

Chapter 11

Conclusion

This page intentionally blank.

CHAPTER 11: CONCLUSION

11.1 INTRODUCTION

The District is proposing an innovative and exhaustive control strategy in this plan, and the reductions achieved by these programs will result in continuous air quality improvements throughout the Valley. This chapter discusses the attainment year and classification as well as new permitting requirements and the District's approach for contingency measures.

11.2 SUMMARY OF CONTROL STRATEGY EMISSIONS REDUCTIONS

Under the aggressive control strategy developed for this plan and presented in Chapters 6, 7, 8, and 9, and in related appendices, the District and the State of California will achieve the NO_x emission reductions shown in Table 11-1.

Table 11-1 Summary of NO_x Emissions Reductions to be Achieved by this Plan, tons per day

	NO_x Emissions	2005	2012	2020	2023
1	Baseline Emission Inventory - CCOS 1.06 (Table B-3)	630	506	352	322
2	District Adjustments (Table B-1)	+6	-17	-13	-10
3	ARB Adjustments (Based on data from Table B-2) ¹	-12	-23	-17	-17
4	Adjusted Baseline Inventory ²	624	467	322	295
5	District Regulatory Control Measures (Table 6-1)		-6.0	-8.0	-8.2
6	District Innovative Strategies & Programs (Table 8-1)		-0.2	-0.3	-0.3
7	State Control Measures (Table 9-4)		0	-54	-44
8	District Incentive Control Measures – Assured Funding (Table 7-2)		-1.4	-0.7	-0.6
9	Controlled Emissions from EPA-creditable emission reductions		459	259	242
10	NO_x Carrying Capacity for Ozone (Section 3-4)	160	160	160	160
11	Attainment Gap (difference between line 8 and line 9)		299	99	82
12	“Black Box” (Attainment Gap in 2023)				82

¹ ARB values for 2005 based on linear extrapolation of 2002 and 2008 data, and 2012 based on linear extrapolation of 2011 and 2014 data.

² Totals may vary slightly due to rounding

Modeling conducted by ARB indicates that the Valley's NO_x carrying capacity for ozone is about 160 tons per day. To reach this level, NO_x emissions would need to be reduced by about 75% from the 2005 level. As shown in Table 11-1, in 2012, the effective attainment deadline for Serious ozone areas, the controlled NO_x emissions considering federally creditable reductions, are 460 tons per day. Similarly in 2020, the effective attainment deadline for Severe ozone areas, the controlled NO_x emissions considering federally acceptable reductions are 259 tons per day. Summing up all of the technologically feasible controls that are also federally creditable, it is clear that the

Valley cannot achieve the 75% NO_x reduction by 2012 or 2020, and therefore cannot legally pursue the Serious or Severe ozone classifications. The only option for the Valley is the Extreme classification.

Table 11-2 shows the VOC reductions to be achieved by this plan. The carrying capacities discussed in Chapter 3 and Appendix F show that while both VOC and NO_x reductions advance attainment in the near term, the diminishing return for VOC has no significant impact on final attainment. Therefore, VOCs are not included in the “Black Box” strategy.

Table 11-2 Summary of VOC Emissions Reductions to be Achieved by this Plan, tons per day

	VOC Emissions	2005	2012	2020	2023
1	Baseline Emission Inventory - CCOS 1.06 (Table B-4)	399	367	358	363
2	District Adjustments (Table B-1)	+60	+43	+50	+52
3	ARB Adjustments (Based on data from Table B-2) ¹	-2	-3	-3	-3
4	Adjusted Baseline Inventory ²	457	407	405	412
5	District Regulatory Control Measures (Table 6-1)		-26.5	-44.5	-46.3
6	District Innovative Strategies & Programs (Table 8-1)		-0.6	-0.7	-0.7
7	State Control Measures (Table 9-4)		0	-22	-23
8	Controlled Emissions from EPA-creditable emission reductions		380	338	342

¹ ARB values for 2005 based on linear extrapolation of 2002 and 2008 data, and 2012 based on linear extrapolation of 2011 and 2014 data.

² Totals may vary slightly due to rounding

11.3 EMISSION REDUCTIONS AND NONATTAINMENT CLASSIFICATION

As shown in Table 11-1, the San Joaquin Valley Air Basin needs substantial reductions in NO_x emissions in order to demonstrate attainment of the federal 8-hr ozone ambient air quality standards. The District and the State of California (primarily the California Air Resources Board (ARB)) have conducted extensive reviews of source categories under their respective realms of authority to identify every viable emission reduction (or potential emission reduction) for attainment of the federal 8-hr ozone standard in the Valley. This activity has included the time-proven techniques of rules and regulations (Chapters 6 and 9), the increasingly important incentive-based emissions reductions (Chapter 7), and innovative strategies and programs (Chapter 8). To determine the effect of these reductions on future ozone air quality, the California Air Resources Board used state of the science photochemical modeling based on over \$30 million in field studies and data analysis on air pollution in the San Joaquin Valley. Results show that reductions from state and District control measures are not sufficient to demonstrate attainment of the standard.

Given the information presented at the July 2006 Town Hall meetings and in the Executive Summary on the Valley’s carrying capacity for ozone air pollution, the need

for massive reductions is not a surprise. The Valley has a low carrying capacity for emissions of ozone precursors due to its geography and climate; a small amount of emissions in the Valley can produce a large ozone nonattainment problem. As an example, the Valley's emission density for ozone precursors is much less than that of Los Angeles, and yet the Valley's ozone problems often equal or exceed the magnitude of the Los Angeles problem.

EPA's implementation of the 8-hr ozone standard under the federal Clean Air Act as amended in 1990 resulted in an initial nonattainment area classification for the Valley that did not truly reflect this sensitivity of the Valley to ozone precursor emissions. EPA was limited by the Clean Air Act to classify 8-hr ozone nonattainment areas according to their 8-hr ozone design value; for the Valley, this resulted in a classification of serious nonattainment. The 8-hour standard is generally viewed as more stringent than the former 1-hour standard, yet the Valley's classification **improved** by two categories under EPA's transition from 1-hr to 8-hr ozone. In its written comments to EPA on the 8-hr ozone classification approach, the District noted that basing classifications only on design value would likely lead to under-classifying areas (such as the Valley) that have high numbers of days per year over the standard yet design values not reflecting a large nonattainment problem. Thus the Valley's initial classification of serious nonattainment, with an attainment date of June 15, 2013, did not truly capture the seriousness of the 8-hour ozone nonattainment problem in the Valley.

The large magnitude of the emissions reductions needed for attainment of the federal 8-hr ozone standards means that the District and the State have left "no stone unturned" in coming up with new ways to reduce emissions, either through rules and regulations, incentives, or innovative programs. While this exercise was a necessary and critical step for demonstrating attainment, it also highlights an issue regarding the creditability of incentive-based emission reductions. Current EPA policy and guidance allow incentive-based reductions to be used to meet federal Clean Air Act requirements in SIPs in narrowly defined areas. The incentive-based emission reductions needed for the Valley transcends the borders of the existing EPA programs, thereby triggering the need to propose revisions to operation of the District's incentive program, as discussed in Chapter 7. The District will need to revise its incentive program to ensure SIP creditability for all incentive funds used to meet federal Clean Air Act requirements; without these revisions to the incentive program, emissions reductions from incentives could not be creditable and would create another approvability issue.

As shown in Table 11-1, the Valley needs emission reductions above and beyond all that can be identified from District and State rules, regulations, known incentives and innovate programs in order to demonstrate attainment of the federal 8-hr ozone standard. The gap between emissions reductions that have been identified and those that are needed ranges from 300 tpd of NO_x in 2012 to 82 tpd of NO_x in 2023. The presence of any such gap, regardless of magnitude, means that the plan has failed to demonstrate attainment and would therefore not be approvable by EPA. No technology currently available or on the horizon is capable of providing the necessary emission

reductions to fill the emissions reduction gap for any of the Clean Air Act milestone years.

The District and the State thus find themselves in the position that a good portion of the reductions needed for attainment, while identified, would not be approvable by EPA either because of dependence on incentives or because of reductions that are needed to show attainment but that have not been identified using technology either available or on the horizon (Table 11-1 shows that for the Valley, the emissions reduction gap is the dominant issue as compared to incentives, due to the relative magnitudes of the emission reductions). The federal Clean Air Act provides a mechanism to allow nonattainment areas to develop approvable plans under these circumstances. The mechanism consists of the ability of a state to request a reclassification to extreme nonattainment [Section 181(b)(3)], and the ability of extreme nonattainment areas to allocate future emissions reductions needed to demonstrate attainment to a category of “future technologies” or “long-term” measures that are not yet identified [Section 182(e)(5)]; this category of measures is often referred to as the “black box” because the agency using this provision can not see into the category to identify specifically how these reductions will be achieved. Reclassification to extreme would change the Valley’s attainment date from June 15, 2013 to June 15, 2024.

The seriousness of the Valley’s 8-hr ozone problem, the aggressive historical emission control program in the Valley and the architecture of the federal Clean Air Act force the District and ARB to implement the only administrative option available to develop an EPA-approvable plan: request a reclassification to extreme nonattainment for 8-hr ozone. The extreme classification is the only classification under the federal Clean Air Act that allows a SIP to allocate emission reductions to technologies not yet identified. The District does not view this option as a delay in cleaning up the air for 8-hr ozone for a number of reasons. First, the District will complete all of its emission control measures for sources under its authority to control on schedule for its initial classification of serious nonattainment. Second, the District will aggressively pursue new funding to implement incentive programs to either control emissions from sources outside of its direct authority (such as on-road motor vehicles) or that have limited financial means to further reduce emissions. The pursuit, acquisition, and spending of incentive funds is being done as expeditiously as possible and is not being slowed down by a change in attainment date. Third, the District is pressuring ARB and EPA to accelerate their emission reductions so that sources under state and federal control can reduce their emissions as expeditiously as possible to provide clean air benefits to the Valley.

The District’s goal is to achieve attainment of the 8-hr ozone standard before the legal deadline for extreme areas, much as it did for the federal PM10 standards (EPA found the Valley to be in attainment of the federal PM10 standards in 2006, four years before the deadline of 2010). For this reason, residents of the Valley will experience improving air quality as emissions are reduced over time; even the most problematic locations such as the Arvin air quality monitor would experience reduced ozone levels and

reduced number of days over the level of the standard as the emission reductions are achieved.

11.4 MAJOR SOURCE THRESHOLDS

The decision to reclassify to extreme nonattainment for the federal 8-hr ozone air quality standards will have implications for the District's permitting processes. As noted in Chapter 2, the federal Clean Air Act (CAA) requires extreme nonattainment areas to define a major source as one whose potential emissions of ozone precursors meet or exceed 10 tons per year. This lower major source threshold affects implementation of two permitting programs: New Source Review (NSR) and Title V permitting.

Title V permits are required of facilities with potentials to emit that exceed the major source thresholds. The lower major source threshold under extreme nonattainment would require an estimated 150 more non-agricultural sources to obtain Title V permits in the SJVAB. In addition, the lower major source threshold will also change the permitting requirements for agricultural sources. The impact of the lower thresholds for agricultural sources may, to some extent, be lessened because of the emissions reductions that are occurring with current regulatory and incentive programs. For those facilities that will be required to obtain new permits, the District is committed to further streamlining the permitting process and working with industry representatives to provide extensive outreach.

The District's NSR program requirements already meet some "extreme" levels (offsets at 10 tons per year) due to California Clean Air Act requirements, but some changes would be necessary. For instance, the offset ratio would change to the higher level of 1.5:1, with the option of a 1.2:1 ratio if the District is able to demonstrate use of best available control technology on all major sources. The additional number of major sources and major modifications that would be proposed under an extreme rule would make it more difficult to demonstrate the District's annual offset equivalency as required by Section 7 of Rule 2201. Such impacts would necessarily be considered during the District's development of an "extreme" NSR rule.

11.5 LONG-TERM MEASURES

As noted previously in this chapter and elsewhere in this plan, the District and ARB conducted an exhaustive search for emissions reductions under their respective authorities to implement in the Valley, and yet have not been able to identify measures to achieve all of the NO_x emission reductions needed for demonstrating attainment of the federal 8-hr ozone standard. For areas classified as extreme, as discussed elsewhere in this chapter, the federal CAA provides a mechanism that allows the EPA Administrator to approve a plan whose attainment depends on emissions reductions from unspecified measures. Section 182(e)(5) says that emissions reductions from new

technologies not yet available at the time of plan submittal can be included in the plan as long as the submitting agency fulfills certain requirements (as discussed in Chapter 2 and Appendix M). Because new technologies often have long lead times for development, demonstration and deployment into the market place, emission control measures based on new technologies are often referred to as “long term measures.” The Preamble to the federal Clean Air Act also notes that measures “that may require complex analyses and decision making and coordination among a number of government agencies” are also candidates for long-term measures in extreme plans. The collection of these measures is often referred to as the “black box” because the exact mechanism for providing the magnitude of emission reductions needed is not known.

The District’s 2007 Ozone Plan long-term strategy builds upon its short- and mid-term strategies. As noted in Chapter 6 of this Plan, the District intends to have all of its control measures for 8-hr ozone completed on schedule for its initial classification of serious nonattainment. These will then be followed by control measures developing from the “further study measures” described elsewhere in Chapter 6 (Table 6-2) and Appendix I; this mid-term strategy element calls for feasibility studies to be completed in the 2008-2012 time frame, with control measure development and eventual emission reductions to take place (for those measures that are determined to be worth pursuing) in years following. The long-term strategy will come from new technologies now under development and available for deployment by the middle of the next decade and from regional, intergovernmental programs affecting emissions from land use decisions. The following paragraphs describe elements of the District’s long-term strategy.

Principal components of the long-term strategy are alternative fuels, advanced retrofit/replacement technologies, and smart growth/land use policies. Some depend on refinements or enhancements to existing technologies, while others depend on substitution of new technologies for existing ones. Note that technology development can refer to advances that achieve the same emissions reductions that are possible today, but at much lower cost in the future, as well as greatly enhanced emissions reductions in the future but at today’s cost. Other measures are in the long-term category because they depend upon intergovernmental processes involving multiple agencies. Table 11-1 (line 11) shows the magnitude of the Black Box as 82 tpd of NO_x for the year 2023. No Black Box is listed for any other year because the federal Clean Air Act only allows use of the Black Box for extreme nonattainment areas. Thus the long-term measures would be used to supply 82 tpd of NO_x reductions in 2023 in order to demonstrate attainment of the federal 8-hr ozone standard in the Valley.

11.5.1 Alternative Energy Sources

The term “alternative energy sources” is used broadly to mean not only cleaner burning fuels for diesel or internal combustion engines, but also alternatives to combustion such as fuel cells, batteries, photovoltaic, conservation, etc. The District has been heavily involved through its incentive program in promoting shifts to alternative, cleaner burning

fuels. Most of this activity has been directed at encouraging natural gas as an alternative to diesel for heavy-duty trucks, agricultural pumps, and buses. Alternative fuels for motor vehicles may experience a change in the next 15 years due to increased actions by government, business and citizens to comply with state and possibly federal policies, incentives and rules to curb emissions of greenhouse gases. Some of these measures could include changes to fuel or shifts to alternative motor vehicle fuels. The District would need to analyze the effects that any such greenhouse gas measures would have on reducing emissions of NO_x or VOC. In addition, interest is growing in the U.S. to reduce dependence on imported oil; future government policies or other actions developed in response to this interest could switch fuels to other sources such as ethanol, biodiesel, or other domestic fuels.

Development of improved batteries for on-road motor vehicle transportation is a growing area of interest among foreign and domestic automobile manufacturers. As battery range increases and the ability to plug vehicles in to standard household electrical outlets for recharging becomes more commonplace, hybrid electric vehicles would become more popular, and light-duty vehicle emissions would decrease further. The development and commercialization of plug-in hybrid vehicles in the near term may provide a bridge to further the development and deployment of partial zero emissions or of zero emissions vehicles. The substitution of electric-based propulsion for some or all of the combustion-driven propulsion in light-duty vehicles will provide some air quality benefit. A greater air quality benefit would result from the same substitution in heavy-duty vehicles, though the technical challenges are much greater and may be less likely to be overcome in the 15 year time frame (e.g., in 2023 the Valley NO_x emissions for heavy-duty trucks are almost 70% of the total on-road motor vehicle NO_x emissions). The substitution of fuel cells for the combustion component in a hybrid electric vehicle would provide even greater emission reductions compared to a combustion only version of the same vehicle.

Photovoltaics offer the air quality benefits of a zero emissions means of providing some household functions now done by combustion (such as space heating and water heating). Although the extent of deployment of this technology in the past has been limited by its cost, the costs are decreasing and the use is becoming more widespread. Some of the emission source categories that would benefit from the technology are fairly minor in the SJ Valley, but further maturation of the technology and associated cost reductions could be of benefit to other source categories with higher emission reduction potential.

Energy conservation (i.e., reducing energy demand) can be done through better insulation in buildings, the use of passive solar concepts such as building orientation and deciduous landscaping, and heat reflective building technologies to reduce air conditioning demand (and therefore the power generation that supplies the demand), and other approaches. Many of the technologies are established, but their use is not yet widespread. The District routinely comments along these lines, as part of the CEQA review process, on Valley development projects. Even though the District does not

have land use authority, the repeated appearance of these types of comments on development projects over the next 15 years could influence their more widespread use.

Chapter 8 describes some innovative strategies involving energy conservation that the District will pursue. For other long-term technologies in this category, the District will monitor technology development and, in coordination with ARB and other districts, pursue and promote viable technologies that offer the potential for emission reductions in the future. The District would continue to feature emerging, low-emission technologies at its annual symposia as appropriate.

11.5.2 Advanced Retrofit/Replacement Technologies

This measure involves the development, demonstration and deployment of technologies that could be used to retrofit or replace technologies now being used but that have high emissions and provide little opportunity for cost effective emissions reductions. These could be completely new engines for trucks, tractors, buses or other on/off-road vehicles. In some cases, clean engines have penetrated some source categories such as trucks, but the technology penetration has lagged in other categories such as tractors. Natural gas engines may be another option that develops rapidly starting in the near-term such that it would have appreciable market term within the 15-year period of interest for the SJ Valley. For locomotives dedicated to the Valley, current diesel locomotives used for primarily Valley operation could be replaced with hybrid (Green Goat) locomotives, alternative fuel locomotives, or fuel cell locomotives in the future. The District's incentive program has already helped provide a Green Goat switching locomotive for use in the Valley.

The technology could also be retrofit devices that reduce NOx emissions such as selective catalytic reduction or diesel oxidation catalysts. New requirements for the use of low-sulfur diesel fuel may facilitate the introduction and use of many retrofit technologies that did not work as well with high-sulfur fuels. These technologies include exhaust gas recirculation and improved fuel injection. In this case the original engine would remain, but other equipment would be added to reduce emissions from that engine.

A "big picture" variation of this concept is to rethink the Valley's goods and commodities movement infrastructure to design ways to minimize emissions from the production, distribution, and processing of agriculture products. This strategy would consider dramatically reducing the number of diesel trucks used to distribute crops and replace them with a centralized commodity distribution system that incorporates advanced concepts such as Maglev or other linear induction technologies. Greater use of cargo containers and truck/rail combinations would also be considered. The Intermodal Facility and Distribution Center proposed for Shafter in order to provide rail access from the Valley to the Port of Oakland is an example of the type of project represented by this category. Short sea shipping is another promising idea that could be a key component of this strategy.

For technologies in this category, the District will monitor technology development and, in coordination with ARB and other districts, pursue and promote viable technologies that offer the potential for emission reductions in the future. Some elements of this measure may also involve extensive intergovernmental coordination.

11.5.3 Smart Growth/Land Use

In 2005, as noted in Chapter 3 of this Plan, about 80% of the NO_x emissions are from mobile sources.¹ In 2023, that percentage drops to about 60%, with about 37% due to on-road motor vehicle sources.² Thus while the percent contribution of mobile sources to overall NO_x emissions decreases, largely due to cleaner vehicles and fleet turnover, the vehicle miles traveled has not gone down. The Valley still has a long-term need for development that reduces vehicle trips, provides viable alternatives to driving, and reduces air pollutant emissions while accommodating increased population growth. Some of the solutions may be outside the Valley, since the presence of high-paying jobs in the San Francisco Bay Area and relatively low-cost housing in the north and central parts of the Valley has led to increased long-distance commuting with attendant air pollutant emissions.

While state law precludes the District from making land use decisions, the District can influence land use through other means such as the CEQA review process for Valley development projects, and the Indirect Source Review rule described elsewhere in this plan (see Chapter 8 and Appendix I). In addition, the District is a major funding source for the Valley's component of the statewide Blueprint Project, which is designed to make improvements to the Valley's travel patterns and air quality, while being consistent with local values. It will allow each county in the Valley to maximize resources by using the same data and expertise base to make planning decisions that affect future development (and hence future emissions) in the Valley. The Blueprint Project is a statewide initiative that will have long-term benefits for air quality in many regions. Given the Valley's geographic size and large number of cities, counties, councils of government and metropolitan planning organizations, the process for the intergovernmental coordination of planning approaches through the Blueprint process is much more involved, and thus is considered as a long-term measure from the standpoint of producing air quality improvements. As noted earlier in this Plan, no results are available from the Valley Blueprint project for incorporating into this Plan, but results may be available for future plans and plan updates.

¹ Please note that Mobile Sources includes on-road and off-road sources. For NO_x, 67% of the total mobile source emissions in 2005 come from on-road sources, and 33% of the total mobile source emissions come from other mobile sources.

² Please note that Mobile Sources includes on-road and off-road sources. For NO_x, 60% of the total mobile source emissions in 2023 come from on-road sources, and 40% of the total mobile source emissions come from other mobile sources. For VOC, 42% of the total mobile source emissions in 2023 come from on-road sources, and 58% of the total mobile source emissions comes from other mobile sources.

The District is also closely involved with the California Partnership for the San Joaquin Valley. The California Partnership for the San Joaquin Valley was created by Governor Schwarzenegger when he signed Executive Order S-5-05. The partnership brings state agency secretaries and Central Valley representatives together to make recommendations to the Governor regarding changes that would improve the economic well-being of the Valley and the quality of life of its residents. The 26-member Partnership, led by the Secretary of the Business, Transportation and Housing Agency, is composed of eight state government members, eight local government members nominated by their County Council of Governments and eight private sector members, along with two deputy chairs. "Air Quality" is one of ten Workgroups formed under the partnership. The District was very involved in creating the Strategic Action Plan from the workgroup that is presented in Appendix J of this Plan.

The District will continue to support and work with multi-agency and multi-stakeholder groups addressing air quality improvements from improved land use planning, better community design, improved transportation system design, and other long-term strategies to be implemented Valley-wide.

11.6 CONTINGENCY MEASURES

In general, contingency measures are control measures that go into effect, without further action by the State or the EPA Administrator, if planned emission controls fail to reach goals and targets specified in the federal Clean Air Act. Contingency measures are intended to provide emissions reductions above and beyond those necessary to meet federal Clean Air Act requirements for reasonable further progress or attainment demonstration.

11.6.1 Contingency Measures for RFP Milestones and Attainment

The federal Clean Air Act defines contingency measures as: "specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date applicable under this part" [Title I, Part D, Section 172(c)(9)]; these provisions apply to all classification except marginal areas. In addition, the federal Clean Air Act specifies that areas classified as serious or higher nonattainment shall prepare plans that "provide for the implementation of specific measures to be undertaken if the area fails to meet any applicable milestone. Such measures shall be included in the plan revision as contingency measures to take effect without further action by the State or Administrator upon a failure by the State to meet the applicable milestone." [Title I, Part D, Section 182(c)(9)].³

³ The federal Clean Air Act also addresses contingency measures for carbon monoxide and for maintenance areas, neither of which are relevant to this plan.

The 1990 Amendments to the federal Clean Air Act do not specify the number of contingency measures that plans must include, nor do they specify the magnitude of emissions reductions that must be achieved by contingency measures in plans. EPA believes that contingency measures should, at a minimum, ensure that appropriate emissions reductions continue even if an area misses a reasonable further progress (see Chapter 9) or attainment (see Chapter 2) milestone. For this reason, as noted in the General Preamble to the federal Clean Air Act (57 *FR* 13511), EPA requires contingency measures for moderate and higher area plans to be able to provide emission reductions equivalent to three percent of the adjusted base year inventory for reasonable further progress [Section 182(b)(1)(B) of the federal Clean Air Act defines this inventory, and EPA's Phase 2 Rule Implementing the 8-hr ozone NAAQS updates it for the 8-hr ozone NAAQS (70 *FR* 71637)—see Chapter 9]. This approach allows one year's of reasonable further progress reductions to be implemented automatically should an area miss a reasonable further progress or attainment demonstration milestone.

A nonattainment area subject to the contingency measure provisions has two general options for providing emission reductions above and beyond those needed to meet federal requirements for reasonable further progress and for attainment:

- Option 1: Develop and adopt rules that would only be implemented should an area fail to meet a federal milestone; emission reductions from these rules would go into effect after an area fails to meet a federal milestone.
- Option 2: Determine if rules adopted to meet attainment requirements provide emission reductions above and beyond those required for reasonable further progress, and to use these reductions as contingency reductions since they are above and beyond those needed for meeting federal milestones. The second option is stronger in that the “extra” emission reductions are working year after year for expeditious attainment of the standard, and are not contingent upon failure of a milestone in order to go into effect.

An area classified as extreme nonattainment for the federal 8-hr ozone NAAQS must show that it is making reasonable further progress by reducing emissions at a rate of 3% per year for a six year period from 2002 to 2008, and for every three-year period beginning with 2008 out to the attainment year of 2023. For an area classified as extreme nonattainment under the federal 8-hr ozone standard, these three-year periods end in 2011, 2014, 2017, 2020, and 2023 (the last of which is also the actual attainment year given the maximum statutory attainment date of June 15, 2024 for extreme nonattainment areas).

Nonattainment areas with significant attainment challenges have developed aggressive and far-reaching emission reduction measures to meet federal Clean Air Act requirements. The result of this “no stone left unturned” policy is that when viable emission reductions are identified, they are implemented in order to bring the area into attainment as expeditiously as practicable. The reductions are usually not held in reserve to be used only if an area fails to meet a milestone. Consequently, the Option 1 contingency measures are not realistic for areas with pervasive ozone and particulate

matter attainment challenges such as the SJVAB and the South Coast Air Basin. Any feasible approach for reducing emissions that has been identified has been implemented. However, because areas such as these are driven by the need to obtain very large emission reductions to attain the standards, they usually have reductions in excess of those needed to meet reasonable further progress requirements; this consequence makes Option 2 more viable for contingency measure reductions in areas with substantial ozone and PM attainment challenges.

Control measures developed and enhanced by the District since the passage of the 1990 federal Clean Air Act Amendments have become increasingly stringent, leaving little room for “extra” reductions that could be set aside to fulfill general contingency measure requirements. Two recent analyses prepared and adopted by the District to meet federal and state air quality planning requirements demonstrate that the District’s control measures often lead the State in terms of stringency of emissions control. The analysis of rules affecting emissions of particulate matter and its precursors (including VOC and NO_x measures) that was required by Section 39614 of the California Health and Safety Code (also referred to as the Senate Bill 656 analysis) shows that for the 103 control measures identified by ARB as required by this section of the Health and Safety Code, 37 of the District’s measures had the best level of emission control statewide, and another 39 District measures were equivalent to the best level of control. The bulk (>92%) of the remaining measures were for source categories not found in the District (SJVAPCD 2005). This analysis shows that the District rules are the most stringent in the State, thus offering little room for further emission reductions. The *RACT SIP Analysis* prepared by District staff to meet federal Clean Air Act planning requirements and adopted by the District Governing Board in August 2006 shows that District rules meet or exceed RACT for all applicable EPA source categories. EPA’s historic definition of RACT has been the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available, considering technological and economic feasibility (70 FR 66016).

In addition, analysis of NO_x and VOC controls in District plans shows that over the 1994 to 2006 time frame, District plans have been identifying control measure opportunities with smaller and smaller reductions. In the 1994 *Ozone Attainment Demonstration Plan*, the average new NO_x control measure needed for attainment was about 6.2 tons per day. In the 2004 *Extreme Ozone Attainment Demonstration Plan*, this average had dropped to 1.8 tons per day. Similar trends exist for VOC reductions. These broad scale analyses help demonstrate that the “low hanging fruit” for emission reductions has been picked, and little future reductions under District control are available to use as contingency measures.

As discussed elsewhere in this plan, the District has dramatically reduced stationary source emissions, primarily through rules and regulations, over the 1990-2005 time frame. These reductions, coupled with mobile source emission reductions obtained by ARB, are more than sufficient to meet the federal reasonable further progress requirements for the 8-hr ozone standard. For example, the District has easily met reasonable further progress requirements under the federal 1-hr ozone NAAQS

(SJVAPCD, 2000; SJVAPCD, 2002; SJVAPCD 2004). Chapter 10 in this plan demonstrates that the SJVAB can meet all extreme area reasonable further progress milestones for the 8-hr ozone NAAQS with control measures that have already been adopted (Table 10-2). Furthermore, reductions provided by adopted measures exceed the percentage needed to meet RFP (Table 10-3), thus providing additional reductions to provide sufficient contingencies to meet the three percent contingency requirement. Reductions that will be achieved by new control measure commitments are available to supplement these excess reductions. Because these measures will be adopted before they are needed for contingency (Table 6-1), the reductions go into effect “without further action by the State or Administrator.” This demonstration thus fulfills the general contingency measure requirements for nonattainment areas.

11.6.2 “Black Box” Contingency Requirements

Section 182(e)(5) of the federal Clean Air Act specifies that nonattainment areas classified as extreme nonattainment may assign future emission reductions needed for attainment demonstration to future technologies not identified at the time of SIP submittal to EPA. If nonattainment areas choose to do this, however, they must also “submit enforceable commitments to develop and adopt contingency measures to be implemented as set forth herein if the anticipated technologies do not achieve planned reductions.” [Section 182(e)(5)(B)]. The federal Clean Air Act goes on to state that “Such contingency measures shall be submitted to the Administrator no later than 3 years before proposed implementation of the plan provisions and approved or disapproved by the Administrator in accordance with Section 110.” [Section 182(e)(5)]. Thus the specific measures that would be used to achieve the 82 tpd of NO_x emissions reductions in the year 2023 are not known at present, nor are the specific contingency measures that would be used to provide these reductions. The federal Clean Air Act does not require identification of the Black Box contingency measures in this plan; it only requires a commitment to identify the contingency measures no later than three years before implementation of the Black Box measures.

In accordance with federal Clean Air Act requirements, the District commits to identifying these contingency measures no later than three years before implementation of the new technologies needed to provide the Black Box reductions. In order to affect attainment, the Black Box measures would need to be in place by the end of 2022; consequently, the District would need to identify the Black Box contingency measures no later than three years before that, or the end of 2019. The contingency measures shall be sufficient, in conjunction with other approved plan provisions, to achieve the periodic emission reductions required by reasonable further progress or attainment milestones.

This page intentionally blank.