FINAL 2007 AQMP
APPENDIX VI

REASONABLY AVAILABLE CONTROLMEASURES (RACM) DEMONSTRATION

JUNE 2007

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INTRODUCTION

The Clean Air Act, Section 172(c)(1), requires a non-attainment plan to:

> *"provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology), and shall provide for attainment of the national primary ambient air quality standards."*

Reasonable measures are those measures that are technologically and economically feasible within the non-attainment area. A demonstration for RACM should be provided with the State Implementation Plan (SIP). The U.S. EPA's long-standing interpretation of the RACM provision is that the states should consider all candidate measures that are available, including any measures that have been suggested; however, states are not obligated to adopt all measures. However, the RACM demonstration should show that there are no additional reasonable measures available that would advance the attainment date by at least one year or contribute to RFP for the area.[1] On July 2, 2002, the U.S. Court of Appeals upheld U.S. EPA's definition of RACM, including the consideration of economic and technological feasibility, the ability to cause substantial widespread and long-term adverse impacts, the collective ability of the measures to advance a region's attainment date, and whether an intensive or costly effort will be required to implement the measures. The objective of this Appendix is to demonstrate that District staff has satisfied the requirement of the Clean Air Act in developing the control measures for the 2007 AQMP.

PROCESS OF IDENTIFYING REASONABLY AVAILABLE CONTROL MEASURES

The South Coast air basin is the only area in the nation currently classified as Severe-17[2] for 8-hour ozone. The South Coast's AQMP is built on a two-step strategy, first to attain PM2.5 in 2015 and then to attain 8-hour ozone in 2024. District staff's goal is to incorporate all feasible control measures for directly emitted PM2.5 and precursors of PM2.5 and ozone (NOx, SOx, VOC, ammonia) while balancing costs and socioeconomic impacts.

To identify all Reasonably Available Control Measures (RACM), which include all Reasonably Available Control Technology (RACT), District staff conducted multiple internal meetings with the Technology Advancement Office and Engineering & Compliance Division as well as with staff from the California Air Resources Board

[1] Final Clean Air Fine Particle Implementation Rule – For Implementation of 1997 PM2.5 Standards, 40 CFR Part 51, March 29, 2007.
[2] A "bump-up" request to "Extreme" non-attainment classification is necessary.

(CARB), California Environmental Protection Agency (CalEPA), technical experts from a variety of fields, local government representatives, and the public, to collect a wide range of innovative ideas and concepts.

In order to ensure that all feasible control measures for PM2.5 were considered, District staff reviewed for inclusion the control measure concepts suggested by the U.S. EPA for PM2.5 non-attainment areas in the Final Implementation Rule for the 1997 PM2.5 Standards.[3]

Because it is classified as Severe-17, the South Coast air district rules and regulations should be at least as stringent as the rules and regulations implemented by other agencies. Staff re-evaluated all 82 SCAQMD source-specific rules and regulations, and compared current requirements in these rules with those implemented by the Sacramento Metropolitan, San Joaquin Valley, Ventura, and San Francisco Bay Area air districts. Staff selected the four districts above based on the severity of their 8-hour ozone non-attainment classification and their near-term attainment dates as shown in Table 1 – 8-Hour Ozone Designations, as follows:

- San Joaquin Valley, classified as Serious with a June 2013 attainment date
- Sacramento Metro, classified as Serious with a June 2013 attainment date
- Ventura, classified as Moderate with a June 2010 attainment date, and
- San Francisco Bay Area, classified as Marginal with a June 2007 attainment date.

In addition, District staff compared the applicable rules with the four control technique guidelines recently published by the U.S. EPA in September 2006 for coating and printing operations.

Because it is classified as Severe-17, the South Coast air district should at least implement and adopt control measures as stringent as the control measures adopted by other agencies in the nation. As shown in Appendix IV-A, District staff conducted research and evaluated the South Coast control measures (not including control measures for mobile sources and transportation control measures) against more than 100 control measures endorsed and published by the following seven agencies:

- Draft 2007 8-Hour Ozone Plan - San Joaquin Valley, California (Serious)
- Draft 2007 8-Hour Ozone Plan - Sacramento Metropolitan, California (Serious)
- Final 2006 1-hour Ozone Plan - San Francisco Bay Area, California (Moderate)

[3] Final Clean Air Fine Particle Implementation Rule – For Implementation of 1997 PM2.5 Standards, 40 CFR Part 51, March 29, 2007.

- Final 2007 Control Strategies for 8-Hour Ozone Attainment Demonstration - North Central Texas Council of Governments, developed for Dallas & Fort Worth (DFW) and Houston, Galveston & Brazoria (HGB), Texas (Moderate)
- Draft 2005 8-Hour Control Concepts – Lake Michigan Air Directors Consortium developed for the Midwest states

To be considered as RACM, feasible clean-air technologies must be cost-effective, as indicated by the U.S. EPA in the Final Implementation Rule for the 1997 PM2.5 Standards:

> "*In considering what level of control is reasonable, EPA is not proposing a fixed dollar per ton cost threshold for RACT…Where essential reductions are more difficult to achieve (e.g., because many sources are already controlled), the cost per ton may necessarily be higher. It is not appropriate to assume that the same cost per ton range is reasonable for direct PM2.5 and different precursors, because an equal amount of emission reduction in different pollutants has a different impact on PM2.5 ambient levels…reductions of direct PM2.5 emissions may prove more expansive than reductions of NOx emissions, but the resulting benefits of reductions of direct PM2.5 might warrant a higher costs.*"

In this Appendix, staff considered that clean-air technologies included in the air quality management plans of other air quality management districts in California, as well as outside of California, were reasonably cost-effective to be included in the SCAQMD 8-Hour Ozone AQMP. Cost effectiveness analyses of the control measures, when available, were provided in Appendix IV-A and IV-B. District staff will continue its efforts to develop cost effectiveness estimates for the remaining measures. During the rule development process, cost effectiveness, as well as emission inventories and potential emission reductions, will be carefully reviewed and assessed. An evaluation of the SCAQMD control measures is provided below.

EVALUATION OF SCAQMD'S 2007 CONTROL MEASURES

Step 1 - AQMP Summit

District staff conducted a 2007 AQMP Summit in June 2006 with participation over 125 attendees including experts from a variety of areas and the public to solicit new and innovative concepts to assist the Basin in attaining the ambient air quality standards for PM10 by 2015 and ozone by 2021. In total, District staff received about 200 control measure suggestions. In general, District staff was advised to 1) promote electrification; 2) focus on technology that improves energy efficiency and protects global warming; 3)

influence consumer awareness and choice on low- or zero-VOC products; 4) incentivize low- or zero-emission control technologies; 5) promote the use of remote sensing to detect high polluters, and 6) improve public participation and multi-agency collaboration.

Step 2 - U.S. EPA Suggested List of Control Measures

Clean Air Act Section 172 does not provide a specific list of source categories and control measures that must be evaluated for PM2.5 or ozone RACM. To provide guidance to states on PM2.5 RACT and RACM, the U.S. EPA reviewed the emission inventory information for more than 200 counties in the nation that are currently classified as PM2.5 non-attainment and a wide variety of information sources to identify a list of available control measures. Consequently, the U.S. EPA published a list of suggested potential RACT and RACM for PM2.5 in the Final Implementation Rule for the 1997 PM2.5 Standards. The U.S. EPA does not have any list for 8-hour ozone RACM. As shown in Table 2 – RACT and RACM from U.S. EPA for PM2.5 Implementation, District staff has developed control measures for each PM2.5 RACT and RACM provided by the U.S. EPA.

Step 3 - RACT Revised by U.S. EPA in September 2006

As required in Clean Air Act (CAA) Section 172(c)(1) the State Implementation Plan for non-attainment areas must include RACM, which in turn must reflect RACT. The U.S. EPA defines RACT as:

> "*lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility*".

Section 182(b)(2) of the Clean Air Act provides that States must revise their State Implementation Plan to include RACT for VOC sources covered by a Control Techniques Guidelines (CTG) document issued by the U.S. EPA after November 15, 1990 and prior to the area's date of attainment. The Clean Air Act requires the U.S. EPA to revise RACT, update existing CTG documents, or develop new documents, on a frequent basis to provide states and local agencies with most current technical information and assist them in determining RACT. In September 2006, the U.S. EPA updated the CTGs of:

- Offset Lithographic and Letterpress Printing
- Flexible Packaging Printing
- Industrial Cleaning Solvents
- Flat Wood Paneling Coatings

District staff compared the current requirements in the SCAQMD's Rule 1104 – Wood Flat Stock Coating Operation (amended 8/13/99), Rule 1171 – Solvent Cleaning Operations (amended 7/14/06), and Rule 1130 – Graphics Arts (amended in 10/8/99) with the requirements in the revised CTGs. Rule 1104 and Rule 1171 meet the stringency requirements in the CTGs; however, Rule 1130 does not meet the recommended alcohol content in fountain solution for sheet-fed presses and heat-set web presses. District staff will make the necessary corrections in forthcoming rulemaking as part of Control Measure MCS-07 – Application of All Feasible Measures as shown in Table 3.

Step 4 - Other Districts' Current Rules and Regulations

District staff reviewed all rules and regulations recently adopted or amended, from 2000 to 2006, by San Joaquin Valley, Sacramento, Ventura and San Francisco air districts, and compared the requirements in these rules with those in the South Coast. District staff selected these districts based on the severity of their classifications and near-term attainment dates.

Table 3 contains a brief description of the 82 source-specific rules that staff analyzed and a summary of other districts' requirements, only if they were more stringent than the South Coast's rules. In addition, Table 3 also includes a description of the control measures adopted by other agencies for their own 8-hour Ozone AQMP, and information on advanced technologies or U.S. EPA consent decrees that District staff is aware of that may result in additional emission reductions. In general, the District's current rules and regulations are equivalent to or more stringent than those developed by other air districts, with few exceptions shown in Table 3 where improvements are possible. Consequently, District staff developed several control measures to address these areas, such as Control Measure MCS-01 – Facility Modernization, MCS-07 – Application of All Feasible Measures, CMB-02 – Reduction of Emissions in RECLAIM. Table 3 identifies these control measures. In general, the areas identified are to explore the feasibility of:

- Lowering emission limit and increasing level of control in order to promote cleaner technologies;
- Lowering VOC content of coatings/solvents;
- Establishing standards and test methods for generic control equipment;
- Lowering release or leak thresholds, encouraging continuous wireless monitoring, improving leak detection, repair, inspection and maintenance, and adding best management practices.

Regarding technological and economic feasibility, District staff expected that technologies and measures which are available and cost-effective to implement in other air districts in California, would be available and cost-effective for use in the South Coast Basin in a timely manner. Best Available Retrofit Control Technology (BARCT)

is reevaluated every three years. Emission inventory, emission reduction, and cost-effectiveness including health benefits are fine-tuned on an ongoing basis, especially during the rule development process. In addition, District staff commits to monitor the rule development in other air districts, and will conduct further study and reevaluate the feasibility of revising the requirements in existing rules if necessary. Instead of amending existing rules, new rules may be adopted to implement the control measures described in the 2007 AQMP in a more effective manner. Prioritization and schedule of adoption and implementation is discussed in Chapter 7.

Step 5 - Additional Studies and Analyses

In addition to all of the above analyses, District staff and SCAG have completed the following analyses to meet the requirements of the Clean Air Act:

- Evaluating control measures developed by other air districts for their air quality management plans as described in Appendix IV-A.
- Specific costs and cost analyses of each SCAQMD's stationary source and mobile source control measure, if available, are provided in Appendix IV-A and B.
- Schedule for implementing the control measures is discussed in Chapter 7, which demonstrates that District staff will implement the control measures as expeditiously as practicable considering resources and budgets.
- Transportation control measures must be included in the RACM analysis. Consequently, SCAG has completed a RACM determination for transportation control measures as shown in Appendix IV-C - Regional Transportation Strategy & Control Measures.
- A SCAQMD 8-Hour Ozone Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) Demonstration project was completed and subsequently forwarded to U.S. EPA in June 2006. District staff concluded that 1) All SCAQMD rules to implement the 1-hour ozone SIP fulfill RACT for the 8-hour ozone SIP; 2) All CTG sources and all major non-CTG sources in the Basin are subject to SIP-approved rules and therefore meet RACT requirements.

CONCLUSION

Following is the summary of District staff's findings:

1) District staff has evaluated and analyzed all reasonable control measures that were currently available for inclusion in the 2007 AQMP.

2) The control measures in the 2007 AQMP have included all RACM provided by the public and experts.

3) The control measures in the 2007 AQMP have included all RACT and RACM recommended by U.S. EPA in the Final Clean Air Fine Particle Implementation Rule for Implementation of 1997 PM2.5 Standards.

4) In general the SCAQMD 's rules and regulations are equivalent to, or more stringent than, other districts' rules and regulations and their proposed control measures in their respective State Implementation Plans. In several areas identified in Table 3, the existing source-specific rules may be amended to lower the emissions standards, promote cleaner technologies, add additional best management practices, and improve enforceability. District staff will monitor the rule development of other air districts, explore all feasibilities, and conduct further analyses to refine the emission inventory, emission reductions, and cost-effectiveness analysis. Nevertheless, District staff has included one or more control measures in its 2007 AQMP to facilitate these activities.

5) District staff has developed 37 stationary source control measures that contained all measures included in other districts' air quality management plans. In addition, District staff has developed many innovative stationary source control measures, such as Control Measure MCS-01 – Facility Modernization, CTS-02 - Clean Coating Certification, MCS-07 – Application of All Feasible Measures, and FLX-01 – Economic Incentive Programs, that were not included in other districts' air quality management plans.

6) The few available control measures that District staff did not include collectively would not advance the attainment date or contribute to RFP for the Basin because of the insignificant or non-quantifiable amount of emission reductions that they may potentially generate.

7) The RACM demonstration for transportation control measures are included in Appendix IV-C, and all mobile source control measures provided by CARB to SCAQMD are deemed RACM.[4]

[4] E-mail from Lucille Van Ommering to Minh Pham, titled "Response on the offer to work on mobile source RACM Analysis", dated February 7, 2007.

REFERENCES

CARB, Discussion Paper - Air Resources Board SIP Symposium - Concepts for State and Federal Measures & Descriptions of Draft Near-Term State and Federal Control Concepts, October 2006.

EPA Control Techniques Guidelines for Industrial Cleaning Solvents, EPA 453/R-06-001, September 2006.

EPA Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing, EPA 453/R-06-002, September 2006.

EPA Control Techniques Guidelines for Flexible Package Printing, EPA 453/R-06-003, September 2006.

EPA Control Techniques Guidelines for Flat Wood Paneling Coatings, EPA 453/R-06-004, September 2006.

EPA Memorandum, Guidance on the Reasonably Available Control Measure (RACM) Requirement and Attainment Demonstration Submissions for Ozone Non-attainment Areas, from John S. Seitz, Director of Office of Air Quality Planning and Standards to Regional Air Division Directors, Region I – X, November 30, 1999. www.epa.gov/ttn/oarpg/t1pgm.html

EPA Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard – Phase 2; Federal Register, Volume 70, pages 71659 – 71661.

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San Joaquin Valley APCD, Final Draft 2007 8-Hour Ozone Attainment Plan, January 29, 2007.

Sacramento Metropolitan Air Quality Management District, Draft 2007 Regional 8-Hour Ozone Attainment Plan – Proposed Control Measures, November 2006.

SCAQMD, Status Report on Port of Los Angeles and Port of Long Beach Clean Air Action Plan, and AQMD Staff Comments; and Adopt Resolution to Set Aside Heavy-Duty Vehicle Clean-up Assistance Funding, Agenda #27, Governing Board Meeting November 3, 2006.

SCAQMD, Adopt SCAQMD 8-Hour Reasonably Available Control Technology State Implementation Plan, Agenda #37, Governing Board Meeting, July 7, 2006.

SCAQMD, Technical Assessment for Rule 463 – Organic Liquid Storage, November 2005.

SCAQMD, Technical Assessment for Rule 1125 – Metal Container, Closure, and Coil Coating Operations, February 2005.

Texas Commission on Environmental Quality, Dallas-Forth Worth Cement Kiln Study - Assessment of NOx Emissions Reduction Strategies for Cement Kilns – Ellis County, Final Report, July 14, 2006.

Ventura County Air Pollution Control District, RACT SIP Analysis & Letter from Michael Villegas, Ventura APCD, to Andrew Steckel, EPA Region 9, June 2006.

TABLE 1
8-Hour Ozone Designations

Non-Attainment Area	Classification	Attainment Date
Los Angeles South Coast Air Basin, California	Severe-17	June 2021
San Joaquin Valley, California	Serious	June 2013
Sacramento Metro, California	Serious	June 2013
Ventura County, California	Moderate	June 2010
San Francisco Bay Area, California	Marginal	June 2007
Dallas-Fort Worth, Texas (DFW)	Moderate	June 2010
Houston-Galveston-Brazoria, Texas (HGB)	Moderate	June 2010

TABLE 2
U.S. EPA RACT and RACM for PM2.5 Implementation

Control Measure Concept for PM2.5 [Note 1]	**AQMP Control Measure**
Stationary Source Measures	
Stationary diesel engine retrofit, rebuild or replacement, with catalyzed particle filter	Rule 1470 Proposed Rule 1110.2
New or upgraded emission control requirements for direct PM2.5 emissions at stationary sources (e.g., baghouse or electrostatic precipitator; improved monitoring methods)	BCM-01
Improved capture of particulate emissions	BCM-01
New or upgraded emission controls for PM2.5 precursors at stationary sources (e.g., wet/dry scrubbers)	MCS-07
Energy efficiency measures to reduce fuel consumption	MCS-03
Measures to reduce fugitive dust from industrial sites	BCM-01, BCM-02. MCS-07
Mobile Source Measures	
On-road diesel engine retrofits for school buses and trucks using U.S. EPA-verified technologies	ARB-ONRD-04
Nonroad diesel engine retrofit, rebuild/replace with catalyzed particle filter	ARB-OFFRD-04
Diesel idling programs for trucks, locomotive, and other mobile sources	Existing rule [Note 2] ARB-ONRD-01 [Note 3]
Transportation control measures (including those listed in section 108(f) of the CAA as well as other TCMs), as well as other transportation demand management and transportation systems management strategies	TCM
Programs to reduce emissions or accelerate retirement of high emitting vehicles, boats, lawn and garden equipment	ARB-ONRD-04 to 05, ARB-OFRD-01 to 05 SCONRD-01, 03, 04, SCOFFRD-01 to 04, 06
Emissions testing and repair/maintenance programs for on-road vehicles	ARB-ONRD-01, MOB-05 and 06
Emissions testing and repair/maintenance programs for non-road heavyduty vehicles and equipment	Note 4
Programs to expand use of clean burning fuels	SC-FUEL-01, 02
Opacity/emissions standards for ``gross-emitting" diesel equipment or vessels	ARB-ONRD-01

TABLE 2 (continued)
U.S. EPA RACT and RACM for PM2.5 Implementation

Area Source Measures	
New open burning regulations and/or measures	BCM-04
Smoke management programs to minimize emissions from forest and agricultural burning activities	BCM-04
Reduce emissions from woodstoves and fireplaces	BCM-03
Regulate charbroiling/other commercial cooking operations	BCM-05
Reduce solvent usage or solvent substitution (particularly for organic compounds with 7 carbon atoms or more, such as toluene, xylene, and trimethyl benzene)	CTS-03
Category-Specific Guidelines on Innovative Approaches	
Electric-sector Energy Efficiency and Renewable Energy Measures	MOB-07, MCS-03
Long Duration Switch Yard Locomotive Idling	Note 5
Long Duration Truck Idling	Note 5
Clean Diesel Combustion Technology	Note 5
Commuter Choice Program	TCM

Note: 1) The U.S. EPA Final Clean Air Fine Particle Implementation Rule for Implementation of 1997 PM2.5 Standards, March 29, 2007. 2) CARB Title 13, Section 1956.8. 3) In ARB-ONRD-01, CARB proposes to include emissions testing and repair/maintenance programs for on-road mobile sources in its Smog Check program in order to identify high emitters and initiate repair of such vehicles appropriately. 4) Emission testing, maintenance and repair provisions will be built in the rules during rule development to implement applicable off-road control measures. 5) If there are any additional SIP emission reductions that could be accounted for using these innovative technology, they would be addressed by CARB during the rule development of their on-road and off-road control measures.

TABLE 3
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1101	SOx	Secondary Lead Smelters – Sulfur Oxides (Amended 10/7/77)	200 ppmv SOx and 4.2 lbs SOx per ton process weight		
1102	VOC	Petroleum Solvent Dry Cleaners (Amended 11/17/00)	Maximum usage 15 gals per month and various equipment specifications and operating requirements. Exemptions provided for certain types of dry cleaning provided that detergents and additives must be less than 50 g/l VOC.		
1103	VOC	Pharmaceuticals and Cosmetics Manufacturing (Amended 3/12/99)	For reactors, distillation columns, crystallizers, or centrifuges: 15 lbs/day VOC or use surface condensers. For air dryers: 90% control efficiency or 33 lbs/day VOC. Also include other various operating requirements.		
1104	VOC	Wood Flat Stock Coating Operation (Amended 8/13/99)	2.1 lbs/gal, less water and exempt solvent. In lieu of VOC limit, use control device having 95% control efficiency (or 50 ppmv outlet) and 90% collecting efficiency		
1105	SOx	Fluid Catalytic Cracking Units – Oxides of Sulfur (Amended 9/1/84)	132 lbs SOx per barrel of feed. FCCU is currently subject to RECLAIM	Following the U.S. EPA consent decrees, several refineries in the District achieved emission levels as low as 25 ppmv (365 day average) and 50 ppmv (7 day avg)	Possibility of lowering SOx limit through RECLAIM rules through CMB-02 – BARCT for SOx in RECLAIM

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1105.1	PM, NH3	Reduction of PM10 and Ammonia Emissions From Fluid Catalytic Cracking Units (Adopted 11/7/03)	0.005 grain/dscf PM10 and 10 ppmv NH3 slip		
1106	VOC	Marine Coating Operations (Amended 1/13/95)	Coating-specific emission limits from 275 – 780 g/L. In lieu of complying with specific emission limits, operator can use air pollution control system with at least 85% efficiency. Solvent cleaning operations must comply with Rule 1171.	Ventura Rule 74.24 (Amended 11/11/03) generally has the same limits as South Coast Rule 1106, except the limit for special marking of items such as flight decks, ship numbers is 420 g/l instead of 490 g/l in South Coast Rule 1106. Bay Area Rule 8-43 (Amended 10/16/02) generally has the same limits as South Coast Rule 1106, except it has lower limit for pretreatment wash primer at 420 g/l compared to 780 g/l in South Coast Rule 1106	There is no known source subject to the 420 g/l limit for special marking of items in Ventura Rule 74.24. In addition, the sources that subject to the 420 g/l limit for pretreatment wash primer in Bay Area Rule 8-43 have very low usage that would not amount to significant air quality benefits.
1106.1	VOC	Pleasure Craft Coating Operations (Amended 2/12/99)	Coating-specific emission limits from 340 – 780 g/L. Solvent cleaning operations must comply with Rule 1171.	Ventura Rule 74.24.1 (Amended 01/08/02) has similar coating limits as South Coast Rule 1106.1 and requires coating be applied by methods capable of achieving at least 65% transfer efficiency (e.g. hand application or HVLP).	Due to a variance, District staff removed transfer efficiency requirements from Rule 1106.1.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1107	VOC	Coating of Metal Parts and Products (Amended 1/6/06)	Coating-specific emission limits from 2.3 lbs/gal – 3.5 lbs/gal. In lieu of complying with specific emission limits, operator can use air pollution control system with at least 95% control efficiency (or 5 ppmv outlet) and 90% capture efficiency. Solvent cleaning operations must comply with Rule 1171.	Ventura Rule 74.12 (Amended 11/11/03) generally has the same coating-specific limits as South Coast Rule 1107, except for metallic coating limit is 3 lb/gal which is slightly lower than South Coast's limit at 3.5 lb/gal; and requires solvents used for surface preparation and clean up to meet 70 g/l, higher than South Coast Rule 1171 limit at 25 g/l.	Explore the feasibility of lowering VOC limits considering the diversity of applications, and if feasible, implementing through one of the following control measures: MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures
1108	VOC	Cutback Asphalt (Amended 2/1/85)	0.5% by volume VOC evaporated at 500 degrees F.	Ventura Rule 74.28 – Asphalt Roofing Operations (Adopted 5/10/94) has work practice requirements for asphalt roofing operations. South Coast does not have a similar rule.	Restrict the use of cutback asphalt through the implementation of: FUG-03 – Emission Reductions from Cutback Asphalt
1108.1	VOC	Emulsified Asphalt (Amended 11/4/83)	3% by volume VOC evaporated at 500 degrees F		
1109	NOx	Emissions of Oxides of Nitrogen from Boilers and Process Heaters – Petroleum Refineries (Amended 8/5/88)	0.03 lbs/mmBTU of heat input (~25 ppmv). Subsumed by RECLAIM. RECLAIM (amended 1/2005 version) used 5 ppmv for >110 mmbtu/hr and 25 ppmv for units 40-100 mmbtu/hr.	San Joaquin current Rule 4306 limits are 5 ppmv for refinery units > 110 mmbtu/hr, 25 ppmv for units > 65 mmbtu/hr, 30 ppmv for units < 20 mmbtu/hr. For other units, 9 ppmv (or 6 ppmv) for units >20 mmbtu/hr and 15 ppmv (or 9 ppmv) for units from 5-20 mmbtu/hr.	Lower NOx limits through: MCS-07 – Application of All Feasible Measures

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1110.2	NOx, VOC, CO	Emissions from Gaseous and Liquid Fueled Engines (Amended 6/3/05)	Applicable to engines > 50 bhp • 36 ppmv NOx, 5% oxygen on a dry basis, averaged over 15 minutes • 250 ppmv VOC, 15% oxygen on a dry basis, averaged over 15 minutes • 2000 ppmv CO, 5% oxygen on a dry basis, averaged over 15 minutes. Standards are less stringent for engines that are used for electric power generation; or fired landfill gas, sewage digester gas, oil field-produced gas, or LPG; or used to drive a water supply or conveyance pump; or used for integral engine compressor application operating less than 4000 hours per year. Many of Rule 1110.2 engines are in RECLAIM, RECLAIM, amended 1/2005, had no recommendation for BARCT for this category. However, BARCT analysis is an on-going process that will be reevaluated every three years.	San Joaquin Valley current Rule 4702 (Amended 4/20/06) has NOx standards of : • 25 ppmv NOx or 96% reduction for rich-burn spark-ignited engines that are not used in agricultural operations, and 65 ppmv NOx or 90% reduction for lean burn non-agricultural- operational engines. • For engines used in agricultural operations, the standards are 90 ppmv NOx rich-burn and 50 ppmv lean-burn spark-ignited engines. • Compression engines must meet U.S. EPA's Tier 4 standards by 2025 or 12 years after installation, whichever is later. In their 2007 AQMP, San Joaquin proposes to accelerate replacement of engines with electric motors, either through regulations or incentive programs. North Central Texas final 2007 AQMP proposes to adopt regulation similar to San Joaquin Rule 4702.	Lower NOx standards and reassess the need for allowing higher standards for specific types of engines implementing through: MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures CMB-04 – Natural Gas Fuel Specifications Rulemaking efforts to adopt lower NOx standards (even lower than the limits in San Joaquin Valley Rule 4702) and additional stringent monitoring is already initiated in January 2007.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1111	NOx	NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces (Amended 7/8/83)	40 nanograms per joule heat output		
1112	NOx	Emissions of Oxides of Nitrogen from Cement Kilns (Amended 6/6/86)	Applicable to gray cement only. 11.6 lbs/ton clinker averaged over 24 hours and 6.4 lbs/ton clinker averaged over 30 days. Subsumed by RECLAIM. RECLAIM, amended 1/2005 version, had no recommendation for cement kiln BARCT. However, RECLAIM BARCT analysis is an on-going process and will be evaluated every three years.	North Central Texas proposes to reduce NOx from cement kilns to 80%-85% using technology such as SCR or LoTOx	Potentially lower NOx allocations through: MCS-07 – Application of All Feasible Measures
1112.1	PM	Emissions of Particulate Matter from Cement Kilns (Amended 2/7/86)	Applicable to gray cement only. 0.4 lbs PM/tons of kiln feed for kilns rating less than 75 tons per hour; or 30 lbs per hour for kiln rating of 75 tons per hour or more.	Note: Rule 1156 has more stringent PM limit than this rule.	
1113	VOC	Architectural Coatings (Amended 7/9/04)	Coating-specific emission limits from 50 g/L – 730 g/L. Allow averaging.		
1115	VOC	Motor Vehicle Assembly Line Coating Operations (Amended 5/12/95)	Limits from 1.2 lbs VOC/gal coating for electrophoretic primer to 15 lbs/gal of applied solids for primer, primer surfacer and topcoat. Cleaning operations must comply with Rule 1171.		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1116.1	SOx	Lightering Vessel Operations – Sulfur Content of Bunker Fuel (Adopted 10/20/78)	0.5% sulfur by weight		
1117	NOx	Emissions of Oxides of Nitrogen from Glass Melting Furnaces (Amended 1/6/84)	4 lb/NOx per ton of glass pulled. Flat glass and fiberglass melting furnaces are exempt. Many of these R1117 units are in RECLAIM. RECLAIM (Amended 1/2005 version) had no BARCT recommendation for this class. However, BARCT analysis is an on-going process and will be reevaluated every three years.	San Joaquin Rule 4354 – Glass Melting Furnaces (Amended 8/17/06) have NOx, CO, VOC, SOx limits. For NOx, 4 lb/ton for container glass and fiberglass and 7 lb/ton - 9 lb/ton for flat glass melting furnaces. Since there is a potential to lower the standards through BARCT (e.g. scrubber and SCR), San Joaquin proposes to lower the standards for all glass furnaces in their 2007 AQMP.	Monitor rulemaking efforts of other air districts and explore the feasibility of potentially lowering NOx, and setting CO, VOC, SOx standards through: MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures
1118	All	Refinery Flares (Amended 11/4/05)	• Minimize flare emissions & require smokeless operations • Specify SO2 performance target which gradually decreases to less than 0.5 tons per million barrel of crude by 2012. • If the performance target is exceeded, the operator must 1) pay mitigation fee of $25,000 per ton SO2 in excess of applicable target to a maximum of $4 million; or 2) submit a Flare Mitigation Plan to reduce emissions.	Bay Area Rule 12-12, adopted 4/5/06, contains similar requirements to those in South Coast's Rule 1118. However, it does not specify a declining SO2 performance target and does not contain a mitigation fee option.	Explore the possibility of further minimizing flare related events through: MCS-06 – Improved Startup, Shutdown & Turnaround Procedures

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1118 (Cont.)	All	Refinery Flares (Amended 11/4/05)	• Require Specific Cause Analysis for flare event exceeding a threshold of 100 lbs VOC, 500 lbs of SO2, or 500,000 scfm of vent gas, excluding planned shutdown, startup and turnarounds • Require 160 ppmv H2S, 3 hour average by 1/1/2009 • No limits for NOx, VOC, PM and CO.	San Joaquin Valley Rule 4311, adopted 6/15/06, have VOC and NOx limits for ground-level enclosed flares and operational requirements for all flares that have potential to emit more than 10 tons per year of VOC and more than 10 tons per year of NOx.	Note that only two out of twenty eight flares in the South Coast air basin are ground-level flares which are also subject to the requirements of Rule 1118..
1119	SOx	Petroleum Coke Calcining Operations – Oxides of Sulfur (Amended 3/2/79)	Reduce SOx by 80%		
1120	NOx	Asphalt Pavement Heaters (Adopted 8/4/78)	80 ppmv H2S		
1121	NOx	Control of Nitrogen Oxides from Residential Type, Natural-Gas-Fired Water Heaters (Amended 9/3/04)	15 ppmv at 3% O2, dry input (or 10 ng/j output) for all stationary water heaters; and 55 ppmv at 3% O2, dry input (40 ng/j output) for mobile water heaters.	Other Districts' plans propose to accelerate replacements of old water heaters with electric units or new highly-efficient lower-emitting water heaters with the use of incentives.	Possibility of using incentives to promote electric heaters through: FLX-01 – Carl Moyer for stationary sources
1122	VOC	Solvent Degreasers (Amended 10/1/04)	Contain various work practice and design requirements.		
1123	VOC	Refinery Process Turnarounds (Amended 12/7/90)	Vent to storage areas or gas disposal system until pressure in the vessel is below 5 psig or within 5% above the minimum gage pressure at which the vapors can be collected.	San Joaquin Rule 4454 requires control (vapor recovery and combustion) and depressurization to less than 5 psig. San Joaquin 2007 AQMP control measure proposes to further study the inventory associated with this category.	Further study the inventories and control through one of the following: MCS-06 – Start-Up, ShutDown MCS-07 – Application of All Feasible Measures

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1124	VOC	Aerospace Assembly and Component Manufacturing Operations (Amended 9/21/01)	Coating-specific emission limits from 160 – 1000 g/L. Specific high transfer coating applications (e.g. HVLP spray). In lieu of complying with specific emission limits, operator can use air pollution control system with at least 95% control efficiency (or 50 ppmv outlet) and 90% capture efficiency. Solvent cleaning operations must comply with Rule 1171.		
1125	VOC	Metal Container, Closure, and Coil Coating Operations (Amended 1/13/95)	Coating-specific emission limits from 0 g/L (for non food cans) – 660 g/L. Specific high transfer coating applications (e.g. HVLP spray). In lieu of complying with specific emission limits, operator can use air pollution control system with at least 95% control efficiency (or 50 ppmv outlet) and 90% capture efficiency, which is equivalent to an overall control efficiency of 85%. Solvent cleaning operations must comply with Rule 1171.	San Joaquin Rule 4603 and 4604 have limits for 11 categories of specialty coatings ranging from 20 g/l – 750 g/l and some coatings such as end seal compounds at 20 g/l which are more stringent than South Coast limit at 440 g/l (for food/beverage cans). San Joaquin is in the rule making process to lower these standards. Midwest RPO proposes 100% capture and 90% - 95% control efficiency for existing sources and 97% for new/reconstructed sources in this category.	Explore the feasibility of lowering VOC limits through: MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures The incremental increase from 85% to 90%-97% in control efficiency is not cost-effective for the sources in the South Coast air basin.(note)

Note: Staff Technical Assessment, 2005.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1126	VOC	Magnet Wire Coating Operations (Amended 1/13/95)	Coating-specific emission limits less than 200 g/L, or use control equipment to achieve equivalent reduction. Solvent cleaning operations must comply with Rule 1171.		
1127	VOC	Emission Reductions from Livestock Waste (Adopted 8/6/04)	Good housekeeping practices. Note: The District just adopted Rule 223 in June 2006 to reduce emission for large confined animal facilities. Rule 223 includes series of good management practices that are more stringent than Rule 1127.	Sacramento Rule 496 – Large Confined Animal Facilities (Adopted 8/24/06), has more stringent control and good management practices than South Coast Rule 1127 (e.g. venting to control system with at least 80% control efficiency). In the 2007 AQMP, San Joaquin Valley proposed to increase the number of good management practices and control efficiency as called for in their existing rule.	Explore the feasibility of further emission reductions through increasing number of good management practices and control efficiency as called for in San Joaquin Valley 2007 AQMP through: MCS-05 – Emission Reductions from Non-Dairy Livestock Waste MCS-07 – Application of All Feasible Measures
1128	VOC	Paper, Fabric and Film Coating Operations (Amended 3/8/96)	Coating-specific emission limits from 20 – 265 g/L. Specific high transfer coating applications (e.g. HVLP spray). Alternatively, operator can also use control system with at least 95% control efficiency (or 50 ppmv outlet) and 90% capture efficiency. Solvent cleaning operations must contain 15% or less VOC or 85% VOC must be collected and disposed of.	Midwest RPO proposes 100% capture and 90% - 95% control efficiency for existing sources and 97% for new/reconstructed sources.	The incremental increase from 85% to 90%-97% in control efficiency is not cost-effective for the existing sources in the South Coast air basin.(note)

Note: Per communication with Bill Milner on February 13, 2007.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation

1130	VOC	Graphic Arts (Amended 10/8/99)	VOC content limits: 80 g/l – 100 g/l for fountain solution, 150 g/l for adhesives, 225 g/l - 300 g/l for inks and coatings. In lieu of meeting specific emission limits, control device with overall control efficiency from 75% - 85% can be used to achieve equal or better emission reductions.
			
			VOC limits for cleaning solutions for printing presses are in Rule 1171 ranging from 25 g/l (0.21 lb/gal) for flexographic printing to 100 g/l (0.83 lb/gal) for lithographic printing (even though 500 g/l is allowed up to end of year 2007.)
				The U.S. EPA CTG for lithographic and letterpress, September 2006, recommends:
				
				• Destruction efficiency of 90% to 95% depending on the date of installation (or 20 ppmv VOC outlet concentration) for heat-set web offset presses with potential to emit, prior to controls, of at least 25 tpy.
				
				• For all operations emitting 15 lb/day, requirements for fountain solution are:
				  • 1.6% by weight alcohol or less as applied, or 3% if refrigerated chiller is used, or 5% alcohol substitute for heat-set web presses;
				  • 5% alcohol for sheet-fed presses;
				  • 5% alcohol substitute and no alcohol in fountain solution for cold-set web presses.
					Rule 1130 requires overall control efficiency from 75% - 85%, with destruction efficiency typically 95% or more. The level of alcohol in fountain solution will be reduced through the implementation of:(note)
					
					MCS-01 - Facility Modernization
					MCS-07 – Application of All Feasible Measures

Note: Per communication with Bill Milner on February 13 and 21, 2007.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1130 (Cont.)				The U.S. EPA CTG for rotogravure and flexographic, adopted in September 2006, recommends an overall control efficiency of 80% for presses installed after March 1995, and 65% - 75% for older presses. In addition, Midwest 2007 Ozone Plan candidate control measure for rotogravure and flexography printing proposes to increase the requirements for capture efficiency to 100% and destruction efficiency to 90% - 95%.	
1130.1	VOC	Screen Printing Operations (Amended 12/13/96)	VOC content limits ranges from 400 g/l – 800 g/l for materials used in screen printing. In lieu of specific emission limits, control device can be used to achieve equal or better reductions, at least 95%.		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1131	VOC	Food Product Manufacturing and Processing Operations (Amended 6/6/03)	VOC content limits from 120 – 200 g/L, or air pollution control system with at least 95% control efficiency and 90% capture efficiency. Solvent cleaning operations must contain 15% or less VOC or 85% VOC must be collected and disposed of.		
1132	VOC	Further Control of VOC from High Emitting Spray Booths (Amended 5/7/04)	Further reduce emissions by 65% from the baseline primarily through the installation of control devices, beyond and above the use of coatings that comply with existing coating rules.		
1133, 1133.1, 1133.2	VOC, NH3	Composting and Related Operations	Various performance standards. Air pollution control must have 80% control efficiency or greater. Existing operations must reduce up to 70% baseline VOC and ammonia emissions. Baseline emission factors are 1.78 lbs VOC/ton throughput and 2.93 lbs NH3/ton throughput.		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1134	NOx	Emissions of Oxides of Nitrogen from Stationary Gas Turbines (Amended 8/8/97)	Standard = Reference Limit x (Unit Efficiency/25%), where reference limit depends on size of units, varying from 9 ppmv for units rating at equal to or larger than 10MW to 25 ppmv for units rating from 0.3 MW to less than 2.9 MW. RECLAIM, amended 1/2005 version, indicated that 5 ppmv was achieved in practice but not cost effective, therefore did not propose BARCT. This analysis may need to be revised based on new information. RECLAIM BARCT is an on-going process that is planned to be reviewed every 3 years.	Sacramento Rule 413 (Amended 03/24/05) has standards from 9 ppmv – 25 ppmv depending on size of units, but are independent on equipment efficiency. San Joaquin Rule 4703 (Amended 8/17/06) has standards from 5 ppmv – 50 ppmv depending on size of units. Combined cycle units > 10 MW has limit of 3 ppmv. San Joaquin is now proposing to revisit its current rule for further reduction. Ventura Rule 74.9 (Amended 11/08/05) has standards from 25 – 125 ppmv depending on fuel type but are independent from equipment size and efficiency. Control efficiency 90% - 96% control efficiency. In addition, all units have to meet 20 ppmv NH3.	Reevaluate whether there is a need to allow units with higher efficiency to have higher limits. Potentially lower NOx standards, and establish ammonia standard through: MCS-07 – Application of All Feasible Measures

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1135	NOx	Emissions of Oxides of Nitrogen From Electric Power Generating Systems (Amended 7/19/91)	Mass emission limits and emission reduction goals for utility boilers. Only City of Glendale is subject to Rule 1135, which is allowed to meet 0.2 lb/MW-hr (or a daily mass limit of 390 lb NOx per day, or an annual limit of 35 tons per year). Other utility boilers are in RECLAIM subject to declining NOx allocations which were determined based on a level of 7 ppmv (about 0.07 lb/MW-hr assuming a heat rate of 8130 Btu/kw-hr), and are operated at various BARCT levels from 5 ppmv – 30 ppmv. (Note)	Ventura Rule 59 (amended 7/15/97) requires: • 0.1 lb NOx/MW-Hr for utility boilers and • 0.04 lb/MW-hr for auxiliary boilers. San Joaquin Rule 4306 – Phase 3 (amended 3/17/2005) requires boilers more than 20 mmbtu/hr to comply with the following options: • Standard option of 9 ppmv (or 0.011 lb/mmbtu) complied by 2005-2007, or • Enhanced option of 6 ppmv (or 0.007 lb/mmbtu) complied by 2006-2008. (Assuming a heat rate of 8130 Btu/kw-hr, 6 ppmv is about 0.06 lb/MW-hr.)	Explore the feasibility of lowering the emission targets through: MCS-07 – Application of All Feasible Measures
1136	VOC	Wood Products Coatings (Amended 6/14/96)	VOC content limits range from 2.3 – 6.3 lbs/gal VOC. Averaging provisions and add-on control are allowed. Transfer efficiency is at least 65%, or operator must use certain type of equipment (e.g. HVLP). Solvent cleaning operations must comply with Rule 1171.	Ventura Rule 74.30 (Amended 6/27/06) generally has similar limits as South Coast's Rule 1136 except that the limit in Ventura is 2 lbs/gal, lower than 2.9 lbs/gal in South Coast, for high-solid stains on new wood products. In lieu of coating specific limits, control equipment achieving 90% efficiency is allowed. No averaging provisions in Ventura.	Explore the feasibility of lowering VOC limits for new wood products through: MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures

Note: RECLAIM facilities have flexibility to operate their utility boilers provided that the total facility emissions must be at or below their allocations determined based on a level of 7 ppmv. Regarding BARCT levels, per Marty Kay and John Yee, the utility boilers at Southern California Edison, Department of Water and Power, and City pf Burbank are operated at a level from 5 – 7 ppmv (1-hr to 1-month avg time) whereas City of Pasadena boilers are operated at a level of 30 ppmv. In addition, since heat rate (mmbtu per kw-hr) varies with each utility boiler, District staff used 8130 BTU/kw-hr to convert the ppmv to lb/MW-hr for the unit operated by City of Glendale.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1137	PM	PM10 Reduction From Woodworking Operations (Amended 2/1/02)	Good housekeeping practices	Rule 1156 contains emission standard for baghouses.	Set emission standards or control efficiency through: BCM-01 – PM Control Devices MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures
1138	PM	Control Of Emissions From Restaurant Operations (Amended 11/14/97)	Require catalytic oxidizer for chain-driven charbroilers. Exemption provided for under-fired charbroilers and units cooking less than 875 lbs/week.	Ventura Rule 74.25 (Adopted 10/12/04) which has equivalent requirements as in Rule 1138. Bay Area Proposed Rule 2 of Regulation 6 (2/13/07) proposed emission standards of 0.74 lbs PM10 and 0.23 lbs VOC per thousand pounds of meat cooked for all chain-driven char-broilers; 1.9 lbs PM10 per thousand pounds of meat cooked for all under-fired charbroilers with combined total grill surface area of at least 10 square feet. The rule also proposed that all hood/ventilation system must meet certain capture efficiency requirements.	Potentially set emission standards or control efficiency through: BCM-05 – Emission Reductions from Under Fired Charbroilers
1140	PM	Abrasive Blasting (Amended 8/2/85)	Visibility standard.		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1141	VOC	Control of Volatile Organic Compound Emissions from Resin Manufacturing (Amended 11/17/00)	95% - 98% control or 0.12 – 0.5 lbs/1000 lbs of resin produced		
1141.1	VOC	Coatings and Ink Manufacturing (Amended 11/17/00)	Operational work practices		
1141.2	VOC	Surfactant Manufacturing (Amended 1/11/02)	95% control or 0.5 lbs/1000 lbs of surfactant produced		
1142	VOC	Marine Tank Vessel Operations (Amended 7/19/91)	2 lbs/1000 barrels liquid loaded or 95% emissions reduced		
1145	VOC	Plastic, Rubber, Leather and Glass Coatings (Amended 12/3/04)	VOC limits: 50–800 lbs VOC per gallon. Avg provisions and add-on control at 95% control efficiency (50 ppmv outlet), 90% capture efficiency. High transfer coating equipment (e.g. HVLP). Solvent cleaning operations must comply with Rule 1171.		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1146	NOx	Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters (Amended 11/17/00)	Applicable to units rating of more than 5 mmbtu/hr. Current limits are: • 30 ppmv NOx for units rating more than 40 mmbtu/hr and > 25% annual capacity factor • 40 ppmv NOx for units ratings from 5 mmbtu/hr to 40 mmbtu/hr and units > 40 mmbtu/hr and < 25% annual capacity factor • 400 ppmv CO Many Rule 1146 units are in RECLAIM. RECLAIM (Amended 1/2005 version) recommended 12 ppmv for units less than 20 mmbtu/hr and 9 ppmv for units more than 20 mmbtu/hr	Sacramento Rule 411 (Amended 10/27/05) limits for gaseous fuel are 9 ppmv for units greater than 20 mmbtu/hr, and 15 ppmv for units from 5 mmbtu/hr to 20 mmbtu/hr. San Joaquin Rule 4306 (Amended 03/17/05) has limits from 5 ppmv – 30 ppmv depending on type/size of boilers • 5 ppmv for refinery units greater than 110 mmbtu/hr, • 6 ppmv for units greater than 20 mmbtu/hr, • 9 ppmv for units less than 20 mmbtu/hr San Joaquin 2007 control measure proposes to lower the limit for boilers/heaters to 6 pppmv for units less than 20 mmbtu/hr by 2012.	Explore the feasibility of lowering NOx standards through one of the following control measures: MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures Rule Forecast: June 2007

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1146.1	NOx	Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (Amended 5/13/94)	Applicable to units rating from 2 mmbtu/hr to 5 mmbtu/hr. Current limits are: • 30 ppmv NOx (0.037 lb/mmbtu of heat input) • 400 ppmv CO Many Rule 1146.1 units are in RECLAIM, and RECLAIM (Amended 1/2005 version) BARCT analysis recommended 12 ppmv for less than 20 mmbtu/hr units based on ultra low NOx technology that is achieved in practice.	Bay Area Rule 9-11 (Amended 5/17/00) has following limits for boilers using gaseous fuel 1) 10 ppmv for boilers with rated input greater than 1.75 mmbtu/hr, 2) 25 ppmv for boilers from 1.5-1.75 mmbtu/hr, 3) 30 ppmv for boilers less than 1.5 million btu/hr. Non-gaseous fuel combustion devices have higher limits than gaseous fuel devices. San Joaquin's draft 2007 AQMP proposes to promote the use of electric heaters in place of small boilers and heaters.	Explore the feasibility of lowering NOx standards or promote the use of electric units through incentives through one of the following: MCS-01 – Facility Modernization MCS-07 – Application of All Feasible Measures FLX-01 – Carl Moyer-type incentive program for stationary sources Rule Forecast: June 2007
1146.2	NOx	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers (Amended 5/5/06)	Applicable to units less than 2 mmbtu/hr. Current limits are: • 30 ppmv for units from 0.4 – 2 mmbtu/hr • 55 ppmv for units rating less than 400,000 btu/hr	North Central Texas Final 2007 SIP – Small Boilers & Heaters proposes to use NOx standards for small boilers/heaters less than 2 mmbtu/hr adopted by San Joaquin Valley APCD Rule 4308, amended 10/05, which are equivalent to current standards in Rule 1146.2.	.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1148	VOC	Thermally Enhanced Oil Recovery Wells (Amended 11/5/82)	4.5 lbs/day or less per well		
1149	VOC	Storage Tank Degassing (Amended 7/14/95)	Degassing operations must be controlled by control equipment achieving 90% efficiency for a minimum time limit estimated in the rule based on volume of the gas to be freed in the tank and the flow rate through control device.	Ventura Rule 74.26, 74.27 (Adopted 10/12/04) requires degassing of crude oil, gasoline and other high TVP liquid storage tanks be controlled by vapor recovery or flare having 95% control efficiency until the vapor concentration in the tanks is less than 10,000 ppmv. Bay Area Rule 8-10 (Adopted 1/21/04) sets requirements for depressurizing process vessels at petroleum refineries and chemical plants. The gases must be vented to control devices until the vapor concentration in the tanks is less than 10,000 ppmv. Rule development is in progress at San Joaquin to eliminate exemptions and require more stringent VOC control.	Set VOC emission standards or increase control efficiency requirements through: FUG-04 – Further Emissions Reduction from Pipeline and Storage Tank Degassing. Propose to establish limits and require enhanced control technology. Rule Forecast: December 2007
1150.1	VOC	Control of Gaseous Emissions from Active Landfills (Amended 12/17/00).	98% control or 20 ppmv non methane organic compounds. 50-500 ppmv total organic compounds above background		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1151	VOC	Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (Amended 12/2/05)	VOC content limits range from 250 – 840 grams VOC per liter. Averaging provisions are allowed. High transfer coating equipment (e.g. HVLP) is required. Solvent cleaning operations must comply with Rule 1171.	Midwest RPO proposes increasing requirements to 100% capture and 95% control efficiency for surface coating operations for automotives and light duty trucks.	
1153	VOC	Commercial Bakery Ovens (Adopted 1/13/95)	Emission reduction of 70% or more is required for existing ovens emitting between 50 lbs – 100 lbs VOC/day, 95% or more for ovens emitting more than 100 lbs/day, and 95% or more for new ovens.		
1156	PM	PM10 Emission Reductions from Cement Manufacturing Facilities (Adopted 11/4/05)	PM standards for PM control devices (0.01 gr/dcsf for existing and 0.005 gr/dcsf for new devices). Good operational practices to reduce PM emissions from aggregate and related operations		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1157	PM	PM10 Emissions Reductions from Aggregate and Related Operations (Amended 9/8/06)	Good operational practices to reduce PM emissions from aggregate and related operations		
1158	PM	Storage, Handling and Transport of Petroleum Coke (Amended 6/11/99)	Reduce PM emissions through good management practices		
1159	NOx	Nitric Acid Units – Oxides of Nitrogen (Amended 12/6/85)	• 450 ppmv 15 min avg, or • 237 ppmv, 60 min avg; or • 3 lbs/ton acid produced, 60 min average.		
1162	VOC	Polyester Resin Operations (Amended 7/8/05)	VOC limits (monomer content) from 10-48% by weight or alternatively 90% control efficiency for add-on control		
1164	VOC	Semiconductor Manufacturing (Amended 1/13/95)	VOC limit for cleanup solvents is 200 g/l or low vapor pressure of 0.64 psia at 68 degree F. Photoresist applications must be vented to control.		
1166	VOC	Volatile Organic Compound Emissions from Decontamination of Soil (amended 5/11/01)	Good management practices.	Ventura Rule 74.29 – Soil Decontamination Operations (Amended 1/8/02) has standards for soil decontamination (e.g. 50 - 100 ppmv). Bay Area Rule 8-40 (Amended 6/15/05) for soil decontamination and tank degassing. All vapor must be vented to control devices with 90% efficiency or more until meeting 5,000 ppmv.	Monitor rule development in San Joaquin Valley and other air districts and if needed conduct further study to improve the requirements of this rule through: MCS-07 – Application of All Feasible Measures

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1166 (Cont.)				San Joaquin Valley proposes a control measure to call for eliminating allowances for aeration and increasing overall capture and control efficiency requirements for VOC collection and control system.	
1168	VOC	Adhesive and Sealant Applications (Amended 1/7/05)	VOC limits for solvents range from 30 – 775 lbs VOC per gallon. Require the use of high transfer efficiency equipment (e.g. HVLP spray). In lieu of meeting the VOC limits, using add-on control with 80% control efficiency is allowed.		
1171	VOC	Solvent Cleaning Operations (Amended 7/14/06)	VOC limits for solvents are 25 g/l in general, and have a 100-800 g/l VOC for specific cleaning operations. In lieu of meeting the VOC limits, add-on control having 90% collection efficiency and 95% destruction efficiency or meeting 50 ppmv outlet concentration can be used.	The U.S. EPA RACT published in September 2006 limit is 50 g/l or an overall control efficiency of 85%. The U.S. EPA is not recommending limits beyond 50 g/l; however it recommends states to adopt higher limits based on individual performance requirements of specific applications. Rule 1171 meets the U.S. EPA RACT.	

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation

1173	VOC	Fugitive Emissions of Volatile Organic Compounds (Amended 12/6/02)	• Require to connect atmospheric PRDs to vapor recovery or add-on control by first turnaround, if the facility experiences:
			  • a second release of more than 500 lbs VOC within any five year period, or
			  • any release of 2,000 lbs VOC in any 24 hour period.
			In lieu of connecting PRDs to control, operator may elect to pay mitigation fee of $350,000 for any release exceeding the threshold.
			• Leak Detection and Repair (LDAR) program to reduce fugitive emissions. Leak thresholds are:
			  • for light liquid/gas/vapor service >10,000 ppmv,
			  • for PRDs >200 ppmv,
			  • for pumps in heavy liquid >100 ppmv
				Bay Area Rule 8-28 (amended 12/21/05) requires atmospheric PRDs to be:
				• vented to vapor recovery or equivalent control devices that have 95% control efficiency within one year of the second release event of greater than 10 lbs VOC.
				• equipped with at least two or three redundant preventive measures to minimize episodic releases, and
				• equipped with tell-tale indicators.
				
				North Central Texas – Final 2007 SIP, Oil & Gas Production, Natural Gas Processing, Measure #144. Propose to revise leak definitions and requirements for shorter repair periods based on recently revised San Joaquin Valley Rule 4409, amended July 2004.
					Potentially improve the requirements in Rule 1173 by:
					• reducing the release threshold to 10 lbs for atmospheric PRDs
					• requiring prompt action (such as connecting atmospheric PRDs to vapor recovery or add-on control within one year of the second release of more than 10 lbs VOC), and
					• improving monitoring by encouraging the use of wireless monitoring device through:
					
					MCS-07 – Application of All Feasible Measures
					
					Rule Forecast: March 2007

1174	VOC	Control of Volatile Organic Compound Emissions from the Ignition of Barbecue Charcoal (Amended 10/5/90)	VOC emissions less than 0.02 lb VOC per start.		

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1175	VOC	Control of Emissions from the Manufacture of Polymeric Cellular (Foam) Products (Amended 5/13/94)	VOC limit for expandable polystyrene molding operations is less than 2.4 lbs/100 lbs of raw material processed		
1176	VOC	Sumps and Wastewater Separators (Amended 9/13/96)	• Wastewater: 500 ppmv • Sumps and wastewater separators must have floating cover with seals; or fixed cover vented to control • Sewer lines: totally enclosed • Process drains: with SCAQMD approved water seals • Junction boxes: totally enclosed • Control device: ≥ 95% efficiency or ≤500 ppmv leak above background • Monthly to annually inspection	Bay Area Rule 8-8 (Amended 9/15/04) in general is similar to South Coast Rule 1176, with the following exceptions: • Floating covers must have double seals; and • Semi-annual inspection is allowed. In their 2007 AQMP, San Joaquin Valley proposes to further study the following areas: • Require crude oil production sumps to have fixed roof and vented to control with 99% control efficiency; • Require wastewater separators to have fixed roof and vented to control with 95% control efficiency, and • Require floating roofs to be equipped with double seals	Monitoring rule development in San Joaquin Valley, further study additional active control techniques to reduce emissions from wastewater separators (e.g. open hatch emissions, negative pressure), and implementing through: MCS-07 – Application of All Feasible Measures FUG-01 – Improved Leak Detection and Repair

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1178	VOC	Further Reductions of VOC Emissions From Storage Tanks at Petroleum Facilities (Amended 12/21/01)	Applicable to high emitting facility that has 20 tpy VOC emissions or more and tanks >19,815 gals with liquids having TVP > 0.1 psia. Rule 1178 requires doming for high emitting external floating roof tanks, better seals and better control for all tanks. (Note that Rule 463 is applicable for tanks >19,815 gals at all facilities and have requirements for fixed roof tanks and floating roof tanks.)	In the 2007 AQMP, San Joaquin proposes to revise Rule 4623 to lower tank capacity applicability, lower TVP threshold, and revisit exemptions to broaden source applicability. Midwest RPO control measure proposes to expand source applicability of LADCO state rules to include 10,000 gal tanks.	Monitor rule development in other air districts and, if feasible, implementing through: MCS-07 – Application of All Feasible Measures FUG-01 – Improved Leak Detection and Repair (A technical assessment conducted by District staff in November 2005 indicated that there were negligible air quality benefits to lower the applicability thresholds.) (Note)
1179	VOC	Publicly Owned Treatment Works Operations (Amended 3/6/92)	Include recordkeeping requirements.		
1183	VOC	Outer Continental Shelf (OCS) Air Regulations (Amended 4/2/04)	Adopt by reference Code of Federal, Part 55, Title 40.		
1186	PM	PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations (Amended 1/21/00)	Good management practices.		
1186.1	PM	Less Polluting Sweepers (Amended 5/5/06)	Require operators to purchase less polluting or alternative fueled street sweepers.		
1189	VOC	Emissions From Hydrogen Plant Process Vents (Adopted 1/21/00)	For existing plants, 2.5 lbs VOC per million cubic feet of hydrogen produced. For new plants, 0.5 lbs VOC per million cubic feet of hydrogen produced.		

Note: Technical Assessment for Rule 463, November 2005.

TABLE 3 (continued)
Evaluation of SCAQMD Rules and Regulations

Rule No.	Type	Rule Title	Current Rule Requirements	Other Districts' 2000-2006 Rules, Control Measures, U.S. EPA CTGs, and Other Studies	Evaluation
1191	All	Light and Medium Duty Fleet Vehicles (Amended 6/16/00)	Require public fleet to acquire new low emitting gasoline or alternative fuel light and medium duty vehicles.		
1192	All	Clean On-Road Transit Buses (Amended 6/16/00)	Require public fleet to acquire new low emitting or alternative fuel heavy duty vehicles.		
1193	All	Clean On-Road Residential /Commercial Refuse Collection Vehicles (Amended 6/6/03)	Acquire new low emitting refuse collection vehicles.		
1194	All	Commercial Airport Ground Access (Amended 10/20/00)	Acquire new low emitting vehicles that are used for passenger transportation in/out airports.		
1195	All	Clean On-Road School Buses (Amended 5/5/06)	Acquire new low emitting school buses.		
2000 - 2015	NOx, SOx	RECLAIM (Amended 5/6/05)	Include facility allocations for NOx and SOx for RECLAIM facilities	Since other Districts do not have RECLAIM, refer to individual rules such as Rule 1146, 1146.1, 1110.2 etc.	Review BARCT through: CMB-02 – Further Reduction of SOx Emissions in RECLAIM MCS-07 - – Application of All Feasible Measures Rule Forecast: December 2007
444	All	Open Burning	Contains requirements and prohibitions for open burning to minimize emissions and smoke impacts to the public.	San Joaquin Valley Rule 4103 (Amended 5/19/05) contains additional best management practices compared to Rule 444 such as best management practices to control open burning of weeds.	Revise to include additional good management practices through: MCS-07 – Application of All Feasible Measures BCM-04 – Additional PM Emission Reductions from Rule 444. Rule Forecast: 2007

TABLE 4

Evaluation of South Coast's Stationary Source Control Measures

This table lists the South Coast's stationary source control measures and a comparison with other control measures contained in other regional air quality management plans and an evaluation of the concepts of the control measures. Cost effectiveness estimates of the South Coast's control measures, if available, are provided in Appendix IV-A.

Stationary Source Control Measures - Facility Modernization

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
MCS-01 - Facility Modernization. Propose to ensure timely replacement of existing equipment to meet today's BACT, and use of low VOC coatings/solvents. Early retirement of equipment may qualify for tax incentives or emission credits. Applicable to all combustion sources, all facilities using coatings/solvents beginning with >20 tpy facilities, and all facilities generating PM.	Other districts do not have a specific control measure for facility modernization, but they do recommend various BARCT analyses for cement kilns, boilers/heaters etc. as listed in Table 4 and Table 5.	SCAQMD's proposal is similar to other Districts' proposal in concepts and is applicable to a broader industrial and commercial types of facilities.

Stationary Source Control Measures - Energy Efficiency and Conservation

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
MCS-02 - Urban Heat Island. Propose to encourage activities that would lower ambient temperatures in urban areas (e.g. lighter roofing and building materials and tree planting)	**Sacramento Draft 2007 AQMP - Urban Forest Air Quality Development Program.** Propose to add 4.9 million low-emitting trees to local urban forest during the next 15 years.	SCAQMD's proposal is similar to Sacramento's proposal.
MCS-03 - Energy Efficiency & Conservation. Propose to use incentives to promote the use of energy efficient equipment.	**North Central Texas 2007 SIP – Credit for Energy Conservation and Efficiency.** Take emission reduction credits for implementing SB 5 and SB 7 which require electric utilities and other political entities to reduce electricity consumption and increase energy efficiency.	SCAQMD's proposal is similar to North Central Texas's proposal in concept but applies to broader combustion sources.

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

Stationary Source Control Measures - Good Management Practices

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
FUG-01 - Improved Leak Detection/Repair. Propose to improve the effectiveness of the facility's leak detection and repair (LDAR) program through the application of optical gas imaging to detect leaks (Smart LDAR), and expand the application of LDAR to other sources that do not currently have LDAR.	**Sacramento Draft 2007 AQMP.** Propose to implement LDAR at natural gas production and processing facilities. Propose to expand the applicability of LDAR to process stream containing more than 1% by weight VOC, instead of 10% VOC by weight which is currently required by many districts such as South Coast, San Joaquin, Ventura, Bay Area, and Santa Barbara. **North Central Texas Final 2007 SIP Gasoline Dispenser Hoses.** Propose to impose stricter material standards for marine fueling station hoses to fuel hoses at gasoline dispensing facilities to reduce permeation losses at gasoline stations. **Oil & Gas Production, Natural Gas Processing.** Proposes to revise leak definitions and requirements for shorter repair periods based on recently revised San Joaquin Valley Rule 4409, amended July 2004.	Current SCAQMD Rule 1173 already requires LDAR at natural gas processing plants. However, Rule 1173 provides an exemption for components handling fluids with a VOC content of 10% by weight or less. In lieu of lowering the exemption limit in Rule 1173 and regulating components handling heavy liquid with VOC content of 1% by weight, SCAQMD proposes to expand the application of LDAR program to other facilities that are currently not regulated by Rule 1173 since reducing leaks from other facilities will potentially provide higher VOC emission reductions.
FUG-02 – Emission Reductions from Gasoline Transfer and Dispensing Facilities. Propose to improve implementation of the Enhanced Vapor Recovery (EVR) Regulation, raise compliance rate from 75% to 98% by requiring one or several additional preventive mechanisms (e.g. alert signal for in-station diagnostic (ISD) system to detect potential failure and initiate preventative repairs).	None	

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
FUG-04 - Further Emission Reductions from Pipeline and Storage Tank Degassing. Propose to reevaluate current existing Rule 1149 to require enhanced control technology, increase control efficiency, establish concentration limits, and expand the source categories of affected equipment.	None	
BCM-01 - PM Control Devices. Propose to set standards for PM control devices and promote automatic monitoring system.	None	
MCS-04 - Emissions Reduction from Green Waste Composting. Propose to maintain optimal aerobic conditions thru best management practices, or utilizing state-of-the art emissions control technologies.	None	
MCS-06 - Improved Start-up, Shut-down & Turnaround Procedures. Propose to use best operating practices and procedures	None	

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

Stationary Source Control Measures - Market Incentives & Compliance Flexibility

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
CTS-02 - Clean Coatings Certification Program. Propose to certify low-, ultra low-, or zero-VOC coatings and allow lower emission fees to manufacturers of these coatings to promote super compliant product.	None	
CMB-02 – Further SOx Reduction for RECLAIM. Propose to reduce SOx at RECLIAM facilities.	None	
MCS-08 – Emission Charges of $5,000 per Ton for Stationary Sources with PTE Over 10 Tons Per Year.	None	
FLX-01 - Economic Incentive Program. Propose to implement incentive programs to promote clean air technologies; and broaden trading market for trading of mobile and stationary source emission credits.	Other Districts propose to accelerate replacements of old water heaters with electric units or new highly-efficient lower-emitting water heaters with the use of incentive as listed in Table 4.	Similar to other Districts' control measures.
FLX-02 - Petroleum Refinery Pilot Program. Promote voluntary program for refineries to use alternative cost effective reduction opportunities either from on-site or off-site sources for all non-RECLAIM sources at refineries.	None	
CTS-01 – Emission Reductions from Lubricants. Propose to limit VOC content in lubricant formulations at the point of sale and/or use.	None	

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

Stationary Source Control Measures - Area Source Programs

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
CTS-03 - Consumer Product Certification and Emission Reductions from Use of Consumer Products at Institutional and Commercial Facilities. Propose to develop a labeling program to identify low VOC consumer products, and establish a limitation of use for other consumer products at high volume commercial and institutional facilities.	**North Central Texas Final 2007 SIP – Commercial and Consumer Products Requirements.** Recommend to use CARB's and SCAQMD's standards for commercial and consumer products.	SCAQMD's measure is to promote greater use of available low VOC products
CTS-04 – Emission Reductions from the Reduction of VOC Content of Consumer Products not Regulated by the State Board. Propose to reduce VOC in this category.	None	
FUG-03 – Further Emission Reductions from Cutback Asphalts. Propose to reduce emissions from asphalt paving applications by limiting the use of cutback asphalt and/or replacing it with emulsified asphalt.	None. Many states (Maine, Missouri, New York, Pennsylvania, Rhode Island, Sacramento and Placer County in California) already have regulations to promote the use of emulsified asphalts.	SCAQMD's measure is to implement BARCT that are in-use at many other areas in the United States.
CMB-01 - NOx Reduction from Non-RECLAIM Ovens, Dryers and Furnaces. Propose BARCT level of 20 ppmv-60 ppmv or 50%-75% reduction with the use of low NOx burners for all Non-RECLAIM combustion equipment, existing and new.	**Sacramento Draft 2007 AQMP.** Propose standards of: • 36 ppmv (or 63.5% overall reduction) with the use of low NOx burners and FGR for dryer and combustion equipment at asphalt concrete plants; • 15 ppmv for equipment from 5-20 mmbtu/hr and 9 ppmv for equipment >20 mmbtu/hr for boilers, steam generators, process heaters rating equal to or more than 5 mmbtu/hr.	Sacramento's proposal of 36 ppmv is in the range of SCAQMD's proposal 20 ppmv -60 ppmv; however SCAQMD needs to revisit the standards based on San Joaquin Valley's recently adopted rules for boilers, heaters and steam generators, and ovens, dryers, and dehydrators.

TABLE 4 (continued)

Evaluation of South Coast's Stationary Source Control Measures

Stationary Source Control Measures - Area Source Programs

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
CMB-01 (Continued)	**San Joaquin Valley APCD Rule 4309 adopted 12/15/05** has very stringent limits: • 3.5 ppmv – 4.3 ppmv NOx for dryers, ovens, and dehydrators using gaseous fuel • 3.5 ppmv – 12 ppmv NOx for dryers, ovens, and dehydrators using liquid fuel.	
CMB-03 - Further NOx Reductions from Space Heaters. Propose to set standards in a range of 15 ppmv – 30 ppmv all natural gas fired fan-type furnaces currently regulated under Rule 1111, <175,000 Btu/hr.	None	
CMB-04 - Natural Gas Fuel Specifications. Applicable to all combustion sources of natural gas. Propose to limit maximum Wobbe Index to 1360 Btu/scf.	None	
BCM-02 - PM Emission Hot Spots – Localized Control Program. Applicable to all localized PM hot spot areas that do not meet clean air standards. Propose to implement local measures such as paving, curbing, street sweeping etc, to reduce PM through cooperative efforts between AQMD and local governments	None	
BCM-03 - Emission Reductions from Wood Burning Fireplaces and Wood Stoves. Propose to implement potential strategies such as banning installation of new uncontrolled appliances in new buildings.	None. However, SCAQMD's proposal is based on rules that are adopted and implemented by various districts in California (e.g. San Joaquin Valley, Rule 4901, Amended 7/17/03).	

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

Stationary Source Control Measures - Area Source Programs

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
BCM-04 - Additional PM Emission Reductions from Rule 444 – Open Burning. Propose to add administration and compliance streamlining of the burn program.	**San Joaquin Draft 2007 AQMP.** Propose to identify alternatives to burning agricultural wastes.	SCAQMD's measure is equivalent to San Joaquin's.
BCM-05 - Emission Reductions from Under-Fired Charbroilers. Propose to continue research/development and evaluate potential emission reductions and credit generation opportunities.	In the Bay Area Final 2005 1-Hour Ozone Plan adopted in 2006, Bay Area indicated that they would further study the possibility of reducing emissions from commercial charbroilers. See also the comparison between AQMD Rule 1138 and the proposed Bay Area Rule 2, Regulation 6 (2/2007) in Table 4.	
MCS-05 - Emission Reductions from Non-Dairy Livestock Waste. Propose to use best management practices such as enclosed equipment and vented to control.	None	
MCS-07 - Application of All Feasible Measures. Propose to revise current rules or adopt new rules to implement new BARCT.	See MCS-01 – Facility Modernization.	

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

Stationary Source Control Measures - Emission Growth Management

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
EGM-01 – Emission Reductions from New or Redevelopment Projects. Propose to set threshold standards for new and redevelopment projects. Projects that exceed the threshold will be required to implement mitigation measures. Mitigation measures would be identified through CEQA review process mitigation.	**Sacramento Draft 2007 AQMP** • **IS-1: Construction Mitigation Rule.** Propose to expand mitigation requirements from the current CEQA mitigation & fees, which currently require to mitigate 100% of emissions from the grading portion of construction projects over 10 acres. The goal is to reduce off-road construction emissions associated with new land use development of large commercial, industrial, retail, and residential projects • **IS-2: Operational Indirect Source Rule.** Propose to implement an operational indirect source rule to reduce emissions associated with new land use development of large commercial, industrial, retail, and residential projects after construction is completed. **Note: San Joaquin Valley Rule 9510 – Indirect Source Review** has similar requirements to EGM-01 (see Appendix IVA).	SCAQMD's proposal is similar to Sacramento's.
EGM-02 – Emission Budget and Mitigation for General Conformity Projects. Propose to set aside emission budgets to mitigate general conformity projects. If mitigation measures are not sufficient to offset emission increase, the Board will decide if and how much mitigation fees would be needed to offset the residual emissions, and staff would use the money collected to invest in emission reduction projects.	None	

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

SCAQMD's Mobile Source Control Measures

EGM-03 – Emissions Mitigation at Federally Permitted Projects. Propose to recommend U.S. EPA to adopt measures to mitigate emission increases or provide funding for AQMD to seek mitigation emission reductions.	None	
MOB-01 – Mitigation Fee Program for Federal Sources. Applicable to all federal sources (e.g. ships, trains, aircraft). Propose to ask U.S. EPA to adopt/administer mitigation fee program and provide funding/grants for /AQMD to seek alternative emission reductions, similar to Carl Moyer program.	None	
MOB-02 – Extended Exchange Program. Propose to promote early retirement of small Off-Road Mobile Sources (SORE) and Recreational Outboard Engines in exchange for electric engines through incentives.	On-going projects at many Districts	
MOB-03 – Backstop Measures for Indirect Sources of Emissions from Ports and Port-Related Facilities. Propose to set emission target milestones and "backstop" measures for ports to attain PM2.5 and ozone ambient air quality standards.	None	
MOB-04 – Emission Reductions from Carl Moyer Program. Propose to take SIP credits for existing and new programs funded by Carl Moyer Program.	None	

TABLE 4 (continued)
Evaluation of South Coast's Stationary Source Control Measures

2007 South Coast Control Measures	Control Measures Contained In Other Regional Air Quality Management Plans	Evaluation
MOB-05 – AB 923 Light-Duty Vehicle High-Emitter Identification Program. Propose to identify high emitter vehicle using remote sensing technologies	None	
MOB-06 – AB 923 Medium-Duty Vehicle High-Emitter Identification Program. Propose to identify high emitter using remote sensing technologies.	None	
MOB-07 – Concurrent Reductions from Global Warming Strategies. Propose to seek concurrent reductions from all combustion sources from global warming strategies.	None	