

TABLE OF CONTENTS

LIST OF TABLES vii
LIST OF FIGURES viii
EXECUTIVE SUMMARY ix

1 INTRODUCTION..... 1-1
 1.1 PURPOSE OF THIS PLAN 1-1
 1.2 REGULATORY ASPECTS 1-2
 1.2.1 Attainment Classification 1-2
 1.2.2 Agency Responsibilities 1-3
 1.2.3 Sanctions, FIP and penalties 1-4
 1.2.4 Conformity 1-4
 1.3 SJVAB PLANNING HISTORY 1-5
 1.4 EXTREME AREA REQUIREMENTS 1-8
 1.5 PLAN DEVELOPMENT 1-10
 1.5.1 Process 1-10
 1.5.2 Schedule 1-11
 1.5.3 Content 1-11

2 SAN JOAQUIN VALLEY AIR QUALITY 2-1
 2.1 INTRODUCTION 2-1
 2.2 AIR QUALITY DETERMINANTS IN THE SJVAB 2-2
 2.2.1 General 2-2
 2.2.2 Geography and Topography 2-2
 2.2.3 Climate 2-3
 2.2.4 Ozone Transport 2-6
 2.2.5 Population 2-7
 2.2.6 Development Patterns 2-8
 2.3 OZONE 2-9
 2.3.1 Background 2-9
 2.3.2 Adverse Effects 2-9
 2.3.3 Precursors and Formations 2-11
 2.3.4 Design Value Determinations from Ozone Levels 2-12
 2.3.5 Area Classification for the One (1)-Hour Ozone Standard 2-13
 2.3.6 One (1)-Hour Ozone Exceedance Trends 2-13
 2.3.7 Status of Federal 8-Hour Standard 2-15
 2.4 OZONE MONITORING 2-16
 2.4.1 Monitoring Network 2-16
 2.4.2 Other Ozone Monitoring 2-18
 2.4.3 Conclusion 2-26

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

2.5	OTHER POLLUTANTS OF CONCERN IN THE SAN JOAQUIN VALLEY	2-26
2.5.1	Particulate Matter	2-26
2.5.2	Carbon Monoxide.....	2-27
2.5.3	Toxic Air Pollutants	2-28
2.6	REFERENCES	2-29
3	EMISSIONS INVENTORY	3-1
3.1	INTRODUCTION.....	3-1
3.2	INVENTORY TYPES.....	3-1
3.2.1	Modeling Inventory.....	3-1
3.2.2	Planning Inventory	3-3
3.2.3	Data Sources and Accuracy.....	3-3
3.2.4	Emission Source Types	3-4
3.3	BASELINE YEAR EMISSIONS	3-6
3.4	FUTURE INVENTORIES.....	3-12
3.4.1	Growth Factors	3-12
3.4.2	Control Factors	3-13
3.4.3	Inclusion of Emission Reduction Credits.....	3-13
3.5	CONFORMITY BUDGETS	3-23
3.6	EMISSIONS INVENTORY UNCERTAINTIES.....	3-24
3.7	CONCLUSION	3-25
4	CONTROL STRATEGY	4-1
4.1	INTRODUCTION.....	4-1
4.2	DISTRICT RULE DEVELOPMENT SCHEDULE	4-1
4.2.1	District Control Measures.....	4-4
4.2.2	Control Measures Table.....	4-5
4.2.3	2004-2007 Control Measures.....	4-7
4.2.4	Potential Control Measures Requiring Further Study.....	4-28
4.3	FUTURE STUDY MEASURES.....	4-36
4.3.1	Mobile Source Measures	4-36
4.3.2	Sustainable Incentives.....	4-38
4.4	DISTRICT INCENTIVE PROGRAMS	4-39
4.4.1	Heavy-Duty Engine Incentive Program	4-39
4.4.2	Electric Lawn Mower Incentives.....	4-40
4.4.3	Future Programs	4-40
4.5	OVERVIEW OF REGIONAL TPA RACM	4-41
4.5.1	Introduction	4-41
4.5.2	Overview of existing measures	4-42
4.5.3	Suggested measures	4-44
4.5.4	Adopted measures	4-45
4.5.5	Public Participation.....	4-45

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

4.6	STATE EMISSION REDUCTIONS FOR THE SJVAB.....	4-47
4.6.1	Introduction	4-47
4.6.2	Current Implementation Status	4-48
4.6.3	ARB Commitments for Extreme OADP for SJVAB.....	4-50
4.7	CONTINGENCY MEASURES	4-50
4.8	LONG-TERM MEASURES	4-52
5	FUTURE OZONE AIR QUALITY	5-1
5.1	INTRODUCTION & SUMMARY	5-1
5.2	PARTICIPANTS	5-1
5.3	MODEL CHOICE.....	5-1
5.4	MODEL BASE CASE	5-2
5.5	FUTURE YEAR PROJECTIONS.....	5-5
5.6	ATTAINMENT DEMONSTRATION	5-9
5.7	MODELING CAVEATS AND FUTURE WORK	5-13
6	OUTREACH.....	6-1
6.1	INTRODUCTION.....	6-1
6.2	WORKSHOPS.....	6-1
6.3	CITIZEN'S ADVISORY COMMITTEE	6-2
6.4	DISTRICT GOVERNING BOARD	6-2
6.5	WEB SITE POSTINGS.....	6-2
6.6	DRAFT EXTREME OADP	6-3
7	RATE OF PROGRESS (ROP) DEMONSTRATION	7-1
7.1	INTRODUCTION.....	7-1
7.2	1990 RATE OF PROGRESS BASELINE INVENTORIES	7-1
7.3	FUTURE YEAR (2008 AND 2010) INVENTORIES	7-3
7.4	1990-2008 MILESTONE (51 PERCENT) DEMONSTRATION.....	7-3
7.4.1	Required 51 Percent Reduction for 2008.....	7-3
7.4.2	2008 Rate of Progress Demonstration.....	7-4
7.5	1990-2010 MILESTONE (57 PERCENT) DEMONSTRATION.....	7-6
7.5.1	Required 57 Percent Reduction for 2010.....	7-6
7.5.2	2010 Rate of Progress	7-9
7.6	RECALCULATION OF PRIOR ROP WITH NEW INVENTORY	7-10
7.7	REFERENCES	7-14
8	CALIFORNIA CLEAN AIR ACT TRIENNIAL PROGRESS REPORT AND PLAN REVISION	8-1
8.1	INTRODUCTION.....	8-1
8.1.1	Attainment Demonstration.....	8-2
8.1.2	Air Basin Description.....	8-2

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

8.2	OZONE AIR QUALITY INDICATORS	8-3
8.2.1	Air Quality Indicators	8-3
8.2.2	Expected Peak Day Concentration (EPDC)	8-3
8.2.3	Exposure Indicators	8-4
8.3	PROGRESS TOWARD AIR QUALITY STANDARD ATTAINMENT.....	8-6
8.4	TRANSPORT MITIGATION	8-13
8.5	CONTROL MEASURE IMPLEMENTATION	8-16
8.5.1	Stationary Source Control Measures	8-16
8.5.2	Mobile Source Control Measures	8-18
8.5.3	Land Use Programs	8-22
8.6	PLAN REVISION.....	8-22
8.6.1	Introduction	8-22
8.6.2	Control Strategy	8-23
8.6.3	Updated Strategy and Expected Reductions	8-25
8.6.4	Further Study Measures.....	8-26
8.7	REFERENCES	8-26
9	ACRONYMS AND GLOSSARY	9-1
9.1	ACRONYMS	9-1
9.2	GLOSSARY	9-4

APPENDICES

A.	County Emission Inventories for On-Road Motor Vehicles	A-1
B.	Current List of Emission Reduction Credits.....	B-1
C.	Regional Transportation Planning Agency Commitments.....	C-1
D.	Modeling and Attainment Demonstrations	D-1
E.	Cap on Stationary Source Growth by Pollutant.....	E-1
F.	Suggested Control Measures.....	F-1

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

LIST OF TABLES

Table #	Title	Page #
Table 1-1	Nonattainment Classification and Design Value Assignment	1-2
Table 1-2	Requirements for Severe versus Extreme Nonattainment Areas	1-9
Table 2-1	SJVAB Populations and Land Area	2-8
Table 2-2	Ozone Monitoring Stations in the San Joaquin Valley Air Basin.....	2-19
Table 3-1	SJVAB 2000, 2008 and 2010 Planning Emissions Inventories.....	3-7
Table 3-2	Estimated NOx Growth, Control and Estimated Offset Use for Stationary Sources	3-15
Table 3-3	Estimated VOC Growth, Control and Estimated Offset Use for Stationary Sources	3-18
Table 3-4	Transportation Conformity Budgets	3-24
Table 4-1	District Control Measure Schedule (2004-2007).....	4-2
Table 4-2	Potential Control Measures Requiring Further Study	4-6
Table 4-3	Defined State Measures from the 2003 Statewide Strategy	4-49
Table 5-1	SJVAB Federal 1-Hour Ozone Attainment Concept	5-11
Table 7-1	1990 ROP Baseline Year Inventory.....	7-2
Table 7-2	1990 Adjusted Base Year VOC Inventory Calculations (Tons/Day)	7-3
Table 7-3	Reductions from Adopted Rules and Regulations Not Included in the 2008 and 2010 Projected Inventories	7-4
Table 7-4	2008 Rate of Progress Demonstration Summary	7-7
Table 7-5	2010 Rate of Progress Demonstration Summary	7-11
Table 7-6	Comparison of Unadjusted Emissions Inventories used in Amended 2002/2005 ROP Plan and Extreme OADP	7-13
Table 8-1	San Joaquin Valley Air Basin Ozone Exceedances.....	8-7
Table 8-2	BARCT Rules	8-15
Table 8-3	2001-2003 Rulemaking Schedule.....	8-16
Table 8-4	Actual Emissions Reductions for District Rules Affecting Ozone Precursor Emissions (2000-2002)	8-19
Table 8-5	Rulemaking Schedule for 2003-2005	8-24
Table 8-6	Planning Emissions Inventories (summer, tons/day)	8-25

LIST OF FIGURES

Figure	Title	Page #
Figure 2-1	Counties Comprising the San Joaquin Valley Air Basin	2-1
Figure 2-2	San Joaquin Valley Wind Patterns During Ozone Season	2-4
Figure 2-3	Basin 1-Hour Design Value for 1986-2003	2-13
Figure 2-4	Number of Days Over the 1-Hour Federal Ozone Standard.....	2-14
Figure 2-5	San Joaquin Valley Ozone Exceedances.....	2-15
Figure 2-6	San Joaquin Valley Air Basin Air Quality Monitoring Network	2-17
Figure 4-1	Overview of Local Government Control Measure Process for the Extreme Ozone Attainment Demonstration Plan	4-43
Figure 5-1	Wind Field for July 30, 2000 at 5:00 AM and 3:00 PM PST.....	5-4
Figure 5-2	Maximum Ozone Concentration, 2000 CCOS Episode.....	5-6
Figure 5-3	Change in Maximum Ozone Concentration due to Wildfires	5-7
Figure 5-4	Maximum Ozone Concentration, 2010, without Additional Controls.....	5-8
Figure 5-5	Isopleths for Bakersfield on July 30, 2010.....	5-10
Figure 7-1	Graphical Summary of 2008 ROP Demonstration for San Joaquin Valley Ozone	7-8
Figure 7-2	Graphical Summary of 2010 ROP Demonstration for San Joaquin Valley Ozone	7-12
Figure 8-1	Expected Peak Day Concentration at the Arvin-Bear Site.....	8-8
Figure 8-2	Expected Peak Day Concentration at the Bakersfield Golden State Site	8-9
Figure 8-3	Expected Peak Day Concentration at the Bakersfield 5558 California Ave Site	8-9
Figure 8-4	Expected Peak Day Concentration at the Clovis N. Villa Ave. Site	8-10
Figure 8-5	Expected Peak Day Concentration at the at Fresno 1 st Street Site	8-10
Figure 8-6	Expected Peak Day Concentration at the Hanford-Irwin Site	8-11
Figure 8-7	Expected Peak Day Concentration at the Maricopa-Stanislaus Street Site.....	8-11
Figure 8-8	Expected Peak Day Concentration at the at the Merced-South Coffee Ave Site	8-12
Figure 8-9	Area Weighted Exposure per Square Kilometer	8-12
Figure 8-10	Population Weighted Exposure per Person.....	8-13