

Executive Summary

2013 Plan for the Revoked 1-Hour Ozone Standard
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EXECUTIVE SUMMARY

In addition to the multiple attainment plans currently in place, the San Joaquin Valley Unified Air Pollution Control District (District) is now mandated by the federal Clean Air Act (CAA) to develop and implement two new ozone attainment plans (state implementation plans [SIPs]) in the near future: a plan for the U.S. Environmental Protection Agency's (EPA) revoked 1-hour ozone standard and a plan for EPA's newest 8-hour ozone standard (established in 2008). While EPA revoked their 1-hour ozone standard in 2005 to pursue a more health-protective 8-hour ozone standard, delayed action by EPA on the District's *2004 Extreme Ozone Attainment Demonstration Plan (2004 Plan)*, and subsequent litigation resulted in court rulings requiring the submission of a new plan.

Currently, the San Joaquin Valley (Valley) is subject to non-attainment penalties for approximately \$30 million dollars per year due to non-attainment of the revoked 1-hour standard. This matter is also under litigation with certain environmental groups seeking to increase non-attainment penalties charged to Valley businesses. Attaining the standard will remove exposure by Valley businesses to additional penalties and will return full local control to the Valley for decisions regarding the need, the magnitude, and the expenditure of Department of Motor Vehicle (DMV) dollars.

Due to the Valley's significant investment and hard work in reducing emissions, the District anticipates attaining EPA's revoked 1-hour standard as measures from more recent 8-hour ozone and PM_{2.5} (particulate matter 2.5 microns or less in diameter) plans continue to be implemented. Addressing EPA's 2008 8-hour ozone standard, however, will pose a tremendous challenge for the Valley, and the District's focus needs to remain on this more health-protective standard. Within this CAA context, the District's Health-risk Reduction Strategy will prioritize those measures that accelerate the reduction of Valley ozone concentrations, and provide for maximum air quality and health benefits.

Since 1992, the District has adopted numerous attainment plans to reduce ozone and particulate precursor emissions. Leaving no stone unturned, the District has implemented these plans and adopted over 500 rules and rule amendments that have resulted in significant emissions reductions. Many of the District's innovative rules and strategies, such as Indirect Source Review, Glass Melting Furnaces, and Conservation Management Practices, now serve as models for the rest of the nation. In addition to having the toughest air regulations in the nation, the District also has the most effective and efficient incentive grants program. To date, the District has awarded over \$500 million in grants, resulting in over 100,000 tons of emissions reductions. Through implementation of District regulations and incentives, Valley businesses and residents have invested billions of dollars to reduce emissions.

Through these combined efforts, the Valley's air quality is better than it has been at any other time on record, the last three years having the cleanest winters and cleanest summers. Furthermore, the District's recent ozone and PM_{2.5} plans contain over 100

regulations that will achieve almost 250 tons per day of reductions in oxides of nitrogen (NOx) over the coming years.

As of the posting of this plan, the Valley could attain the revoked 1-hour ozone standard as early as 2013 with already adopted and implemented measures. On the other hand, it takes as little as four hours over a three-year period (where those four hours occur on four separate days at a single air monitoring site) to keep an area out of attainment, and a single episode of ozone build up could prolong nonattainment past 2013. Therefore, 2017 is the official attainment year for this plan, per the modeling and other analyses conducted as part of this planning effort.

Beyond 1-hour ozone, and despite the significant air quality progress that has been made in the Valley, many challenges remain as the District develops new attainment plans for increasingly stringent federal standards. The Valley's geography and meteorology exacerbate the formation and retention of high levels of air pollution. Surrounding mountains and consistently stagnant weather patterns prevent the dispersal of pollutants that accumulate within the Valley. Adding to the geographic challenges is the fact that the state's major arteries for goods and people movement, which attract a large volume of vehicular traffic, run the length of the Valley. Also, biogenic emissions and pollution transported from outside of the District's boundaries significantly contribute to the Valley's challenges. These factors will continue to impact the Valley's progress towards attainment of federal air quality standards.

Summary of Existing and Upcoming Ozone Standards and Schedules

Table ES-1 summarizes EPA's ozone standards and the timing of attainment plans under those standards consistent with CAA requirements. EPA established the first ozone standard in 1979, setting this standard at 0.12 part per million (ppm) over a 1-hour exposure or 124 parts per billion (ppb) when accounting for the adopted rounding conventions. An area meets the 1-hour ozone standard when, for each monitoring station, the 1-hour ozone levels do not exceed 124 ppb more than one day per year as averaged over any three-year period. The CAA Amendments of 1990 established attainment planning requirements and attainment deadlines for the 1979 1-hour ozone standard, and the District subsequently adopted various 1-hour ozone plans and plan amendments. EPA revoked the 1-hour standard effective June 15, 2005 based on evidence that the 84 ppb 8-hour ozone standard adopted in 1997 was more health protective. In response, the District and other agencies nationwide shifted their ozone efforts to address 8-hour ozone.

The District's *2007 Ozone Plan* demonstrates attainment of the 1997 8-hour ozone standard no later than the 2024 attainment deadline. It includes aggressive measures for reducing pollutants from all Valley sectors as well as "black box" reductions needed to ultimately attain the standard, but for which technologies did not exist. In 2008, EPA revised its 8-hour ozone standard, lowering the standard from 84 ppb to 75 ppb. EPA considered lowering the standard once again in 2010, but ultimately retained the 75 ppb standard. EPA designated the Valley as nonattainment of the 2008 8-hour ozone

standard in 2012; the attainment plan for the 2008 standard will be due in 2015 or 2016, pending EPA's final implementation rule for the 2008 standard. EPA is expected to review and consider further revisions to the 8-hour ozone standard in the 2013–2014 timeframe.

Despite the complexity of overlapping standards and plans, efforts to reduce ozone precursors under one standard and plan also will help to reduce ozone precursors necessary to meet other ozone standards, including more stringent ozone standards on the horizon. The control measures adopted by the District and ARB under the *2007 Ozone Plan* and other attainment plans are achieving significant reductions of ozone precursors. These measures and strategies will continue to achieve intended emissions reductions as they are implemented. These emission reductions help decrease both 1-hour ozone and 8-hour ozone concentrations, contributing to attainment of the 1-hour ozone standard and the multiple 8-hour ozone standards. Building on the District's *2007 Ozone Plan*, *2008 PM2.5 Plan*, and the *2012 PM2.5 Plan*, the District continues to coordinate emission reduction strategies whenever possible to address multiple standards, to maximize efficiency for staff and stakeholders, and to maximize health benefits.

Table ES-1 Federal Air Quality Standards and Valley Status for Ozone

Federal Standard	Ozone Standards and Timelines			
	1979 1-hour 124 ppb (1-hour average)	1997 8-hour 84 ppb (8-hour average)	2008 8-hour 75 ppb (8-hour average)	2014 8-hour TBD
1979–2003	EPA sets standard (1979)	EPA sets standard (1997)		
2004	SJV attainment plan	EPA finalizes attainment designations and classifications		
2005	EPA revokes standard	EPA implementation rule		
2006	<i>Litigation reinstates portions of implementation requirements under the revoked standard</i>			
2007		Attainment plan due (SJV's 2007 Ozone Plan)		
2008				
2009				
2010	EPA approved SJV 2004 plan	Midcourse review	EPA proposes to revise standard: down to 60 or 70 ppb	
2011	Ninth Circuit remands plan approval to EPA; EPA finds SJV failed to attain		EPA announces that it won't revise the standard	
2012	EPA finalizes withdrawal of approval of 2004 1-hour ozone plan. SJV plan withdrawn	EPA approves SJV's 2007 Ozone Plan	EPA attainment designation (SJV: extreme nonattainment)	
⇒ 2013	SJV to submit new 1-hour ozone plan (final attainment year to be determined)		EPA proposes implementation rule	EPA to propose standard
2014		District/ARB to revisit 2007 plan		EPA to finalize standard
2015			SJV to submit 8-hour ozone plan (2015 or 2016, based on proposed implementation rule)	<i>Designations & attainment plan timing to be determined</i>
2016				
2017				
2018				
2019		Identify specific "Long-Term Control Measures"		
2020		Contingency measures needed if advanced technologies don't achieve planned emissions reductions		
2021–2040		Final attainment deadline: 2024 (2021-2023 data)	Final attainment deadline: 2032	

2013 Plan for the Revoked 1-Hour Ozone Standard

1-Hour Ozone Air Quality Progress

The revoked 1-hour ozone standard is 0.12 ppm rounded to the closest hundredth. Thus, 1-hour ozone concentrations at or greater than 0.125 ppm are above the standard, and 1-hour ozone concentrations at or lower than 0.124 ppm meet the standard. If any hour in a day is above the standard, then that day is an *exceedance* day. The highest hourly concentration on a given day is recorded as the 1-hour ozone concentration for that day (though all hourly concentrations are kept on record and analyzed as well).

The attainment test for the 1-hour ozone standard is based on the number of exceedance days per year, averaged over a three-year period. A site with an average of 1.0 or fewer exceedance days per year, as averaged over a three-year period, meets the standard. In other words, if the site has 3.0 or fewer exceedance days in a three-year period, then it meets the standard; if that site has more than 3.0 exceedance days in a three-year period, then it does not meet the standard.

In 1996, there were 56 exceedance days of the revoked 1-hour ozone standard, basin-wide; in 2012, there were only two (see Figure ES-1). The 3-year average of 2009–2011 had only two sites failing the attainment test (Clovis and Arvin-Bear Mountain); for 2010–2012, only the Clovis site failed the attainment test. Compared to the average values 20 years ago, the Valley has come a long way in reducing ozone concentrations and meeting its attainment goal.

In addition, the number of hours over the standard per year has decreased 97%, from 281 hours over the standard in 1996 to just 7 hours over the standard in 2012 (see Figure ES-2). Peak 1-hour ozone concentrations have decreased 13% from 2003 to 2012 (see Figure ES-3).

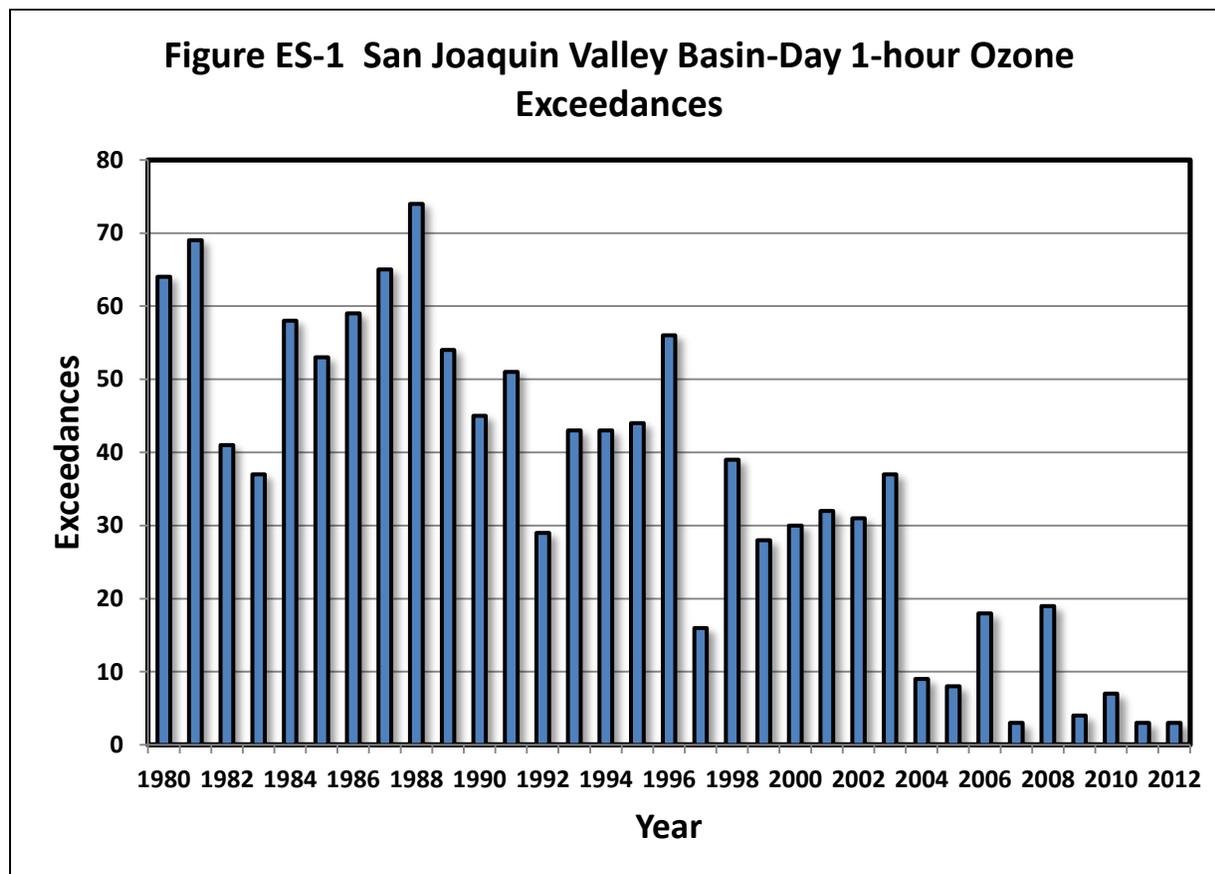


Figure ES-2 Total Hours Over the 1-hour Ozone Standard Among All Sites

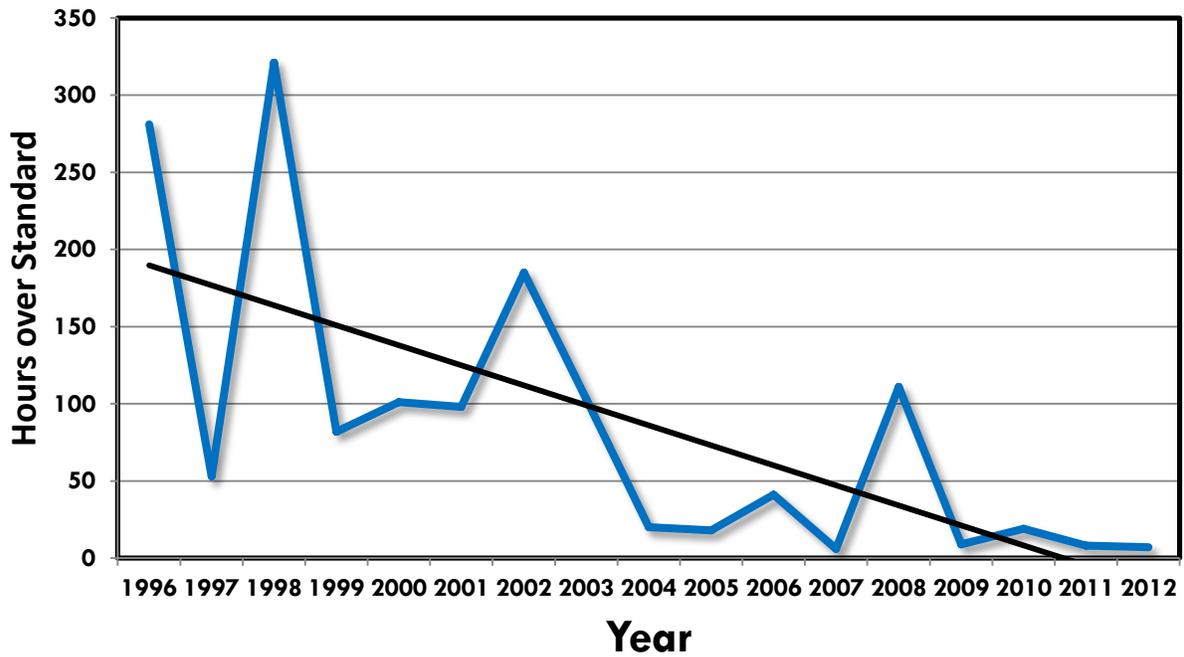
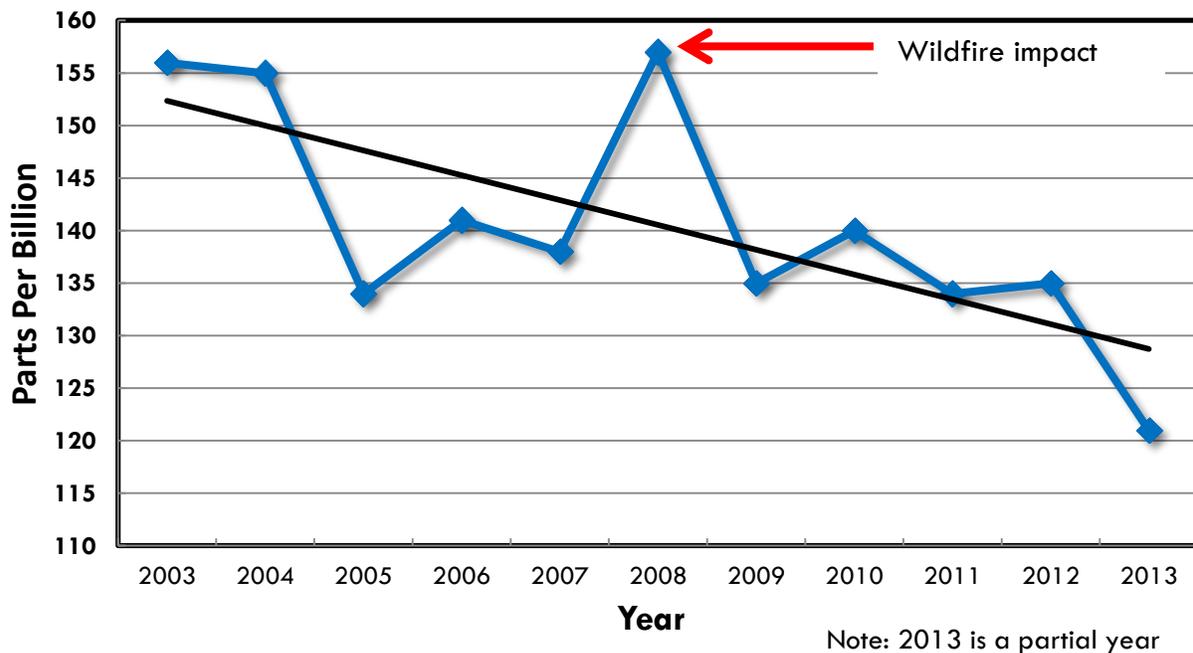


Figure ES-3 District Regional 1-Hour Ozone Maximum Value Trend



Plan Requirements

The District's most recent full-attainment planning effort for 1-hour ozone was the *2004 Plan*, which used the best available information at the time and projected that the Valley would attain the 1-hour ozone standard in 2010. However, as discussed above, the District and other agencies nationwide shifted their ozone efforts to the more health-protective 8-hour ozone when EPA revoked the 1-hour ozone standard in 2005.

In its 2005 revocation of the 1-hour standard, EPA clarified which requirements were revoked and which remained in place. EPA adopted anti-backsliding provisions to preserve existing 1-hour ozone control measure and emissions reductions obligations; therefore, areas were still obligated to meet Rate of Progress (ROP) emissions reductions targets, adopt mandatory control measures, and meet any unmet attainment demonstration obligations. However, EPA revoked attainment designations and classifications, and stated that they would no longer make failure-to-attain findings, and would not require areas to demonstrate conformity for the 1-hour standard. Furthermore, EPA found that contingency measures for failure to make the appropriate Rate of Progress (ROP) milestones or to attain by the applicable attainment date were no longer required for 1-hour ozone.

Agencies moved forward based on these assumptions, but subsequent litigation and regulatory actions have reinstated many of the revoked 1-hour ozone requirements. For example, EPA issued a failure-to-attain finding for the Valley (and other areas) in 2011, noting in that finding that contingency measures and 185 fees (as discussed below) were required when an area fails to attain. When EPA withdrew its 2010 approval of the District's *2004 Plan* in 2012, it specified that the plan elements summarized in Table ES-2 must be included in a new 1-hour ozone plan. The District's *2013 Plan for Revoked 1-Hour Ozone Standard* will meet all applicable federal requirements.

Nonattainment of the federal 1-hour ozone standard past the 2010 attainment deadline also requires the District, per CAA §185, to impose and collect nonattainment penalty fees, all of which were to be deposited in the federal treasury with no likely expenditures in the Valley. However, using 2010 EPA guidance and 2008 California Assembly Bill 2522 (Arambula), codified as Health and Safety Code §40610, the District was allowed to implement a more equitable approach for collecting CAA §185 fees through DMV fees. These fees ultimately fund incentive programs to reduce emissions in the Valley. Together, DMV fees and District Rule 3170 (Federally Mandated Ozone Nonattainment Fee, amended May 19, 2011) meet the nonattainment fee requirements of CAA §185.

Table ES-2 2013 Plan for Revoked 1-Hour Ozone Standard Federal Requirements

Requirement	Federal CAA	Location in plan
Rate of Progress (ROP) demonstration	§172(c)(2) and 182(c)(2)	Chapter 4
Contingency measures: <ul style="list-style-type: none"> • For ROP • For attainment year 	§172(c)(9) and 182(c)(9)	Chapter 4
Attainment demonstration	§182(c)(2)(A) and 172(a)(2)	Chapters 2 and 4
Reasonably Available Control Measures (RACM) demonstration	§172(c)(1)	Chapters 3 and 4; Appendix C
Clean fuels/clean technologies for boilers	§182(e)(3)	Chapter 4
Vehicle miles traveled (VMT) offset demonstration	§182(d)(1)(A)	Appendix D

Meeting the 1-Hour Ozone Standard

As a result of the hard work that has already been done to reduce emissions in the Valley, as discussed earlier in this Executive Summary, preliminary modeling indicates that the Valley will attain the 1-hour ozone standard by 2017 – before the final attainment year of 2022 and without relying on long-term measures under CAA §182(e)(5) (“black box reductions”).

The Upcoming Plan for the 2008 8-Hour Ozone Standard

The plan for the 2008 8-hour ozone standard of 75 ppb would be due to EPA in 2015 or 2016, pending EPA’s final implementation rule for this standard. The foundational District and ARB analyses needed for this plan are already underway.

Given the naturally high background ozone levels and ozone transport into the Valley, attainment will be extremely difficult. Attaining the 2008 8-hour ozone standard will require significant additional emissions reductions. Attainment may not even be possible without a virtual elimination of the emissions associated with fossil-fuel combustion and transition to zero-emission technology. Although an attainment deadline of 2032 may seem like the distant future, in reality this deadline may not provide adequate time for the necessary transformative measures to be planned and implemented. These issues must be carefully considered in the course of preparing the plan for the 2008 8-hour ozone standard.

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