

## **CHAPTER 1**

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### **INTRODUCTION**

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# 1. INTRODUCTION

## 1.1 PURPOSE

The purpose of this 2001 Clean Air Plan (2001 Plan) is to chart a course of action that will ensure clean healthful air for the residents and environment of Santa Barbara County. Clean air is fundamental to good public health; it enhances the environment and contributes to the attractiveness of the area to residents, businesses, and visitors. Fortunately, our air quality has been improving through implementation of several air quality plans. These plans have been developed for Santa Barbara County as required by both the 1998 California Clean Air Act (State Act) and the 1990 Federal Clean Air Act Amendments (Federal Act).

Santa Barbara County's air quality has historically violated both the state and federal ozone standards. Ozone concentrations above these standards adversely affect public health, diminish the production and quality of many agricultural crops, reduce visibility, and damage native and ornamental vegetation. Under both the Federal Act and the State Act, the measured ozone concentrations in the county resulted in our classification as a “moderate” nonattainment area. The county continues to be classified as a “moderate” area under the State Act, but was re-classified as a “serious” ozone nonattainment area under the Federal Act on December 10, 1997, for failure to attain the federal 1-hour ozone standard by our November 15, 1996, attainment date.

However, more recent data, collected from 1997 through 1999, show that air quality at every monitoring location in Santa Barbara County complied with the federal 1-hour ambient air quality standard for ozone. Achieving this milestone has two important results:

- 1) The residents of Santa Barbara County are breathing cleaner more healthy air, and
- 2) We are now able to submit a redesignation request and Maintenance Plan to the United States Environmental Protection Agency (USEPA) to become an attainment area for the federal 1-hour ozone standard.

In support of this request, this 2001 Plan addresses all federal planning requirements for “Maintenance Plans” and provides for ongoing maintenance of the federal 1-hour ozone standard through the year 2015. Based on the air quality improvement documented by these data, this 2001 Plan formally requests that USEPA redesignate Santa Barbara County as an attainment area for the federal 1-hour ozone standard. Further, this 2001 Plan re-establishes on-road mobile source reactive organic compounds (ROC) and oxides of nitrogen (NO<sub>x</sub>) emission budgets to address the requirements of transportation conformity. Finally, this 2001 Plan provides a three-year update to the 1991 Air Quality Attainment Plan, the 1994 Clean Air Plan and the 1998 Clean Air Plan for the state ozone standard, as required by the State Act. Many of the local control measures proposed in this 2001 Plan satisfy the “every feasible” measure requirements of the State Act and serve as “contingency” measures for the Federal Act. If we experience a “violation” of the federal 1-hour ozone standard during the planning horizon of this 2001 Plan, we will evaluate and expedite the implementation of the “contingency” measures outlined in this 2001 Plan.

## **1.2 CURRENT STATE AND FEDERAL PLANNING REQUIREMENTS**

Section 175A of the Federal Act requires the preparation of a plan to provide for maintenance of the federal 1-hour ozone standard for at least 10 years after an area is redesignated to an attainment area. This 2001 Plan is the fourth major planning effort under the Federal Act and also complies with the triennial progress report and plan revision requirements under the State Act. A complete summary of all state and federal Clean Air Act requirements that apply to Santa Barbara County is provided in Chapter 10.

The first step in the development of a Maintenance Plan is to determine an “attainment inventory” for Santa Barbara County against which to compare future predicted emissions for 2005, 2010, and 2015. Since we attained the federal 1-hour ozone standard during the 1997-1999 period, we developed emission inventories for 1999 for both ROC and NO<sub>x</sub>. The attainment inventory methodology assumes that the emission levels experienced in Santa Barbara County during 1999 are adequate to keep measured ozone concentrations below the federal 1-hour ozone standard. The maintenance demonstration must show that all predicted future year emission levels in 2005, 2010, and 2015 are below the attainment inventory established for 1999.

Failure to fully meet the requirements of the Federal Act can lead to federal intervention in our local air pollution control program. Loss of federal highway funds and increased emission offset requirements for new stationary sources are possible outcomes under the mandatory sanctions imposed for failure to meet Federal Act requirements. Failure to maintain the federal 1-hour ozone standard through 2015 could also result in the USEPA reclassifying Santa Barbara County back to a nonattainment area. The strategy outlined in this 2001 Plan is structured in such a way as to minimize the probability of these events. However, if Santa Barbara County is unable to maintain the federal 1-hour ozone standard through 2015 due to the impacts of transported pollution from areas outside our local control, we may request that the USEPA consider these circumstances when evaluating future designations. This request would be based upon a USEPA policy, dated July 17, 1998, on the extension of attainment dates for downwind transport areas.

California law mandates that APCDs periodically revise and update attainment plans to achieve the state 1-hour ozone standard as expeditiously as practicable. The efforts being undertaken for this 2001 Plan also address attainment of the state 1-hour ozone standard, which is more protective of public health than the federal 1-hour ozone standard. This 2001 Plan will therefore satisfy all state triennial planning requirements. This 2001 Plan will also assist us in the comprehensive planning effort envisioned by the California Air Resources Board (ARB) for 2003.

This 2001 Plan will be forwarded to the ARB for their review and approval before being submitted to the USEPA as a revision to the State Implementation Plan (SIP). The USEPA must approve both the Maintenance Plan and redesignation request in order to redesignate Santa Barbara County as an attainment area for the federal 1-hour ozone standard.

### **1.3 SUMMARY OF ATTAINMENT PLANNING EFFORTS**

Several prior air quality plans have been prepared for Santa Barbara County. The first clean air plan for Santa Barbara County was the 1979 Air Quality Attainment Plan (1979 AQAP) which was updated in 1982. These two plans were prepared in response to mandates established by the federal Clean Air Act Amendments of 1977. At that time only the southern portion of the county, the region south of the Santa Ynez Mountains, violated the federal 1-hour ozone standard. The 1982 update predicted attainment of the federal ozone standard by 1984, but acknowledged that the county's ability to attain the federal ozone standard was uncertain because pollution generated on the OCS was not considered in the Plan.

The predicted attainment of the federal ozone standard did not occur. As a consequence, the USEPA called for an update to the 1982 Air Quality Attainment Plan on March 17, 1986. On May 26, 1988, the USEPA issued a subsequent mandate that our planning efforts address air quality for the entire county. This new mandate was issued in response to the failure of many regions of the country to attain the federal 1-hour ozone standard by 1987. In response, the APCD prepared the 1989 Air Quality Attainment Plan (1989 AQAP), which was adopted by the APCD Board of Directors in June of 1990 and was designed to bring the southern portion of the county into attainment with the federal 1-hour ozone standard.

The APCD also prepared a 1991 Air Quality Attainment Plan (1991 AQAP). This plan was required by the State Act to bring the entire county into attainment of the more health protective California ozone standard. The APCD Board of Directors adopted the 1991 AQAP in December 1991 and ARB approved it in August 1992.

In 1990, Congress amended the federal Clean Air Act (Federal Act). The Federal Act required Santa Barbara County, as a "moderate" nonattainment area, to submit a Rate-of-Progress Plan to the USEPA by November 15, 1993, and an attainment demonstration by November 15, 1994. The 1994 Clean Air Plan (1994 CAP) that contained these required elements was adopted by the APCD Board of Directors and formally submitted to the USEPA on November 15, 1994. The 1994 CAP included: amendments to the 1993 Rate-of-Progress (1993 ROP) Plan; an attainment demonstration

of the federal ozone standard by 1996; a request for redesignation from a nonattainment area to an attainment area for the federal ozone standard; and a plan to show maintenance of the federal ozone standard through the year 2006. The 1994 CAP also provided a three-year update to the 1991 AQAP for the state ozone standard, as required by the State Act.

On January 8, 1997, the USEPA approved several elements of the 1994 CAP, including the amendments to the 1993 Rate-of-Progress Plan, the base year emission inventory, and the control strategy. USEPA did not approve the attainment demonstration element due to violations of the federal 1-hour standard that occurred during 1994-1996. This element was withdrawn from the 1994 CAP submittal. Similarly, the USEPA never acted upon the maintenance plan element due to the measured violations of the federal 1-hour ozone standard.

On December 10, 1997, the USEPA issued a final action finding that Santa Barbara County had not attained the federal 1-hour ozone standard by the statutory attainment date for “moderate” nonattainment areas of November 15, 1996. As a result, the entire Santa Barbara County nonattainment area was reclassified as a “serious” nonattainment area by operation of federal law. The USEPA action mandated that we continue progress toward the federal 1-hour ozone standard through the development of a revised Clean Air Plan. The 1998 CAP was adopted by the APCD Board of Directors on December 17, 1998, and forwarded by the ARB to the USEPA on March 19, 1999. The 1998 CAP addressed all the new federal planning requirements for “serious” nonattainment areas and was approved by the USEPA on August 14, 2000 (65 FR 49499-49501).

A summary of Santa Barbara County’s state and federal planning activities beginning with the 1991 AQAP is presented in Table 1-1.

## **1.4 PLAN ORGANIZATION**

Chapter 2, Local Air Quality, provides a summary of Santa Barbara County's air quality, and discusses the nature and extent of the ozone problem.

Chapter 3, Emission Inventory, establishes an "attainment inventory" for Santa Barbara County by quantifying the emissions of reactive organic compounds and oxides of nitrogen for 1999. This emission inventory is tailored to meet federal requirements.

Chapter 4, Emission Control Measures, provides an overview of the APCD's control measures. In addition, the chapter summarizes all ARB's emission reduction programs that reduce emissions in Santa Barbara County. This chapter identifies the status of each control measure in relation to both state and federal requirements.

Chapter 5, Transportation Control Measures, describes all transportation-related control measures, and identifies their applicability to both state and federal requirements.

Chapter 6, Emission Forecasting, details the forecast procedures used to develop future year emission inventories for 2005, 2010, and 2015.

Chapter 7, Redesignation Request and Maintenance Plan, formally requests the USEPA to redesignate Santa Barbara County in attainment of the federal 1-hour ozone standard and provides a demonstration that we will continue to maintain the standard through 2015.

Chapter 8, Implementation Support Activities, identifies and discusses other APCD programs and policies that facilitate continued progress toward attainment of state and federal ozone standards.

Chapter 9, Land Use Strategies, discusses the connection between land use development and air quality and sets forth specific policies and sustainable ways in which air pollution impacts of growth can be minimized.

Chapter 10, State and Federal Clean Air Act Requirements, provides an overview of all state and federal Clean Air Act planning requirements and discusses how the work completed in conjunction with this 2001 Plan complies with all applicable requirements.

Chapter 11, State Mandated Triennial Progress Report and Triennial Plan Revision, summarizes how the development and adoption of the 2001 Plan satisfies the triennial update requirements of the California Clean Air Act.

Chapter 12, Public Participation, summarizes all public input received during the development of this 2001 Plan.

In addition to the above chapters, three appendices document and support the 2001 Plan. These include the following:

Appendix A:                    Emission Inventory and Forecasting Documentation

Appendix B:                    Stationary Source Control Measure Documentation

Appendix C:                    Transportation Control Measure Working Papers  
& On-Road Mobile Source Emissions Analysis

## REFERENCES

California Health and Safety Code: 1998 Edition.

United States Public Law 101-549, Nov. 15, 1990 104 Stat.2399.

U.S. Environmental Protection Agency: Preamble - USEPA Title 1, General Preamble of the Federal Clean Air Act Amendments of 1990.

U.S. Environmental Protection Agency: Guidance of the adjusted base year emissions inventory and the 1996 Target for the 15% rate-of-progress plans. EPA-452-R-92-005, October 1992.

U.S. Environmental Protection Agency: Guidance on growth factors, projections, and control strategies for the 15% rate-of-progress plans. EPA-452/R-93-002, March 1993.

U.S. Environmental Protection Agency: Clean Air Act Reclassification; California Santa Barbara Nonattainment Area; Ozone. 40 CFR Part 81, December 10,1997.

U.S. Environmental Protection Agency: Extension of Attainment Dates for Downwind Transport Areas. USEPA memorandum dated July 17, 1998.

U.S. Environmental Protection Agency: Approval and Promulgation of State Implementation Plans; California -- Santa Barbara. August 14, 2000 (65 FR 49499-49501).

**Table 1 - 1**

**Comparison of the 1991 AQAP, 1993 ROP Plan, 1994 CAP, 1998 CAP and the 2001 Plan**

	<b>1991 AQAP</b>	<b>1993 ROP Plan</b>	<b>1994 CAP</b>	<b>1998 CAP</b>	<b>2001 Plan</b>
<b>Mandates</b>	California Clean Air Act of 1988	Federal Clean Air Act Amendments of 1990	Federal Clean Air Act Amendments of 1990 California Clean Air Act of 1988.	Federal Clean Air Act Amendments of 1990 California Clean Air Act of 1988	Federal Clean Air Act Amendments of 1990 California Clean Air Act of 1988
<b>Air Quality Standards</b>	The state 1-hour ozone standard is 0.09 parts per million. An area is designated nonattainment based on a calculated "design day" value. <sup>1</sup>	The federal 1-hour ozone standard is 0.12 parts per million. An area is designated nonattainment if it violates the standard more than three times in three years at a single monitoring station.	Addresses both the state 1-hour ozone standard (0.09 parts per million) and the federal 1-hour ozone standard (0.12 parts per million)	Addresses both the state 1-hour ozone standard (0.09 parts per million) and the federal 1-hour ozone standard (0.12 parts per million)	Addresses both the state 1-hour ozone standard (0.09 parts per million) and the federal 1-hour ozone standard (0.12 parts per million)
<b>Region Covered</b>	All of Santa Barbara County failed to attain the state 1-hour ozone standard. The 1991 AQAP covered the entire county.	Under the Federal Clean Air Act of 1990, all of Santa Barbara County failed to attain the federal 1-hour ozone standard.	Under the Federal Clean Air Act of 1990, all of Santa Barbara County failed to attain the federal 1-hour ozone standard. The 1994 CAP covers the entire county and the Outer Continental Shelf.	The USEPA re-classified the entire county as a "serious" nonattainment area. The 1998 CAP covers the entire county and the Outer Continental Shelf.	The Maintenance Plan and redesignation request covers the onshore area of Santa Barbara County.
<b>Emission Inventory</b>	A 1987 baseline inventory of emission sources countywide was developed, but excluded sources in the Outer Continental Shelf.	A 1990 baseline inventory of emission sources countywide was prepared, not including sources in the outer continental shelf.  Also, an "emission budget" for ROG was established. <sup>2</sup>	A 1990 baseline inventory of emission sources countywide was developed, which included an updated inventory of Outer Continental Shelf sources.  Also, an "emission budget" for ROG and NO <sub>x</sub> was established.	A 1996 baseline inventory of emission sources countywide has been developed, including an updated inventory of Outer Continental Shelf sources. The 1996 inventory will be used to update the 1990 emissions and to forecast the 1999 and 2005 emissions.  Also, an "emission budget" for ROG and NO <sub>x</sub> was established.	A 1999 baseline inventory of emission sources countywide has been developed, including an updated inventory of Outer Continental Shelf sources. The 1999 inventory will be used to develop a "carrying capacity" and to forecast 2005 and 2015 emissions.  Also, an "emission budget" for ROG and NO <sub>x</sub> are re-established.
<b>Plan Summary</b>	The 1991 AQAP was required to reduce ROG and NO <sub>x</sub> emissions by 5% per year until the state 1-hour ozone standard was achieved, or to have included all feasible control measures.	The 1993 ROP Plan was required to achieve a 1996 ROG emission inventory, which is 15% less than the 1990 adjusted base year ROG emission inventory.	The 1994 CAP was required to demonstrate attainment of the federal 1-hour ozone standard by 1996; document amendments to the 1993 ROP Plan; initiate the federal re-designation process; and satisfy state triennial update requirements.	The 1998 CAP is required to demonstrate attainment of the federal 1-hour ozone standard by 1999 and show a 24% reduction in ROG emissions between 1990 and 1999. This 1998 CAP also satisfies state planning requirements.	The 2001 Plan contains a Maintenance Plan and redesignation request for the federal 1-hour ozone standard.  This 2001 Plan also satisfies state planning requirements.

<sup>1</sup> The design day value is called the one-in-one year recurrence rate value, and is based on a statistical analysis that essentially discounts any pollution episodes expected to occur just once per year.

<sup>2</sup> An emission budget is a ceiling for future transportation ROG and/or NO<sub>x</sub> emissions.

