

## **Chapter 6**

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# **District Regulatory Control Measures for Stationary Sources**

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## **Chapter 6: District Regulatory Control Measures for Stationary Sources**

### **6.1 INTRODUCTION**

Attaining the federal 8-hour ozone standard will require the involvement of all sectors of the economy and the population. As discussed in Chapter 4 (Strategy), the District is pursuing a four-faceted control strategy. This chapter describes the District's stationary source regulatory responsibilities under the four-faceted strategy, which consists of traditional "command-and-control" regulations, such as the rules in Regulation IV of the District's Rules and Regulations Manual.

The District's regulatory stationary source control measure component of this plan achieves a robust 32 tons per day (tpd) of combined VOC and NO<sub>x</sub> reductions by 2012, with an additional 23 tpd of combined VOC and NO<sub>x</sub> reductions by 2023, for a total combined VOC and NO<sub>x</sub> reduction of approximately 54 tpd. It is anticipated that additional reductions will be achieved from the District incentives programs, as discussed in Chapter 7 of this plan and from innovative programs discussed in Chapter 8. Emission reductions from state, federal and local measures are presented in Chapter 9. An overall summary of the plan Strategy to include the District's regulatory stationary source control measures, incentive measures and innovative programs, state, federal and local Regional TPAs measures can be found in Chapter 11 of this plan.

### **6.2 REGULATORY COMPONENT**

This chapter presents the District's process to exhaustively consider control measures, which could be included as part of the stationary source regulatory component. The full descriptions of the control measures the District is considering are included in Appendix I, Candidate Control Measures. Table 6-1 includes a summary list of the stationary source control measures and the reductions they are expected to achieve.

It's important to note that in scheduling rule development projects, the District is giving priority to NO<sub>x</sub> controls. The carrying capacities discussed in Chapter 3 and Appendix F show that while both VOC and NO<sub>x</sub> reductions advance attainment in the near term, the diminishing return for VOC has no significant impact on final attainment. NO<sub>x</sub> reductions yield the most benefit for improving ozone air quality in the San Joaquin Valley Air Basin. Also, preliminary modeling being conducted by ARB for the District's upcoming *2008 PM<sub>2.5</sub> Plan* (due to EPA in April 2008) shows that NO<sub>x</sub> reductions should be the priority component of the District's PM<sub>2.5</sub> strategy, as well.

The District's regulations may target specific source categories, or facilities within the San Joaquin Valley Air Basin:

- Source categories identify types of equipment or processes. Examples include boilers and dryers in food processing facilities, or industrial processes, such as application of paints and solvents in automotive coating operations.
- Facilities are operations considered as a whole, including all the processes and activities, which are undertaken at specific locations. Examples include oil refineries, dairies, food processors, and wineries.

### **6.2.1 Process for Identifying and Evaluating Potential Control Measures**

To generate ideas for control measures, District staff has taken the following steps:

- Conducted a brainstorming effort involving staff from the Planning, Permits, and Compliance departments.
- Attended the South Coast AQMD Air Quality Summit in January 2006, which generated ideas from technical experts in different stationary and mobile source categories.
- Reviewed recommendations from the 2003 ARB audit of District rule making activities.
- Reviewed Further Study Measures in the District's Extreme Ozone Attainment Demonstration Plan (for 1-hour ozone) (OADP).
- Reviewed control measures suggested by the public shortly after adoption of the Extreme OADP.
- Investigated control strategies and measures in other districts and agencies, including the South Coast AQMD, Sacramento Metropolitan AQMD, Bay Area AQMD, Ventura County APCD, Houston-Galveston Area Council of Governments, Texas Commission on Environmental Quality, and Fresno Council of Governments.
- Attended the San Joaquin Valley Blueprint Planning Process Summit in Fresno.
- Conducted six Town Hall Meetings in July 2006, which enabled citizens, industry stakeholders, environment advocacy groups, and other interested parties to submit control measure suggestions and other comments to the District. See Appendix G: Town Hall Meeting Suggestions.
- Reviewed public comments on the October 17, 2007 plan draft and workshop. Forty-five people attended the workshop. Approximately 23 verbal comments were received during the workshop. Approximately 106 written comments (some from multiple sources) were received during the comment period, and about 88 of these pertained to the District's control strategy.
- Attended ARB workshops (October 12, 2006 and November 14, 2006) on the state strategy and evaluated measures for possible new ideas.
- Analyzed all District rules affecting NO<sub>x</sub> and VOC to assess possibilities for strengthening and expanding their applicability, including using Best Available Control Technologies, whenever feasible. This analysis involved a thorough comparison of the District's NO<sub>x</sub> and VOC rules with those from the South Coast

AQMD, Bay Area AQMD, and Ventura County APCD. See Appendix H: Screening Analysis of Existing NOx and VOC Rules/Proposed New Rules.

- Defined emission control scenarios for ARB to investigate via modeling exercises. These include the possibilities of episodic and geographic control measures, patterned after the highly successful rule for wood-burning fireplaces.

Appendix I includes a Control Measure discussion for each category in the emission inventory. Each Control Measure discussion is a description of the source category, current control levels, options for future control options, concerns regarding the implementation of controls, and potential emission reductions. The development of Table 6-1 (District Stationary Source Regulatory Implementation Schedule), which shows the timing of regulatory adoption and implementation of the emission reductions, took into consideration a variety of factors, including:

- Technological feasibility and practicality of emission controls;
- Emission inventory of the source category and likely emission reductions;
- Cost, financial impacts, and potential for socioeconomic impacts (e.g., employment, profitability);
- District authority and enforceability of emission reductions;
- Rate and timing of emissions reductions;
- Public acceptability, including interests and concerns of community members;
- Pollutants reduced - NOx or VOC or both;
- Any potential adverse environmental impacts; and
- Potential for disparate environmental impacts (environmental justice).

A few source categories are not being pursued in this planning effort. The control measure evaluation process brought to light that for some categories a lack of activity or sources operating within the District or the activity occurs outside of the ozone season, therefore not contributing to the ozone problem. Since the release of the first draft of this plan, one proposed control measure has been completed and adopted by the District Governing Board in December 2006 and the emission reduction estimates can be found in Appendix B of this plan. In addition, two source categories are directly under ARB's jurisdiction and control and are being deferred to ARB for further discussion. ARB's control strategy discussion may be found in Chapter 9 of this plan.

For those mobile source categories that are outside of the District's jurisdiction, but for which incentive programs will be developed to achieve reductions, those control measure categories are discussed and addressed in Chapter 7 of this plan.

### 6.3 IMPLEMENTATION SCHEDULE FOR THE STATIONARY SOURCE REGULATORY COMPONENT

Table 6-1 lists the candidate regulatory stationary source control measures and shows adoption/completion date, compliance and emission reduction implementation dates, and the estimated emission reductions for the pollutant of concern by year. The Schedule shown in Table 6-1 demonstrates a reasonable implementation schedule with all of the proposed measures being developed and implemented by the 2012 date.

The emission reductions estimates in Table 6-1 are based on control techniques existing at the time this plan was developed. The District expects that technologies will advance and that new more effective control techniques may be available at the time of rule development for each measure. These more effective control techniques will be considered in each rule development project. Additionally, the District will consider episodic controls and regionally-focused controls during each rule development project in order to optimize the benefits of each measure.

Additional work on source categories will continue through the development of feasibility/future studies listed in Table 6-2. These studies will provide the background work needed in determining which of the categories are viable control measures for additional reductions beyond the 2012 date, which are anticipated to achieve additional reductions needed for attainment by 2023.

Considering the overwhelming attainment challenge in the upcoming years, it was imperative to consider a strategy that encompasses all opportunities to include: regulatory approaches, program improvements, incentive programs, feasibility studies for source categories that are not well understood but may prove to be a fruitful emissions reduction options in a future rulemaking schedule, as well as those measures that will not be pursued further due to lack of sources or the activity does not occur during the ozone season. For additional discussion on the overall strategy that includes all the four faceted strategy components, please see Chapter 11 of this Plan.

Table 6-1 District Stationary Source Regulatory Implementation Schedule

CM#	Measure Name	Product	Completion Date	Compliance Date	Reduction Start	Projected NOx Reductions by 20XX Year							Projected VOC Reductions by 20XX Year							
						08	11	12	14	17	20	23	08	11	12	14	17	20	23	
						S-GOV-1	Composting Biosolids	Rule	2007 1Q	2008	2008								2	3.4
S-AGR-1	Open Burn	Rule	2007 2Q 2010 2Q	2007 2010	2007 2010	1.1	2.4	2.4	2.4	3.5	3.5	3.4	1.3	2.8	2.8	2.8	2.8	2.8	2.8	2.7
S-SOL-11	Solvents	Rule	2007 3Q	2010	2010								0.0	1.3	1.32	1.39	1.46	1.53	1.62	
S-COM-5	Gas Turbines	Rule	2007 3Q	2010	2010	0.0	0.6	0.6	0.61	0.64	0.66	0.68								
S-IND-24	Soil Decontamination	Rule	2007 3Q	2008	NA								0.0	0.0	0.0	0.0	0.0	0.0	0.0	
S-IND-6	Polystyrene Foam	Rule	2007 3Q	2010	2011								0.0	0.0	0.10	0.10	0.11	0.12	0.35	
S-PET-1&2	Gasoline Storage & Transfer	Rule	2007 4Q	2009	2009								0.0	0.9	0.92	0.99	1.03	1.07	1.08	
S-PET-3	Aviation Fuel Storage	Rule	2007 4Q	2010	2010								0.0	0.05	0.05	0.05	0.05	0.05	0.05	
S-COM-1	Large Boilers	Rule	2008 3Q	2011	2011	0.0	0.0	0.69	0.72	0.75	0.77	0.8								
S-COM-2	Medium Boilers	Incentives Rule Backstop	2008 3Q	2020	2012 from incentives	0.0	0.0	0.51	0.51	0.51	0.51	0.51								
S-COM-7	Glass Melting	Rule	2008 3Q	Varies	2008	1.2	1.2	1.6	1.7	1.8	1.9	2.0								
S-SOL-20	Graphic Arts	Rule	2008 4Q	2011	2011								0.0	0.0	0.07	0.07	0.08	0.08	0.08	
S-COM-9	Residential Water Heaters	Rule	2009 1Q	Attrition	2011	0.0	0.2	0.25	0.40	0.55	0.70	0.85								
S-GOV-5	Composting Green Waste	Rule	2009 1Q	2012	2012								0.0	0.0	9	10	10	11	11	
S-IND-21	Flares	Rule	2009 2Q	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
S-IND-14	Brandy & Wine Aging	Rule	2009 3Q	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
S-SOL-1	Architectural Coatings	Rule	2009 4Q	2012	2012								0.0	0.0	2	2.1	2.1	2.2	2.3	
S-AGR-2	CAFO	Rule	2010 2Q	2011	2011								0.0	6.8	6.7	18.9	20.4	21.5	22.9	
S-SOL-6	Adhesives	Rule	2010 3Q	2012	2012								0.0	0.0	0.11	0.17	0.12	0.13	0.15	
NA (Not Available)						Total Projected NOx Reductions by 20XX Year							Total Projected VOC Reductions by 20XX Year							
						08	11	12	14	17	20	23	08	11	12	14	17	20	23	
						2.3	4.4	6.0	6.3	7.8	8.0	8.2	3.3	15.3	26.5	40.5	42.2	44.5	46.3	

For the purposes of implementing this Extreme OADP, the District is committed to adopt and implement control measures that will achieve, in aggregate, the emissions reductions specified in Table 6-1.

If not enough information is available to satisfactorily evaluate a particular control measure, it became a feasibility/further study measure. Emissions reductions from feasibility/future studies are not currently quantifiable. These studies will be in addition to the regulatory measures and will engage the public and industry in identifying new potential emission reductions. A study report will be released by the dates listed in Table 6-2, which may recommend a future amendment to the regulatory implementation schedule to include those additional measures identified as fruitful.

CM#	Measure Name	Product	Completion Date
S-COM-6	ICE Electrification\Pump Efficiency Incentives	FS	2008
S-GOV-6	Prescribed Burning	FS	2008
Program Review	Open Burning Biomass Incentive	FS	2008
S-PET-13	Oil Production Sumps	FS	2009
S-PET-16	Heavy Crude Oil Components	FS	2009
S-COM-4	Solid Fuel Fired Boilers	FS	2009
S-COM-3	Small Boilers	FS	2010
S-IND-12	Wine Fermentation & Storage	FS	2010
S-IND-5	Asphalt Roofing	FS	2010
S-PET-18	HOTS & Gauge Tanks	FS	2010
S-AGR-4	Pesticide Fumigation Chambers	FS	2011
S-COM-11	Dryers	FS	2011
S-GOV-4	Asphalt Paving	FS	2011
S-IND-13	Bakeries	FS	2011
S-COM-6	IC Engines – Standards Review	FS	2012
S-GOV-2	POTW Water Treatment	FS	2012
S-IND-23	Reduction of Animal Matter	FS	2012
S-PET-22	Refinery Turnaround Units	FS	2012
S-PET-23	Refinery Vacuum Devices	FS	2012
S-PET-24	Refinery Wastewater Separators	FS	2012

FS – Feasibility/Future Study: Not currently quantifiable. FS reports will be released by the completion date, which may recommend an amendment to the Plan Regulatory Implementation Schedule to include additional regulatory measures identified as fruitful and have the potential of achieving reductions committed to in the Black Box

Those few measures that are not being pursued in Table 6-1 or 6-2 are those that have very little to no known emissions inventories or have been recently adopted or amended to include the most stringent controls known to date. These source categories will be pursued through advance technology strategies as part of the long term strategy discussed in Chapter 11 and all source categories will be considered again for additional reductions needed for the “Black Box”. These source categories and others will be revisited well before 2020 or soon thereafter for possible measures where new emerging technologies may garner additional reductions to satisfy the current emission shortfall needed for attainment of the standard by the 2023 deadline.