempted engines, including currently uncontrolled sources, but would not likely take effect by 2005. Preliminary measures make be taken to promote advance adoption of current measures, but new state emission regulations would likely not take effect until after 2007. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's and/or EPA's regulatory authority.		
Lower Emission Standards for New Off-road Spark-ignited Engines with less than 25 hp	Set lower emission standards for new off-road spark-ignited engines that are less than 25 hp.	Off-road spark-ignited engine standards are set by EPA for new construction and agricultural equipment less than 175 hp (i.e., "preempted engines") and by ARB for the remaining equipment (i.e., "non-preempted equipment"). Standards would be set according to engine displacement, similar to standards currently in place for new engines within this power range. EPA is currently developing additional non-road standards for 2008+ engines; Emission controls technologies under development for on-road vehicles may be viable for off-road applications as well. Newly proposed Federal non-road engine standards would not go into effect until 2008 at the earliest. State regulations could be enacted for non-preempted engines, including currently uncontrolled sources, but would not likely take effect by 2005. Preliminary measures make be taken to promote advance adoption of current measures, but new state emission regulations would likely not take effect until after 2007. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's and/or EPA's regulatory authority.	Lack Authority	SMAQMD
Lower emissions standards for new handheld and non-handheld lawn and garden equipment	Set tighter emissions standards for handheld and non-handheld lawn and garden equipment.	Currently ARB is working to set further standards for small off-road equipment. Handheld and non-handheld lawn and garden equipment account for over 75% of the population of small off-road equipment. ARB is developing a control measure for evaporative, permeative, and exhaust emissions. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	SMAQMD
Tighter emission standards for pleasure craft and off-road recreational vehicles	Set tighter emissions standards for spark-ignited personal watercraft, outboard boat engines and off-road recreational vehicles including motorcycles and all-terrain vehicles..	Currently, (starting in 2001), all new outboards sold in California are required to meet the U.S. EPA 2006 emission levels (approximately 75 percent reduction from uncontrolled levels) for NOx and HC. In addition, California has regulations for lower tiers of emissions for this equipment. Personal watercraft are usually included in regulations of outboard motors since they are both two-stroke small spark ignited engines. California currently regulates off-road recreational vehicles, including motorcycles and all-terrain vehicles, through the small and large off-road spark ignited engine regulations. 1998 regulations specifically relate to off-road recreational vehicles and allow emission compliant ones to obtain a green sticker that allows for operation year-round. Non-compliant vehicles are still allowed to operate but are subject to use restrictions based on time of year and location. Compliant vehicles are those that have emissions no greater than 1.2	Lack Authority	SMAQMD

g/km HC and 15.0 g/km CO. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.

On Road

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Automated Speed Enforcement for Heavy Duty Vehicles and lower speed limit	Utilize technology such as radar equipped traffic cameras to enforce speed limits for heavy-duty vehicles on highways.	Equipment may include stationary camera posts or vehicles equipped with cameras and radars. HDVs contribute 40 to 50 percent of all highway emissions. FHWA contends that heavy-duty diesel vehicles produce higher levels of NOX when traveling above the speed of 55 mph. A reduction in speed of these vehicles may reduce emissions. Barriers: May be difficult to enforce on multilane highways; Public resistance and distrust toward automated speed enforcement technology. Opportunities: Increased safety; Visible deterrent to speeding for all other vehicles; Public awareness; Campaign may also decrease speed violations by other vehicle types; Doubling speeding tickets raises revenues. The measure requires an effort of the California Department of Transportation (Caltrans) and California Highway Patrol (CHP). Speed limits on state highways and freeways are set by Department of Transportation, while enforcement of speed limits is carried out by the Highway Patrol. City streets and roads are governed by local/county speed limits, which are often based on the Department of Transportation's recommendations. Implementation of this measure is not within the authority of BAAQMD or MTC.	Lack Authority	SMAQMD
Automobile Insurance Charged at Pump or Insurance is Mileage Based	A portion of automobile insurance is incorporated into the price of gasoline which increases the marginal cost of driving, reducing VMT, and encouraging consumers to purchase more efficient vehicles.	Under this proposal, a portion of automobile insurance would be incorporated into the price of gasoline so when gasoline is pumped a portion of the gasoline price pays for insurance. Pay at the pump (PATP) insurance would cover the minimum amount of liability insurance required by California law. The minimum insurance requirements are about \$250 per year or about 2.1 cents per mile for average light duty vehicle driven 12,000 miles per year. Pay as you drive (PAYD) insurance is very similar to PATP insurance except that payment is tied to vehicle miles traveled and not gallons of gasoline used. Both concepts increase the marginal cost of driving while reducing fixed vehicle ownership costs. In both concepts the more vehicles are driven the higher insurance costs and the higher the marginal costs of vehicle ownership. This has the effect of reducing VMT and this reduction in VMT reduces both the upstream and vehicle emissions. PATP insurance may also encourage consumers to purchase more efficient vehicles which further reduces the upstream or well to tank emissions. These measures are primarily aimed at light duty vehicles privately owned since businesses would most likely need to continue to perform their work and would not necessarily decrease	Lack Authority	SMAQMD

VMT with increased marginal costs. In fact since businesses already incorporate both fixed and marginal costs into the price of their products transferring fixed to marginal should have no effect. Both of these measures most likely would have to be implemented on a statewide basis and not just by region. Most likely this measure would have to be adopted statewide and would require legislation to implement. Insurance companies would be the major stakeholders. Currently, a pilot program is planned in the Atlanta area to test the feasibility and effectiveness of such a measure. Barriers: Public resistance to pricing increase; Very difficult to get public consensus; Would require a state wide ballot measure; Opposition by insurance companies. Opportunities; Would provide minimum insurance coverage for all drivers; eliminates need for uninsured motorist coverage. This measure cannot be implemented by BAAQMD or MTC; it is within the State's regulatory authority.

Establish a Heavy-Duty Smog Check Program	Develop an on-road heavy-duty vehicle "smog check" program, building upon the existing California Heavy-duty Vehicle Inspection Program, that would test for NOx, ROG/VOC, PM, and other regulated pollutant measurements.	The testing and maintenance requirements of such a program would be intended to ensure that on-road heavy-duty vehicles would remain at or below their certified emissions levels during their operational lifetime. Barriers: Investment in new testing equipment. Opportunities: Could combine with other programs, such as early retirement programs. Lifetime Cost Effectiveness (\$/ton) - NOx + ROG \$6,000. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's and BAR's regulatory authority.	Lack Authority	SMAQMD
Halt 30-year Rolling Exemption in Smog Check Program	Halt the 30-year rolling exemption and include pre-1974 vehicles in the Smog Check Program	This measure will require a legislative change. Program Lifetime Cost Effectiveness (\$/ton) NOx - \$25,100, ROG - \$9,500, NOx + ROG - \$6,900. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's and BAR's regulatory authority.	Lack Authority	SMAQMD
Improve Smog Check	Improve current Enhanced Smog Check Program to provide additional emission benefits from light and medium duty vehicles.	Improvements will include gasoline trucks loaded-mode testing, evaporative emission control test, test-only direction increase, as well as better liquid leak and evaporative emission detection. Based on CARB Clean Air Plan LT/MED-DUTY 5. Barriers: Improvements are to be implemented statewide and issues in one region may affect implementation in other regions. Opportunities: Measure does not require legislative change as it is part of the program adopted in 2000 but has not been implemented to date. Avg. Program Lifetime Cost Effectiveness (Max. Program Lifetime Cost Effectiveness) NOx - \$12,700, ROG \$13,700, NOx + ROG - \$6,000. This measure cannot be implemented by BAAQMD or MTC; it is within BAR's regulatory authority.	Lack Authority	SMAQMD
Low NOx APU	Mandate the installation of low NOx auxiliary power units for on road heavy-duty	Auxiliary Power Units (APU) can serve various functions typically executed by an engine during idling, and reduce emissions. Applications such as Heavy Duty Trucks in line-haul service, and Urban	Lack Authority	SMAQMD

	vehicles to reduce idling emissions	buses typically idle for long periods for purposes including keeping the engine and fuel warm, and to heat and cool the cab/sleeper compartment in a line-haul truck. APUs can eliminate the need to idle the engine for these tasks, and therefore reduce idling emissions. APU technologies are currently available, but their initial cost has prevented wide utilization. ARB should consider a statewide requirement to install low emission APU. Barriers: May require the use of incentives; Possible maintenance requirements; IC engine driven models still consume fuel. Opportunities: No change to fueling infrastructure necessary; APUs are commercially available. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.		
Lower emission standards for gasoline trucks	Adopt the federal standard for MY2008+ on-road heavy-duty gasoline engines, bringing the ARB standard in line with federal regulations and aiding in the enforceability of the lower federal standards.	Federal emission standards have been set for MY2008+ on-road heavy-duty gasoline engines, that lower their NMHC+NOx standard to 0.14 g/bhp-hr NMHC and 0.2 g/bhp-hr NOx. This measure requests that ARB adopt this standard for MY2008+ on-road heavy-duty gasoline engines, bringing the standard in line with federal regulations and aid in the enforceability of the lower federal standards. The emission benefits associated with these standards are already reflected in the emissions inventory. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	SMAQMD
NOx Screening in the Heavy-Duty Vehicle Inspection Program	Include NOx screening in the currently implemented Heavy-Duty Vehicle Inspection Program.	Barriers: Investment in new testing equipment. Program Lifetime Cost Effectiveness (\$/ton) is \$6,000 for ROG + NOx. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	SMAQMD
Ramp Meters	Re-evaluate the traffic volumes that trigger ramp-metering lights because the meters sometimes force cars to stop unnecessarily.	This measure targets the stop-and-go driving and vehicle idling associated with ramp-metering that generates higher levels of emissions. This measure may also: Increase traffic flow efficiency; Increased safety; Increased trip length savings; Lower fuel consumption; Increase user acceptance of metering. However, emission benefits from eliminating stop and go traffic and idling on onramps may conflict with emissions benefits of maintaining overall traffic flow and speeds on the freeway itself. Cost of re-evaluating traffic volume algorithms that triggering the metering lights is estimated to be \$250,000. This assumes that there exist a Traffic Management Center and a database of information regarding travel pattern by time and volume: and that such system is maintained and updated regularly. The costs would include conducting a study for up to 430 individual ramp sites and re-calibrating the metering devices. Lifetime Cost Effectiveness (\$/ton) @ 1% Effectiveness: NOx - \$1,206; ROG - \$2,218; NOx + ROG - \$781. California Department of Transportation (Caltrans) is responsible for the timing, maintenance, and calibration of metering ramps on freeways. This measure cannot be implemented by	Lack Authority	SMAQMD

		BAAQMD or MTC; it is within Caltran's regulatory authority.		
Require On-Board Diagnostics on New Diesel and Gasoline Trucks and Buses	Require equipment/software to detect malfunctions and excess emissions on new trucks and buses (on-board diagnostics).	Require equipment/software to detect malfunctions and excess emissions on new trucks and buses (on-board diagnostics). Barriers: Need Inspection and Maintenance plan to enforce. Opportunities: No change to fuel or infrastructure. Lifetime Cost Effectiveness (\$/ton) NOx - \$28,251, ROG - \$162,228, NOx + ROG \$24,061. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	SMAQMD
Restrict Trucks on Roadways During Commute Hours	Trucks would be banned from use of roads during commute hours or possible daylight hours along the freeways of the region.	Commenter recommends converting the Hayward Airport to a truck travel center, allowing truckers to park their vehicles during periods of roadway congestion. Commenter claims there is not a single truck stop in the Bay Area and that a recent DOT regulation limits the hours truckers can drive and that providing a truck stop in the Bay Area would help truckers comply with this regulation. While a truck stop could be built for the voluntary parking of trucks, restriction of trucks on roadways is governed by the State and federal DOTs. A restriction on truck traffic during regular business hours would have a severe economic impact and is therefore not politically or economically feasible. This measure cannot be implemented by BAAQMD or MTC; it is within DOT's regulatory authority.	Lack Authority	John Kyle
Tighter requirements for manufacturers to certify emissions from new passenger vehicle	Set tighter requirements for manufacturers to certify emissions from new passenger vehicles as defined in the CARB Clean Air Plan under LT/MED-DUTY-3.	The ARB measure proposes an enhanced Supplemental Federal Test Procedure useful-life emission standards to prevent excessive in-use deterioration. This test procedure would be implemented starting in 2007. Statewide benefits in 2010 are estimated at 0.04 ROG tpd, and 0.2 NOx tpd. By 2020 benefits will have increased to 0.6 ROG tpd and 2.06 NOx tpd. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	SMAQMD
Tighter requirements for new passenger vehicles (LEV III)	Set tighter emission standards for new passenger vehicles as defined in the CARB Clean Air Plan under LT/MED-DUTY-4.	The ARB measure describes the LEV III emission standards. Emission benefits are expected in 2015. LEV III will consist in a lowering of the fleet average emissions standards for all weight classes and a lowering of the LEV II, LEV, and ULEV exhaust emission standards. ARB is also considering adoption On-Board Diagnostic III (OBD III). In 2015, statewide emission benefits are estimated at 0.4 ROG tpd and 1 NOx tpd. In 2020, the estimated benefits increase to 3 ROG tpd, 5 tpd NOx, and 91 tpd CO. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.	Lack Authority	SMAQMD
VOC/ROG/NOx Standards for Refrigeration Units	Set VOC/ROG/NOx standard for diesel fueled refrigeration units on trucks.	Standard for diesel fueled refrigeration units on trucks could be included in the U.S. EPA's pending off-road CI engine standards or new ARB standards promulgated for off-road CI engines, or specifically for TRU engine/system standards. EPA standards would not go into effect for new engines until at least 2008, ARB standards for off-road engines by	Lack Authority	SMAQMD

at least 2007. Barriers: Public resistance to mandated programs ; Low-emission equipment potentially costly. Needed Resources and Authority: EPA or ARB would set this standard, requiring manufacturers to provide TRUs that meet the lower emission standard in order to sell such engines in the U.S. or California, respectively. This measure cannot be implemented by BAAQMD or MTC; it is within EPA or ARB regulatory authority.

ZEV bus demonstration and purchase

Maintain the zero-emission bus (ZEB) demonstration and purchase requirements included in the Public Transit Fleet Rule.

ARB's requirements consist of a ZEB demonstration in 2003 and the purchase of ZEB accounting for 15% of new bus purchases in 2008 for fleets above 200 units on the diesel path. Fleets above 200 units on the alternative fuel path are not required to demonstrate ZEB. Alternative fuel path fleets above 200 units' purchasing requirement begins in 2010. This measure cannot be implemented by BAAQMD or MTC; it is within ARB's regulatory authority.

Lack Authority

SMAQMD

Other

Organic Solvent Usage

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
New car interiors (suggested in 2001 SIP process)	During the 2001 SIP development process, a suggestion was made to require control of VOC that off-gasses in new cars	This suggestion was part of the 2001 Ozone Attainment Plan development process (August 30, 2001 community meeting, Vallejo). The suggestion was to require some form of control of the volatile compounds that off-gas in new car interiors. Vinyl, nylon, synthetic rubber, and polyurethane foam all may off-gas and contribute to these emissions, which may be odorous. In the Reasonably Available Control Measure analysis done for the 2001 Plan, it was determined that the amount of volatilization is significantly less than a de minimis level, even though odors contained in automobile interiors from off-gassing may be objectionable. In addition, because the most likely form of control is by stipulating maximum allowable contents for various plasticizers and lubricants used in these materials, the jurisdiction for such a measure may fall under the consumer products regulations administered by CARB. Because the emissions are less than a de minimis level, this control measure is not recommended.	De Minimis Emission Reductions	Member of Public

Other

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Economic Incentive Programs (All)	SCAQMD Control Measure FLX-01. This measure	This measure would augment South Coast's various economic incentive and trading programs including the RECLAIM program,	De Minimis Emission Reductions	SCAQMD

would expand South Coast's emission trading programs to allow for broader trading of and between mobile and stationary sources.

mobile source credit generation programs, and mitigation fee or investment programs that allow payment of fees in lieu of compliance. The measure would create no emission reductions but would simply broaden trading options.

These programs are implemented through an extensive body of regulations. The Bay Area has never adopted such an emission trading system because of doubts about its necessity or feasibility for the Bay Area. A recent EPA report suggests various difficulties and problems with RECLAIM (see USEPA, Region 9, "An Evaluation of the South Coast Air Quality Management District's Regional Clean Air Incentives Market - Lessons in Environmental Markets and Innovation," November, 2002). In any case, such a system could not be established in the Bay Area within the planning horizon of the 2004 federal attainment demonstration or the 2003 CAP. This measure is not recommended for the CAP or the OAS.

Xeriscaping

This measure seeks to adapt landscaping (reduction of lawn coverage at residences and institutional grounds) to reduce the need for lawn and garden equipment.

Local government would be responsible for implementing this mitigation measure through zoning, new construction permits and other local measures to reduce lawn area in the region.

De Minimis Emission Reductions SMAQMD

SMAQMD suggested either a mandatory or voluntary program. For the mandatory program, SMAQMD estimated 0.04 tpd NOx reduction, 0.30 tpd VOC reduction at a cost of \$504 million for an initial investment. For the voluntary program, they estimated 0.00 tpd NOx reduction, 0.03 VOC reduction and a cost of \$50.4 million for an initial investment.

This control measure would be extremely expensive for very minimal emissions reductions. This control measure is also not recommended for inclusion into either the SIP or CAP because the implementation would require a significant local government effort that would, at present, be unenforceable by the BAAQMD.

Stationary Source

Agricultural Other

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Agricultural / Prescribed Burning	Sacramento Control Measure SN-54. This measure would ban prescribed burning on high-ozone days or spare-the-air days.	The analysis of the Sacramento measure (by the Sierra Nevada Air Quality Group) states that the Sacramento Valley Smoke Management Program provides that the districts may call no-burn days for days on which high ozone levels are expected. The control measure proposes making this a regulatory mandate. This would provide a basis for exclusion of ozone precursors generated by open burning from the	De Minimis Emission Reductions	SMAQMD

inventory used for ozone attainment demonstrations.

In the Bay Area, open burning emissions are lower than in the Sacramento valley. The BAAQMD inventory shows precursor emissions of 0.1 tons per day. As a practical matter, open-burning is unlikely to be allowed on high-ozone days because these days tend to be days with little ventilation, and BAAQMD meteorologists would not designate them as permissive burn days. In any case, emission reductions would be de minimis.

Combustion - Stationary

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Food and Ag Processing	Sacramento Control Measure D21. This measure would impose NOx controls on dryers used in the processing of fruits, grain, rice, cereals, tomatoes, and other crops.	Very small quantities of the crops for which dryers are commonly used are grown in the Bay Area. The District's base year 2000 inventory shows no NOx emissions from agricultural processing of this nature. Even in the Sacramento region, where larger quantities of these crops are grown, NOx emissions are noted in the TIAX analysis to be approximately 0.03 tons per day. By any measure, this is an insignificant source category, and emission reductions would be de minimis.	De Minimis Emission Reductions	SMAQMD
Incinerators	Sacramento Control Measure D15. This measure would impose NOx standards on solid waste incinerators.	SMAQMD Rule 408, which was last amended in 1976, requires that refuse be burned in multi-chambered incinerators except for household waste burned in certain areas of Sacramento County. This rule appears to have been adopted to control particulate emissions. However, incinerators typically burn natural gas and generate NOx emissions. The SMAQMD measure would require replacement of older incinerators with new models capable of achieving emissions of 60 lbs NOx / million cubic feet of natural gas burned. Cost effectiveness was estimated by SMAQMD to be \$29,000/ton (with a low fuel usage exemption) to \$63,000/ton (with no exemption). In the Bay Area, Regulation 6 limits particulate emissions from processes like incineration. As a result, there are no household or municipal waste incinerators in the Bay Area. This measure is not recommended for the CAP or the OAS.	De Minimis Emission Reductions	SMAQMD
Natural Gas Fuel Specifications	Sacramento Control Measure SN-8. This measure proposed to examine whether natural gas with higher-than-normal levels of ethane and	The Sierra Nevada Air Quality Group analyzed this potential measure and concluded that "hot gas" (natural gas with elevated levels of ethane and propane) was found only within the Southern California Gas. Co. system. This hot gas burns hotter and would therefore tend to increase NOx emissions. Because hot gas is not supplied in the Sacramento area, there are no available emission reductions. This is also true of	De Minimis Emission Reductions	SMAQMD

	propane lead to higher NOx emissions that could be reduced through fuel specifications.	the San Francisco Bay Area.		
Natural Gas Fuel Specifications (NOx)	SCAQMD Control Measure MSC-07. This measure would set higher heating value limits for natural gas.	This measure would set higher heating value limits for natural gas to limit the sale of natural gas with higher than average content of ethane, propane, and other hydrocarbons. This gas is called "hot gas" and is produced by wells that also produce crude oil. It tends to burn hotter and therefore produces higher NOx emissions. This hot gas is produced in Southern California and is not sold in Northern California. This measure would produce no emission reductions. This measure is identical to SMAQMD Control SN-8, which the Sierra Nevada Air Quality Group conclude would have no benefits within ther SMAQMD.	De Minimis Emission Reductions	SCAQMD
Other Gas Turbines	Sacramento Control Measurea D14 and D19. This measure would require SCONOx or other technologies that can achieve NOx levels of 2 ppm for large gas turbines used to generate electricity.	In the Bay Area, older electricity-generating turbines are located at the City of Santa Clara facility (2 turbines), the PG&E Hunters Point facility (2 turbines), the Mirant Potrero facility (6 turbines), and the Duke Energy Oakland facility (6 turbines). All of these turbines are peaking turbines for which SCONOx and SCR are unsuited, as noted by the SMAQMD analysis prepared by TIAX. In the Bay Area, new base-loaded turbines have been permitted at the Los Medanos and Delta power plants. These turbines are required to meet NOx limits of 2 ppm. Requiring SCONOx for these turbines would therefore produce no emission reductions. This control measure is not recommended for the CAP or OAS.	Not Technically Feasible	SMAQMD

Organic Solvent Usage

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
2000 CAP A3 - Improved Aerospace Coatings Rule	2000 Clean Air Plan further study measure A3 recommends consideration of lower VOC limits for aerospace coating operations.	Bay Area aerospace coating is regulated by Regulation 8, Rule 29: Aerospace Assembly and Component Coating Operations. Adoption of VOC limitations for aerospace component coating operations consistent with the South Coast's Rule 1124: Aerospace Assembly and Component Manufacturing Operations was proposed for the 2000 Clean Air Plan, as a modification of the 1991 Clean Air Plan Stationary Source control measure A3. The proposal was reviewed as part of the RACM analysis in the 2001 Ozone Attainment Plan. There are several categories of coatings in the Bay Area rule that are less stringent than in the South Coast rule, and the South Coast rule has limitations on the vapor pressure of clean-up solvents. The vapor pressure limitations produce no emission reductions since most commonly used clean-up	De Minimis Emission Reductions	CBE

solvents have vapor pressure limitations lower than the South Coast limits. The categories of coatings that are regulated more stringently than in the Bay Area are little used, primarily because much of the historic emissions from this category in the Bay Area are from re-work and most emissions from this category in the South Coast are from manufacturing. Consequently, categories of coatings within the universe of aerospace coatings have significantly different usages in the Bay Area and in the South Coast. Furthermore, much aerospace coating activity has moved out of the Bay Area. For the 2001 Ozone Plan, emissions from aerospace coating an were estimated at 0.1 ton/day. The current emission inventory states that 2002 aerospace coating activity accounts for only 0.05 ton/day. Because emission reductions from this measures would be de minimis, this control measure is not recommended.

2000 CAP A6 -
Surface Coating of
Plastic parts and
Products Rule

The 2000 Clean Air Plan
Further Study Measure A6
recommended lower VOC
limitations for plastic parts
coating and inclusion of
rubber and glass coating
similar to South Coast Rule
1145.

Plastic coating in the Bay Area is controlled by Reg 8, Rule 31: Surface Preparation and Coating of Plastic Parts and Products. The comparable South Coast Rule 1145: Plastic, Rubber and Glass Coatings, has two general limits for plastic coating and two for military applications. The general limits are 275 g/l VOC for one component coatings and 420 g/l for two component coatings. For military applications, the limits are 340 g/l VOC for one component coatings and 420 g/l for two component coatings. The Bay Area has one limit for all these applications, 340 g/l VOC. "One component" coatings are water based and achieve the 275 g/l standard in practice. Therefore, setting a 275 g/l standard in the Bay Area rule for one component coatings would not produce any emission reductions. The Bay Area rule, then, is more stringent as it requires 340 g/l VOC for all applications. Both rules have VOC limits for specialty coatings that vary somewhat, but the inventory of these specialty applications is insignificant.

De Minimis Emission CBE
Reductions

As iterated in the RACM analysis for the 2001 Ozone Attainment Plan for the 1-Hour National Ozone Standard, Bay Area Clean Air Plan Further Study Measure #A6 looked into the possibility of controlling emissions from glass and rubber coating. No facilities that coat rubber products and only one that coats glass products were discovered. The glass coating facility, a mirror manufacturer, is subject to permit conditions that limit VOC emissions, and emits less than 0.05 tons/day. Because emissions reductions would be de minimis, this control measure is not recommended for the Bay Area.

Aerospace Coating

Sacramento Control
Measure D-4 suggests that
control of aircraft and
aerospace coatings in the
Sacramento basin should

Bay Area aerospace coating is regulated by Regulation 8, Rule 29: Aerospace Assembly and Component Coating Operations. Adoption of VOC limitations for aerospace component coating operations consistent with the South Coast's Rule 1124: Aerospace Assembly and Component Manufacturing Operations was proposed for the 2000

De Minimis Emission SMAQMD
Reductions

be made consistent with the Sacramento rule, which is already as stringent as the South Coast aerospace coating rule, Rule 1124.

Clean Air Plan, as a modification of the 1991 Clean Air Plan Stationary Source control measure A3. The proposal was reviewed as part of the RACM analysis in the 2001 Ozone Attainment Plan. There are several categories of coatings in the Bay Area rule that are less stringent than in the South Coast rule, and the South Coast rule has limitations on the vapor pressure of clean-up solvents. The vapor pressure limitations produce no emission reductions since most commonly used clean-up solvents have vapor pressure limitations lower than the South Coast limits. The categories of coatings that are regulated more stringently than in the Bay Area are little used, primarily because much of the historic emissions from this category in the Bay Area are from re-work and most emissions from this category in the South Coast are from manufacturing. Consequently, categories of coatings within the universe of aerospace coatings have significantly different usages in the Bay Area and in the South Coast. Furthermore, much aerospace coating activity has moved out of the Bay Area. For the 2001 Ozone Plan, emissions from aerospace coating were estimated at 0.1 ton/day. The current emission inventory states that 2002 aerospace coating activity accounts for only 0.05 ton/day. Because emission reductions from this measure would be de minimis, this control measure is not recommended.

Architectural Coatings

Sacramento Control Measure D-6: Architectural Coatings. Reduce VOC limits based on SCAQMD future limits and to further reduce limits based on zero-VOC technology as iterated in the SCAQMD 2003 draft Plan

Most non-attainment Districts amended architectural coating rules in 2001 based on the CARB Suggested Control Measure (SCM) for Architectural Coatings (June, 2000). Sacramento adopted amendments in June, 2001, and the Bay Area adopted amendments to Regulation 8, Rule 3: Architectural Coatings, in November, 2001. The development of the SCM was based on direction from CAPCOA that directed further study by CARB and the districts to evaluate South Coast's future VOC limits and/or other limits to achieve the maximum possible reductions from the rule. CARB is currently evaluating survey data, and investigating both VOC content on a mass basis and also on a reactivity basis for a possible alternative regulatory policy. Districts will await the results of CARB surveys and data analysis to develop future, more stringent VOC restrictions. It is anticipated that the CARB/districts efforts will take until 2005 to complete.

Not Technically Feasible

SMAQMD

Future VOC limits in the South Coast Rule 1113 cannot be considered a RACM because it is unknown if coatings will be available to meet those limits. Rule 1113 requires a technology assessment for coatings with future low VOC limits. The regulatory limits cannot be considered as achievable if a positive technology assessment is still required for the limits to go into effect. The South Coast 2003 draft plan does not have enough specificity to evaluate the potential to require the use of zero-VOC technology.

Asphalt Paving/Roofing	Sacramento Control Measure SN-112. This measure would require controls on asphalt kettles used in built-up roofing.	This is not recommended for a control measure at this time.	De Minimis Emission Reductions	SMAQMD
BAAQMD Rule 8-19 Metal Parts Coating	Sacramento suggests that the Bay Area should adopt the same metal parts coating limits as found in Sacramento Rule 451.	<p>Traditional built-up roofs composed of layers of roofing felt bonded with hot asphalt are losing market share to other low-slope roofing materials such as modified bitumens, elastomers, and thermoplastics. The measure proposes two possible levels of control for asphalt roofing. The first would involve a requirement for the use of covers on kettles similar to requirements found in some air district rules. The Sacramento control measure description suggests that covers reduce emissions by approximately 20%. The second level of control would mandate the use of afterburners for kettles. The description implies that this would control emissions by close to 100%. This is perhaps true as to the kettle emissions alone. However, most emissions from asphalt roofing come during the application of hot asphalt to a roof. It therefore seems unlikely that afterburners would produce significant reductions in emissions.</p> <p>The Bay Area inventory for asphalt roofing is approximately 0.2 tons per day. The measure would produce de minimis emission reductions.</p>	De Minimis Emission Reductions	SMAQMD
BAAQMD Rule 8-20 Graphic Arts	Sacramento suggests lowering the exemption level for graphic arts operations to 60 lbs emissions/mo from 175 lbs emissions/mo. They recommend a VOC limit of 80 g/l for fountain solutions instead of 8%.	Although Sacramento Rule 450 has a 60 lbs/mo exemption level for graphic arts operations, which would seem more stringent than the Bay Area 175 lb/mo exemption level, the Sacramento rule also has a 175 lb/mo exemption if a source gets a permit limiting emissions to 175 lbs/mo. Because even very small Bay Area graphic arts operations (30 gallons of inks and other solutions per year or more as per BAAQMD Rule 2-1, or 6.25 lbs VOC/mo) are required to have a permit, and because the Rule 8-20 exemption of 175 lbs/mo typically appears as a condition in the permit, sources in the Bay Area that emit less than 175 lb/mo are no less stringently controlled than sources in Sacramento that emit less than 175 lb/mo. Therefore, there are no emission reductions	De Minimis Emission Reductions	SMAQMD

associated with this proposal.

The SMAQMD standard of 80 g/l for fountain solutions is derived from the 8% standard (1000g/l, the density of water, * .08 = 80 g/l). Since most fountain solutions have a density of no greater than that of water, the Bay Area standard is, if anything, more stringent.

BAAQMD Rule 8-29 Aerospace Coatings	Sacramento suggests changing limits in the BAAQMD aerospace coatings rule to parallel the SMAQMD and SCAQMD rules.	Bay Area aerospace coating is regulated by Regulation 8, Rule 29: Aerospace Assembly and Component Coating Operations. Adoption of VOC limitations for aerospace component coating operations consistent with the South Coast's Rule 1124: Aerospace Assembly and Component Manufacturing Operations was proposed for the 2000 Clean Air Plan, as a modification of the 1991 Clean Air Plan Stationary Source control measure A3. The proposal was reviewed as part of the RACM analysis in the 2001 Ozone Attainment Plan. There are several categories of coatings in the Bay Area rule that are less stringent than in the South Coast rule, and the South Coast rule has limitations on the vapor pressure of clean-up solvents. The vapor pressure limitations produce no emission reductions since most commonly used clean-up solvents have vapor pressure limitations lower than the South Coast limits. The categories of coatings that are regulated more stringently than in the Bay Area are little used, primarily because much of the historic emissions from this category in the Bay Area are from re-work and most emissions from this category in the South Coast are from manufacturing. Consequently, categories of coatings within the universe of aerospace coatings have significantly different usages in the Bay Area and in the South Coast. Furthermore, much aerospace coating activity has moved out of the Bay Area. For the 2001 Ozone Plan, emissions from aerospace coating were estimated at 0.1 ton/day. The current emission inventory states that 2002 aerospace coating activity accounts for only 0.05 ton/day. Because emission reductions from this measure would be de minimis, this control measure is not recommended.	De Minimis Emission Reductions	SMAQMD
Degreasing/Solvent Cleaning	Sacramento Control Measure D-7, Degreasing and Solvent Cleaning Operations. Reduce allowable VOC content of cold cleaners to 25 g/l VOC based on SCAQMD Rule 1171.1.	Sacramento Control Measure D-7 has two levels of control, first, to implement a 50 g/l VOC standard for cold cleaning operations in the Sacto air basin districts that do not currently have it, and to implement a 25 g/l standard for all Sacto air basin districts. In the evaluation, a South Coast contact is quoted as saying that the 25 g/l standard would have essentially a zero dollars cost effectiveness because most cleaning solutions are already at 25 g/l. Therefore, enacting the control measure would also not reduce emissions, although it could generate SIP credit. Because no real emission reductions would take place as a result of implementing this measure, it is not recommended.	De Minimis Emission Reductions	SMAQMD
Enhance New	Sacramento Control	The Air Resources Board has sole authority to directly regulate the	Lack Authority	SMAQMD

Consumer Product
VOC Limits for 2006

Measure SN-17 suggests a program to supplement new consumer product VOC limits expected to be enacted by CARB. The program would either establish a cap for consumer products or provide incentives to use lower emitting products.

VOC content of consumer products, under Health and Safety Code 41712. Sacramento Control Measure SN-17 recommends one option of a cap and trade program to limit the total emissions from consumer products at large institutions such as hospitals, office buildings, hotels and prisons. The other option is to offer incentive programs which would be of three possible types, 1) recognition as a "green" facility, 2) preferential treatment for government contracts, or 3) cash payments from a fund established for this purpose.

A cap and trade program would require permitting of certain facilities that are currently exempt from district permitting requirements, such as large office buildings, government buildings, prisons, hotels, schools and hospitals. These facilities would then have to account for their consumer product use and reduce either usage or VOC content of consumer products to fit under a "cap". This could be considered an attempt to indirectly regulate consumer product usage in violation of H&SC 41712, and would likely not be publicly acceptable. In addition, for consumer products that may have been reformulated to meet state standards, there may not exist many options for alternative, lower emitting products, so the measure might also fail the test of technical feasibility. Finally, although enforceable through recordkeeping and inspections, it could greatly expand the district's inspection obligations, essentially creating more cost (for permitting and inspection) than could reasonably be expected to be collected through permitting revenue.

An incentive option also has several potential pitfalls. Obtaining SIP credit for voluntary programs is problematic, as voluntary programs do not meet the test of "enforceable" or "permanent". Recognition as a "green" facility would entail substantial District resources to evaluate facilities against some low emitting standard. Research would be needed to qualify what would constitute the best available products usable, and cross media impacts would have to be considered. Any recognition should carry with it some form of potential reward, so a "Green" award should be usable for promotion purposes. This entails the development of advertising, logos, etc, that a company could then use for self promotion. Of note, the District currently has a Clean Air Champion award, it is possible that this award, or a similar structure could be used as an incentive. However, it should also be noted that the use of many "greener" products, such as recycled paper, has been accomplished without a government recognition program, simply from the recognition that use of the product has desirable environmental effects. When the consumer products program was being developed, ARB staff discussed a "green" award program but rejected the idea based on a lack of an identifiable target to quantify merit for a "green" award program. Any such program would be more effective at the state

level, where it could serve to influence manufacturers of consumer products and consumers statewide, than at the local level.

The second option, preferential treatment for government contracts, entails a regulatory authority that the District currently does not have. It should be noted that some government contracts already entail environmentally preferable elements. The Army, for example, stresses pollution prevention in its contracting. The third option, cash payments from a fund established for this purpose, would also require implementation of a new program and may require new authority. CARB, pursuant to AB10X, is proposing to charge large producers of consumer products fees to implement their regulatory program. A fund established for the purpose of monetary awards for being "green", if funded by manufacturers, would be an additional expense to consumer product manufacturers in addition to the state fees. Consequently, it would receive significant opposition.

Because the greatest impact from any voluntary enhancement program is likely to come from state action, this control measure is not recommended. The ARB has committed to reduce emissions from consumer products by reducing allowable limits by 5 t/dy by 2006 (1 t/dy in the Bay Area) and an additional 20 to 35 t/dy by 2010 (4 to 7 t/dy in the Bay Area).

Enhance New Consumer Product VOC Limits for 2008-2010	Sacramento Control Measure SN-18 suggests a program to supplement new consumer product VOC limits expected to be enacted by CARB in the 2008 - 2010 timeframe. The measure is the same as was proposed for 2006.	See analysis for Enhance New Consumer Product VOC Limits for 2006.	Lack Authority	SMAQMD
Paper, Fabric and Film	Sacramento Control Measure D-13, Paper, fabric and film (coating) operations recommends adopting VOC limits for screen printing in the portions of the Sacramento basin that do not regulate this activity.	The Bay Area already controls the coating of paper, fabric and film through Regulation 8, Rule 12: Paper, Fabric and Film Coating Operations. The Sacramento control measure proposes control of screen printing, which is controlled by specific VOC limits in Bay Area Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations. El Dorado County has a VOC limit for screen printing of 300 g/l, however, no facility is subject to the rule that emits less than 660 lbs VOC/month (22 lb/day). It is not known if any screen printing facilities are in compliance with the 300 g/l VOC limit. Of note, the South Coast Rule 1130.1: Screen Printing Operations, has numerous high-VOC specialty limits, but no VOC limit of less than 400 g/l. Silkscreening operations tend to be sign shops, printed circuit board operations and,	De Minimis Emission Reductions	SMAQMD

occasionally, T-shirt operations. In the Bay Area, only one facility has emissions of greater than 660 lb/mo, South Bay Circuits. This facility silkscreens printed circuit boards. It is in compliance with the Bay Area Regulation 8, Rule 4.

Incorporating the current exemption level of 175 lb/mo, a reduction from of 33% (400 g/l VOC ink to 300 g/l VOC ink) emissions reductions from affected facilities would total only 0.11 lb/day. This is less than de minimis.

Pesticides	Sacramento Control Measure SN-55 suggests a reduction of solvent content of agricultural pesticide or possible intermittent control of pesticide application on Spare the Air days.	The 1994 California State Implementation Plan projected a 20% reduction in VOC emissions from pesticides, however, neither the Air Resources Board, nor local districts have authority to regulate pesticide content. That authority lies with the California Department of Pesticide Regulation, and, to date, they have taken no action on requiring reformulation. The Sacramento control measure also speculates on including a voluntary or mandatory curtailment of pesticide application on Spare the Air days. However, the hot, still days that are most likely to be Spare the Air days are the most desirable for pesticide application, and would likely be days on which agricultural burning was prohibited. In addition, EPA has not recognized intermittent controls for SIP credit. Consequently, the most effective regulatory approach would be to reduce organic content of pesticides. However, because reduction of organic content pesticides is not within the legal authority of the District, this control measure is not recommended.	Lack Authority	SMAQMD
Petroleum Dry Cleaning	Sacramento Control Measure D5. This measure would ban use of transfer systems in petroleum dry cleaning.	There are approximately 173 petroleum dry cleaners in the Bay Area. All but three of the facilities use closed-loop machines. Most of these machines are new and have been purchased to replace perchloroethylene machines. Emissions from the 3 facilities that use transfer machines are approximately 0.013 tons per day. The emission reduction from requiring conversion to closed-loop machines for these 3 facilities would be approximately 0.010 tons per day. This is a de minimis emission reduction.	De Minimis Emission Reductions	SMAQMD
Plastic parts coating	Sacramento Control Measure D-9, Surface Coating of Plastic Parts and Products recommends an average VOC limitation of 4.5 lbs/gal for plastic, rubber and glass surfaces.	This control measure recommends an average VOC emission limitation of 4.5 lbs/gallon (540 g/l). The existing Bay Area Regulation 8, Rule 31: Surface Preparation and Coating of Plastic Parts and Products contains a VOC limit for general coatings for plastic parts of 2.8 lbs/gal (340 g/l). As iterated in the RACM analysis for the 2001 Ozone Attainment Plan for the Federal One Hour Ozone Standard, Bay Area Clean Air Plan Further Study Measure #A6 looked into the possibility of controlling emissions from glass and rubber coating. No facilities that coat rubber products and only one that coats glass products were discovered. The facility, a mirror manufacturer, is subject to permit conditions that limit VOC emissions, and emits less than 0.05 tons/day. For these reasons,	De Minimis Emission Reductions	SMAQMD

Plastic, rubber and glass coating (2001 SIP process)

Set VOC limits for rubber and glass coating (SCAQMD rule)

this control measure is not recommended for the Bay Area.

Plastic coating in the Bay Area is controlled by Reg 8, Rule 31: Surface Preparation and Coating of Plastic Parts and Products. The comparable South Coast Rule 1145: Plastic, Rubber and Glass Coatings, has two general limits for plastic coating and two for military applications. The general limits are 275 g/l VOC for one component coatings and 420 g/l for two component coatings. For military applications, the limits are 340 g/l VOC for one component coatings and 420 g/l for two component coatings. The Bay Area has one limit for all these applications, 340 g/l VOC. "One component" coatings are water based and achieve the 275 g/l standard in practice. Therefore, setting a 275 g/l standard in the Bay Area rule for one component coatings would not produce any emission reductions. The Bay Area rule, then, is more stringent as it requires 340 g/l VOC for all applications. Both rules have VOC limits for specialty coatings that vary somewhat, but the inventory of these specialty applications is insignificant.

De Minimis Emission Reductions CBE

As iterated in the RACM analysis for the 2001 Ozone Attainment Plan for the 1-Hour National Ozone Standard, Bay Area Clean Air Plan Further Study Measure #A6 looked into the possibility of controlling emissions from glass and rubber coating. No facilities that coat rubber products and only one that coats glass products were discovered. The glass coating facility, a mirror manufacturer, is subject to permit conditions that limit VOC emissions, and emits less than 0.05 tons/day. Because emissions reductions would be de minimis, this control measure is not recommended for the Bay Area.

Other

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Additional NOx Reductions for RECLAIM (NOx)	SCAQMD Control Measure CMB-10. The RECLAIM program's NOx allocations (emission allowances) decline annually until 2003. This measure would reduce NOx allocations for each year from 2003 to 2010.	This measure is a modification to South Coast's RECLAIM program, an emission trading program based on declining facility emission caps or allocations. This program is implemented through an extensive body of regulations. The Bay Area has never adopted such an emission trading system because of doubts about its necessity or feasibility for the Bay Area. A recent EPA report suggests various difficulties and problems with RECLAIM (see USEPA, Region 9, "An Evaluation of the South Coast Air Quality Management District's Regional Clean Air Incentives Market - Lessons in Environmental Markets and Innovation," November, 2002). In any case, such a system could not be established in the Bay Area within the planning horizon of the 2004 federal attainment demonstration or the 2003 CAP. This measure is not recommended for the CAP or the OAS.	Not Technically Feasible	SCAQMD

Emission Charges of \$5,000 per Ton of VOC for Stationary Sources Emitting Over 10 Tons per Year (VOC)	SCAQMD Control Measure FSS-04. This measure would impose an emissions fee on large stationary sources emitting more than 10 tons per year of VOC.	The South Coast AQMD has authority to levy permit fees based on emissions pursuant to Health and Safety Code section 40510. Permit fee authority for all other air districts is governed by Health and Safety Code section 4231, which does not authorize fees based on emissions. In addition, Section 185 of the 1990 federal Clean Air Act requires stationary sources in severe and extreme nonattainment areas not attaining the federal standard by the applicable attainment date (e.g., South Coast AQMD) to pay a \$5,000 per ton of VOC fee. This measure is not feasible because the BAAQMD lacks the legal authority granted the SCAQMD.	Lack Authority	SCAQMD
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Other Industrial/Commercial Processes

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Bakeries	Sacramento Control Measure D-24 proposes to lower the exemption limit for bakeries in Sacramento Rule 458 from 100 lbs to 50 lbs and make the rule uniform throughout the air basin.	<p>Sacramento Rule 458: Large Commercial Bread Bakeries requires emissions be reduced by 95%. The rule applies to sources that emit over 100 lbs VOC per day. The Bay Area rule, Regulation 8, Rule 42: Large Commercial Bread Bakeries, requires emissions to be reduced by 90%, and applies to ovens that emit 150 lbs per day, ovens in operation prior to 1988 that emit 250 lbs/dy, or bakeries that produce 100,000 lbs of bread per day. Sacramento Control Measure D-24 proposes to lower the limit of applicability for the Sacramento basin from 100 lbs/day emissions to 50 lbs/day.</p> <p>The Bay Area bakery rule was adopted in 1989. Bay Area Regulation 2, Rule 1: Permits, requires permits of any oven that produces 10,000 bread products per day. At an average emission rate of 5.6 lbs VOC (mostly ethanol) per 1000 lbs bread, this means that any oven will require permits if it emits 56 lbs per day. Any oven that requires a permit that is new or modified would be required to meet new source review provisions found in the Bay Area new source review rule. Consequently, although the Sacramento control measure proposes a more stringent level of applicability than exists in the Bay Area rule, a review of permitted facilities shows that there is no bakery in the Bay Area that is currently uncontrolled that emits over 50 lbs/day. Consequently, lowering the applicability level of the rule, as the Sacramento control measure suggests, would not produce any emission reductions.</p> <p>The inventory for bakeries in the Bay Area show 0.27 t/dy from large bakeries and 0.64 t/dy from small bakeries. Because of existing controls, requiring more stringent controls (95% instead of 90%) would reduce emissions by only 0.014 tons, less than a de minimis amount.</p>	De Minimis Emission Reductions	SMAQMD

Other Industrial/Commerical Processes

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Asphaltic Concrete Production	Sacramento Control Measure SN-59. This measure would impose NOx and VOC controls on asphalt hot mix plants.	<p>The description of this measure by the Sierra Nevada Air Quality Group suggests that there is uncertainty about the appropriate level of VOC controls. Two levels of NOx control are suggested. The first level would be approximately 0.15 lbs NOx/MMBtu and could be achieved by careful burner maintenance. The second would require low-NOx burners.</p> <p>The Bay Area inventory for hot mix asphalt plants shows emissions of 0.04 tons NOx per day and 0.03 tons VOC per day. Emissions and potential reductions are de minimis.</p>	De Minimis Emission Reductions	SMAQMD
BAAQMD Rule 8-6 Bulk Plants and Terminals	Sacramento suggests that BAAQMD Rule 8-6 should include a standard of 0.08 lbs/1000 gals for loading racks at terminals (as found in Sacramento Rule 447).	<p>The suggestion from Sacramento is that the Bay Area control emissions from bulk plants subject to Regulation 8, Rule 6:Organic Liquid Bulk Terminals and Bulk Plants, to the level of Sacramento's Rule 447: Organic Liquid Loading. The Sacramento rule applies to gasoline bulk terminals and plants and the Bay Area controls emissions from those facilities to as stringent a level by the requirements in Bay Area Regulation 8, Rule 33: Gasoline Bulk Terminals and Gasoline Delivery Vehicles, and by Regulation 8, Rule 39: Gasoline Bulk Plants and Gasoline Delivery Vehicles. Bay Area Reg 8, Rule 6 limits emissions from loading other organic liquid such as chemicals, and sets an emission standard of 0.17 lbs/1000 gal for bulk terminals and 0.35 lb/1000 gal for bulk plants. In response to the 1994 Clean Air Plan Control Measure B1, Bay Area staff investigated the possibility of further controlling rail car loading subject to Reg 8, Rule 6. Staff identified 19 facilities where loading occurs and determined that the total inventory is 0.10 ton/day. Of these facilities, some are already controlled, and the cost estimates to control the remainder indicated that the proposal is not cost effective. Due to small inventory and cost ineffectiveness, this control proposal is not recommended.</p>	De Minimis Emission Reductions	SMAQMD
Cap and Trade Emissions Reduction Program similar to RECLAIM	Sacramento Control Measure SN-4. This measure would implement a cap and trade program like the South Coast AQMD RECLAIM program.	<p>The Bay Area has never adopted such an emission trading system because of doubts about its necessity or feasibility for the Bay Area. A recent EPA report suggests various difficulties and problems with RECLAIM (see USEPA, Region 9, "An Evaluation of the South Coast Air Quality Management District's Regional Clean Air Incentives Market - Lessons in Environmental Markets and Innovation," November, 2002). In any case, such a system could not be established in the Bay Area within the planning horizon of the 2004 federal attainment demonstration or the 2003 CAP. This measure is not recommended for the CAP or the OAS.</p>	Not Technically Feasible	SMAQMD

Formica Manufacturing	Sacramento Control Measure SN-61C would limit emissions from formica manufacturing facilities.	Placer County has a formica manufacturing facility. The proposed control measure suggests that emissions might be controlled to a level similar to a facility in Ohio. However, there are no facilities that manufacture this type of material in the Bay Area.	De Minimis Emission Reductions	SMAQMD
Further Emission Reductions from Large VOC Sources (VOC)	SCAQMD Control Measure MSC-08. This measure proposes emission reductions from the largest stationary sources through the use of emission reduction plans.	This control measure proposes emission reduction plans for the largest stationary sources within the South Coast air basin. These plans would commit facilities to reduce emissions from those allowed under existing regulations. Emission reductions are suggested to be in the range of 3% to 5% per year. The measure does not describe specifically which facilities would be affected, how emissions would be measured, how reductions would be achieved, or how reductions would be verified. Nor does it specify the quantity of reductions that might be achieved. Because of this lack of clarity, this measure does not lend itself to analysis. Within the BAAQMD, virtually all source categories are regulated by rules that meet federal RACT and California BARCT requirements. Additional controls would therefore go well beyond RACM. In addition, the proposed reductions are within the margin of error of many emission measurement methods making it very difficult to verify compliance with the plans. In addition, the plans would be unlikely to meet EPA requirements for SIP submittals. It would be more appropriate to identify potential reductions for specific source categories and propose amendments to the source category rule or rules.	Not Technically Feasible	SCAQMD
Glycol Dehydrators	San Joaquin and Ventura have adopted rules that control emissions from glycol dehydrators associated with natural gas drilling by requiring emissions to be vented to a control device, consisting of an existing flare or reboiler.	The San Joaquin Valley Unified APCD adopted Rule 4408 to control emissions from glycol dehydrators in December, 2002. The San Joaquin rule was based on an existing rule in Ventura County, Rule 71.5, that has been in existence since 1994. The San Joaquin staff report for Rule 4408 estimated costs to be from \$280 to \$570 per ton of VOC reduced. Glycol dehydrators are used to remove water from natural gas at production or storage wells. Glycol dehydrators remove water by passing natural gas through triethylene glycol or, less commonly, ethylene glycol. After the glycol absorbs water from natural gas, the glycol is heated to drive off the water. However, hydrocarbons, associated with the natural gas, including a number of HAPS like benzene, are also removed by the glycol and may be emitted to the atmosphere by the dehydrator. To reduce HAP emissions from glycol dehydrators, EPA adopted national emission standards for large dehydrators in 1999. Most of the glycol dehydrators in the Bay Area are not big enough to be affected by the federal proposal. Data on gas production by county is available from the California	De Minimis Emission Reductions	SJVUAPCD

Department of Natural Resources. The San Joaquin district, for Rule 4408, estimated emissions from glycol dehydrators at 1.66 tons/day. The counties in the San Joaquin district collectively produced 232.527 billion cubic feet of gas in 2001, compared to 13.397 billion cubic feet for the Bay Area (adjusted for the portion of Solano County that lies outside the Bay District). This ratio suggests that the inventory for natural gas dehydrators in the Bay Area is less than 0.1 tons/day ($12.397/232.527 * 1.66 = 0.089$).

Some larger glycol dehydrators in the Bay Area are under permit based on their emissions. Those have reduced their emissions by 95%. The federal MACT standard also requires control of larger glycol dehydrators. Because the emissions from this source category are less than de minimis, this control measure is not recommended.

Glycol Reboilers
(SJVUAPCD)

SJVUAPCD adopted Rule 4408 to control emissions from glycol dehydrators associated with natural gas drilling and extraction.

The San Joaquin Valley Unified APCD adopted Rule 4408 to control emissions from glycol dehydrators in December, 2002. The San Joaquin rule was based on an existing rule in Ventura County, Rule 71.5, that has been in existence since 1994. The San Joaquin staff report for Rule 4408 estimated costs to be from \$280 to \$570 per ton of VOC reduced.

De Minimis Emission Reductions SJVUAPCD

Glycol dehydrators are used to remove water from natural gas at production or storage wells. Glycol dehydrators remove water by passing natural gas through triethylene glycol or, less commonly, ethylene glycol. After the glycol absorbs water from natural gas, the glycol is heated to drive off the water. However, hydrocarbons, associated with the natural gas, including a number of HAPS like benzene, are also removed by the glycol and may be emitted to the atmosphere by the dehydrator. To reduce HAP emissions from glycol dehydrators, EPA adopted national emission standards for large dehydrators in 1999. Most of the glycol dehydrators in the Bay Area are not big enough to be affected by the federal proposal.

Data on gas production by county is available from the California Department of Natural Resources. The San Joaquin district, for Rule 4408, estimated emissions from glycol dehydrators at 1.66 tons/day. The counties in the San Joaquin district collectively produced 232.527 billion cubic feet of gas in 2001, compared to 13.397 billion cubic feet for the Bay Area (adjusted for the portion of Solano County that lies outside the Bay District). This ratio suggests that the inventory for natural gas dehydrators in the Bay Area is less than 0.1 tons/day ($12.397/232.527 * 1.66 = 0.089$).

Some larger glycol dehydrators in the Bay Area are under permit based on their emissions. Those have reduced their emissions by 95%. The

Industrial Process Operations (VOC)	SCAQMD Control Measure PRC-07. This measure would further reduce VOC emissions from miscellaneous industrial operations ranging from rubber, plastic, and glass manufacturers or fabricators to bakeries.	federal MACT standard also requires control of larger glycol dehydrators. Because the emissions from this source category are less than de minimis, this control measure is not recommended. SCAQMD control measure PRC-07 proposes to further reduce VOC emissions from miscellaneous industrial operations ranging from rubber, plastic, and glass manufacturers or fabricators to bakeries. The measure proposes to review various inventory categories and "seek emission reductions from the processes that can potentially be modified, controlled, or converted." The measure does not identify specific types of facilities or processes or means of control. The measure is essentially a further study measure that proposes a review of various inventory categories for potential emission reductions. It is too vague to analyze.	Not Technically Feasible	SCAQMD
Wood and Paper	Sacramento Control Measure SN-62. This measure would impose controls on fiberboard manufacturing or other similar processes such as plywood manufacturing.	The Sierra Pine MDF plant in the Placer County APCD is the only facility in the Sacramento region that would be potentially subject to controls under this measure. Because there are no fiberboard, plywood, or other similar facilities in the Bay Area, this measure would produce no emission reductions.	De Minimis Emission Reductions	SMAQMD

Petroleum Distribution and Marketing

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Gasoline Bulk Plants	Sacramento Control Measure D-28 suggests further control of bulk plants by 1) adopting uniform 0.6 lbs VOC/1000 gal loaded standard, 2) adopting a lower (0.08 lbs/1000 gal) standard for bulk plants, and 3) adopting tank seal standards in El Dorado County.	Sacramento Control Measure suggests three levels of control. The first would unify the districts in the basin at a control level of 0.6 lbs VOC per 1000 gallons gasoline loaded. The second level would be to set the control level to a lower level, consistent with El Dorado County, at 0.08 lbs/1000 gallons loaded, and the third would require El Dorado County to adopt seal and seal gap requirements for gasoline storage tanks. This measure suggests control requirements at gasoline bulk plants. Bulk plants and bulk terminals are different, in that bulk plants receive gasoline by truck and store it for transfer to delivery vehicles, and bulk terminals receive gasoline by pipeline. The difference is that bulk plants can return the gasoline vapors via a balance system (vapors occupy space vacated by liquid gasoline in tanks and delivery vehicles), whereas bulk terminals must process the vapors because vapors cannot be returned to refineries via pipeline. Bulk plants may also process gasoline vapors. In the Bay Area, bulk terminals and bulk plants are controlled by two separate rules, Regulation 8, Rule 33: Gasoline Bulk Terminals and Gasoline Delivery Vehicles, and Regulation 8, Rule 39: Gasoline Bulk Plants and Gasoline Delivery	Not Technically Feasible	SMAQMD

Vehicles, respectively. The standard in Rule 39 is 0.5 lbs VOC per 1000 gallons gasoline loaded, which is already more stringent than the first level of suggested control in the Sacramento proposal. Most bulk plants control emissions by vapor balancing, which controls emissions to a greater degree than the standard requires (approximately 0.3 lbs/1000 gallons loaded).

The proposed second level of control is based on El Dorado's Rule 244 which requires either a 99% reduction in emissions or that terminals and plants meet a standard of 0.08 lbs/1000 gallons loaded. In addition, the rule requires state certification of any control system to the level of control in the rule. The control measure concedes that it is unknown if any facilities can meet this level of control. The proposed bulk plant standard is derived from standards for bulk terminals. Bay Area Rule 33 contains this standard. Currently, no bulk plants in El Dorado County have been certified to this standard, and it may be unlikely that a typical existing bulk plant could meet it. The standard was required by ARB without technical review of the feasibility or costs of the control for El Dorado County and the standard is the most stringent in the state. The South Coast rule has standards based on throughput, independent of how gasoline is received. Although the most stringent standard in South Coast Rule 462 is 0.08 lbs/1000 gal loaded, less stringent standards apply to bulk plants with throughputs less than 20,000 gal/day, which would be typical for bulk plants in the Bay Area. The South Coast requirement for these bulk plants is 90% control, which can be achieved by vapor balancing.

The third level of suggested control, setting seal and seal gap requirements, is consistent with standards already in Bay Area Regulation 8, Rule 5: Storage of Organic Liquids.

These suggested control measures would not produce any emission reductions in the Bay Area with the exception of setting a standard for bulk plants of 0.08 lbs/1000 gal loaded, which is not feasible.

Transportation

Spare the Air

<i>Measure Name</i>	<i>Measure Description</i>	<i>Analysis</i>	<i>Reason Rejected</i>	<i>Recommended By</i>
Spare the Air - Smog Check	Provide free smog check on STA days, including gas cap test	State law requires motor vehicle owners to have each vehicle undergo a vehicle inspection and maintenance test (vehicle I&M or "smog check") every two years as part of the vehicle registration process.	De Minimis Emission Reductions	BAAQMD Advisory Cou

(Vehicles over 30 years old and less than 5 years old - unless undergoing change of ownership - are exempt from this requirement.)

Previously, vehicles registered in the Bay Area were subject to the "basic" smog check. In 2002, certain enhancements to the basic test were added to Bay Area inspections, specifically a test of the vehicle's evaporative control system and a visual inspection for liquid leaks. The evaporative test is primarily a test of the gas cap, to assure that evaporative emissions of gasoline vapors are properly controlled. Subsequently, State legislation passed in 2002 that requires Bay Area vehicles to undergo the more rigorous "enhanced" smog check. Full implementation of enhanced smog checks will begin in October 2003.

Some vehicle owners do not register their vehicles. Reasons may include: cost of registration, cost of smog check and subsequent repairs, privacy concerns, and other reasons.

The Air District's Spare the Air program is a voluntary program in which Bay Area residents and businesses are asked to postpone polluting activity on days when weather conditions are conducive to high ozone levels. In recent years, there have been roughly 5 - 11 Spare the Air days each year.

This proposal suggests that the Spare the Air program include free smog checks, including the gas cap test, on Spare the Air days. All Bay Area vehicles between 5 - 30 years of age are already required by State law to undergo smog check biennially. While unregistered vehicles do not undergo smog check, the cost of the smog check test itself is generally much less than vehicle registration fees and costs of repairs indicated by the smog check. Therefore, offering free smog checks on a very limited number of days per year is not expected to significantly increase compliance or significantly reduce emissions.