



San Joaquin Valley
Air Pollution
Control District

San Joaquin Valley Unified Air Pollution Control District

**Governing Board Meeting
Thursday, September 16, 2004**

Consent Calendar Item # 20

**Receive and file proposed Extreme Ozone
Attainment Demonstration Plan and set October
8, 2004 for the public hearing to consider
adoption of the proposed plan.**

The plan is proposed to be revised as indicated:

Plan Revision to Chapter 5.6, pages 5-10 to 5-12

The specific changes are in Figure 5-5, Table 5-1, and text changes on page 5-12 related to the changes in Figure 5-5 and Table 5-1. Minor changes to other chapters to ensure consistency with the revisions in Chapter 5.6 will be made available prior to the October 8, 2004 Governing Board meeting.

**Governing Board
Consent Item #20**

**San Joaquin Valley Unified Air Pollution Control District
Governing Board Meeting, September 16, 2004**

LIST OF CHANGES TO PROPOSED EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN DATED SEPTEMBER 16, 2004

To correct minor inconsistencies in Chapter 5 with previous changes to Chapter 4.

- 1. Figure 5.5 replaced Title.** "Isopleths" in title changed to "Carrying Capacity Diagram." Fractional NO_x changes from .86 to .855 and fractional VOC line changes from 0.86 to 0.855. Previous intersection is noted in Figure 5.5.
- 2. Revise Section 5.6, Table 5-1 of Chapter 5.0 regarding "Categories" and "2010 Summer Planning Inventory" figures as follows:**

In the Categories column, delete "New State Commitments in 2010 from PM10 Plan" and replace with "Update to Estimated State Commitments in 2010 from PM10 Plan."

In the Categories column, delete "New District Commitments in 2010 from PM10 Plan" and replace with "Update to Estimated District Commitments in 2010 from PM10 Plan." Also, in the VOC column, revise "11.6" to "9.4" and in the NO_x column, revise "23.9" to "26.3."

In the Categories column, at the row specifying "Total New Commitments in 2010 from *PM10 Plan*", in VOC column, revise "14.1" to "11.9" and in the NO_x column, revise "38.8" to "41.2."

In the Categories column, at the row specifying "New District Commitments in 2010 from *Extreme OADP*," in the NO_x column, revise "2.9" to "1.9."

In the Categories column, at the row specifying "Total New Commitments in 2010 from *Extreme OADP*," in the NO_x column, revise "12.9" to "11.9."

In the Categories column, at the row specifying "*Total Reductions through PM10 Plan and Extreme OADP*," in VOC column, revise "50.4" to "48.2" and in the NO_x column, revise "51.8" to "53.1."

In the Categories column, at the row specifying "*Total Reductions*," revise "55.4" to "53.2" and in the NO_x column, revise "56.8" to "58.2."

In the Categories column, at the row specifying “*Total Reductions as % of 2010 Inventory*,” revise “15.1” to “14.5” and in the NOx column, revise “14.1” to “14.5.”

Revise footnote “d.” as follows: Based on estimated annual emissions reductions in the 2003 *PM10 Plan*, Tables 4-17 and 4-19 in the 2003 *PM10 Plan*, converted to summer totals thru the EIC codes affected by the control measure categories using summer and annual CCOS inventories, and updated with new inventory information to reflect values as given in Table 4-1. Also reflects emissions reductions for 2010 VOC and NOx from rules adopted after the PM10 Plan adoption but before creation of Table 4-1 for this Extreme OADP (Rules 4604, 4408, 4610, 4306, and incentives, converted to summer emissions as per above). Residential wood combustion emissions excluded.

3. Revise 1st full sentence of the 1st paragraph on Page 5-12 as follows:

“As shown in Table 5-1, adding the emission reductions from these three components gives a total VOC emission reduction of about 48.2 ~~50.4~~ tons/day and a total NOx emission reduction of about 53.1 ~~51.8~~ tons/day.”

4. Revise 2nd sentence of the 1st paragraph on Page 5-12 as follows:

“These inventories represented about ~~86.9%~~ ~~86.3%~~ of the VOC inventory used in the modeling and about 86.8% ~~87.1%~~ of the NOx inventory used in the modeling.”

5. Revise 3rd sentence of the 2nd paragraph on Page 5-12 as follows:

Addition of 5 tons per day to each of the VOC and NOx categories produced total reductions of 53.2 ~~55.4~~ tons per day of VOC and 58.1 ~~56.8~~ tons per day of NOx (Table 5-1).

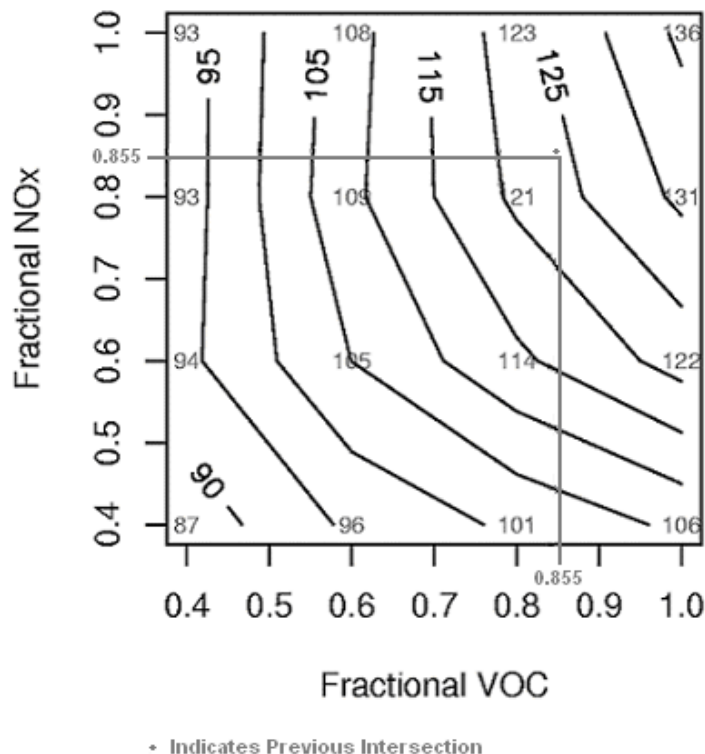
6. Revise 4th sentence of the 2nd paragraph on Page 5-12 as follows:

These reductions result in a VOC emissions inventory that is 85.5% ~~84.9%~~ of the VOC inventory used in the modeling and a NOx emissions inventory that is about 85.5% ~~85.9%~~ of the NOx inventory used in the modeling.

7. Revise the last sentence of the 2nd paragraph on Page 5-12 as follows:

The resulting 2010 emissions inventory that demonstrates attainment of the federal 1-hour ozone standards in the SJVAB is about 314.4 ~~312~~ tons per day of VOC and about 343.6 ~~345~~ tons per day of NOx.

Figure 5-5.
Carrying Capacity Diagram—Isopleths for Bakersfield on July 30, 2010



Planners used Figure 5-5 for this *Extreme OADP* by first estimating emissions reductions that have been identified since completion of the emissions inventory used in the modeling for this *Extreme OADP* (the gridded photochemical modeling described above reflects emissions controls in place as of September 2002). Thus, for this *Extreme OADP*, any control measure commitments identified after September 2002 represent additional reductions that contribute to the overall total reductions needed for attainment. These measures include (1) District control measures and state and federal measures identified for the 2003 *PM10 Plan* approved by EPA effective June 25, 2004, (2) District measures adopted after the inventory cutoff but before the *PM10 Plan* and not reflected in the *PM10 Plan*, and (3) any additional District, state, and federal measure commitments developed for this *Extreme OADP*.⁴ Planners added these emissions reductions for each of VOC and NOx and used the resulting totals to

⁴ Note that Table 4-1 only supplies some of the emissions reductions needed for the attainment demonstration; others come from the 2003 *PM10 Plan*, incentives, and state emission control measures. For these reasons, the sum of reductions in Table 4-1 does not match the sum needed to demonstrate attainment in Table 5-1.

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

TABLE 5-1
SJVAB FEDERAL 1-HOUR OZONE ATTAINMENT CONCEPT

Category	2010 Summer Planning Inventory (tons/day)	
	VOC	NOx
2010 Baseline Inventory ^a	367.6	401.7
District Rules-- Post-Inventory and Pre-PM10 Plan^b	0	0.1
<u>Update to Estimated State Commitments in 2010 from PM10 Plan</u> <u>New State Commitments in 2010 from PM10 Plan^c</u>	2.5	14.9
<u>Update to Estimated District Commitments in 2010 from PM10 Plan</u> <u>New District Commitments in 2010 from PM10 Plan^d</u>	<u>9.4</u> <u>11.6</u>	<u>26.3</u> <u>23.9</u>
Total New Commitments in 2010 from PM10 Plan	<u>11.9</u> <u>14.1</u>	<u>41.2</u> <u>38.8</u>
New ARB Commitments in 2010 from <i>Extreme OADP</i> ^e	15.0	10.0
New District Commitments in 2010 from <i>Extreme OADP</i> ^f	21.3	<u>1.92-9</u>
Total New Commitments in 2010 from Extreme OADP	36.3	<u>11.9</u> <u>12.9</u>
Total Reductions through PM10 Plan and Extreme OADP	<u>48.2</u> <u>50.4</u>	<u>53.24</u> <u>51.8</u>
Reductions Needed from Long-Term Measures	5	5
Total Reductions	<u>53.2</u> <u>55.4</u>	<u>58.24</u> <u>56.8</u>
Total Reductions as % of 2010 Inventory	<u>14.5%</u> <u>15.1%</u>	<u>14.5%</u> <u>14.1%</u>

^a See Table 3-1; CCOS Summer Inventory, Version 2.11, January 2004; reflects control measures through September 2002.

^b Represents District Rule 4313 for Lime Kilns, which is estimated to provide 0.1 tpd of 2010 NOx reductions. This rule was not included in the emissions reductions used in the 2003 *PM10 Plan*; it was adopted in March 2003 after the September 2002 cutoff date for the inventory.

^c Based on estimated annual emissions reductions in the 2003 *PM10 Plan*, Table 4-14 in 2003 *PM10 Plan* (all references to 2003 *PM10 Plan* refer to the Amended version, December 2003). Values have been adjusted to reflect summer emissions. State measures for VOC reflect 2.5 tpd from I/M enhancements (the *PM10 Plan* accounts for only NOx reductions from Smog Check II—it does not take credit for VOC reductions from Smog Check II, which are estimated at 2.5 tpd). State measure for NOx includes reductions from Smog Check II (10.0+4.9=14.9 tpd) [Table 4-17 in 2003 *PM10 Plan*].

^d Based on estimated annual emissions reductions in the 2003 *PM10 Plan*, Tables 4-17 and 4-19 in the 2003 *PM10 Plan*, converted to summer totals thru the EIC codes affected by the control measure categories using summer and annual CCOS inventories, and updated with new inventory information to reflect values as given in Table 4-1. Also reflects emissions reductions for 2010 VOC and NOx from rules adopted after the PM10 Plan adoption but before creation of Table 4-1 for this Extreme OADP (Rules 4604, 4408, 4610, 4306, and incentives, converted to summer emissions as per above). Residential wood combustion emissions excluded.

^e New state measures above and beyond those in the 2003 *PM10 Plan*; see Table 4-3 in the *Extreme OADP*.

^f New District measures above and beyond those in the 2003 *PM10 Plan*; emissions reductions from measures listed in Table 4-1 of the *Extreme OADP* that are already in the *PM10 Plan* were not included in this subtotal because they are already captured in the "District" line for the *PM10 Plan* and thus have already been subtracted.

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

compute the percentages by which the 2010 NO_x and VOC emission inventories were reduced by the control measures. As shown in Table 5-1, adding the emission reductions from these three components gives a total VOC emission reduction of about 48,250.4 tons/day and a total NO_x emission reduction of about 53,2151.8 tons/day. These inventories represented about 86,986.3% of the VOC inventory used in the modeling and about 86,887.1% of the NO_x inventory used in the modeling. Plotting these data on Figure 5-5 showed that the intersection of the two controls resulted in a predicted ozone level that is clearly on or to the right of the “125” nonattainment line, thereby indicating nonattainment.

This predicted nonattainment led the District to identify additional emissions reductions, which when added to the totals reflected in Table 5-1, would be sufficient to demonstrate attainment. The District determined that 5 tons per day of VOC emissions reductions and 5 tons per day of NO_x emissions reductions, when added to the totals already shown in Table 5-1 from specific District and State measures identified through this *Extreme OADP*, would be sufficient to demonstrate attainment. Addition of 5 tons per day to each of the VOC and NO_x categories produced total reductions of 53,255.4 tons per day of VOC and 58,2156.8 tons per day of NO_x (Table 5-1). These reductions result in a VOC emissions inventory that is 85,584.9% of the VOC inventory used in the modeling and a NO_x emissions inventory that is about 85,585.9% of the NO_x inventory used in the modeling. Plotting these percentages (rounded to the nearest percent) on Figure 5-5 shows that the lines intersect to the left of the “125” nonattainment line, indicating a predicted 2010 ozone level that is in attainment with the federal 1-hour ozone standards. The resulting 2010 emissions inventory that demonstrates attainment of the federal 1-hour ozone standards in the SJVAB is about 314,4342 tons per day of VOC and about 343,56345 tons per day of NO_x.

In accordance with the federal Clean Air Act and as described in Section 4.9, these additional emissions reductions needed to demonstrate attainment are placed into the category of “Long-Term Measures” that will be identified in 2007 (see Section 4.9). No specific control measures producing these reductions are identified at this time. As discussed in Section 4.9, the District needs to identify these measures no later than the spring of 2007. Because of other major SIP commitments that are scheduled to occur prior to this date (e.g., the 2006 *PM₁₀ Plan* and the 2007 *8-hour Ozone Attainment Demonstration Plan*), specific control measures with reductions of this magnitude are expected to be identified.

Put another way, the emissions reductions achieved through the *Amended 2002 and 2005 Rate of Progress Plan for San Joaquin Valley Ozone*, when modeled out to 2010, are insufficient to attain the federal 1-hour ozone standards in the SJVAB. Additional reductions are needed for attainment. Adding together the additional reductions from District and state measures in the 2003 *PM₁₀ Plan*