

## **CHAPTER 1**

---

### **INTRODUCTION**

- ❖ **BACKGROUND**
- ❖ **PURPOSE**
- ❖ **CURRENT STATE AND FEDERAL PLANNING REQUIREMENTS**
- ❖ **SUMMARY OF ATTAINMENT PLANNING EFFORTS**
- ❖ **PLAN ORGANIZATION**
- ❖ **REFERENCES**



# 1. INTRODUCTION

## 1.1 BACKGROUND

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. Since 1999, however, local air quality data show that every monitoring location in the County complied with the federal one-hour ambient air quality standard for ozone. The Santa Barbara County Air Pollution Control District adopted the 2001 Clean Air Plan (2001 CAP) that demonstrated attainment of the federal one-hour ozone standard and continued maintenance of that standard through 2015. Consequently, on August 8, 2003, the United States Environmental Protection Agency (USEPA) designated Santa Barbara County as an attainment area for the federal one-hour ozone standard.

On June 15, 2004, USEPA replaced the federal one-hour ozone standard with an eight-hour ozone standard for Santa Barbara County and most parts of the country. This eight-hour ozone standard, originally promulgated by USEPA on July 18, 1997, is set at 0.08 parts per million measured over eight hours and is more protective of public health and more stringent than the federal one-hour standard. For the purposes of the federal eight-hour ozone standard, Santa Barbara County has been designated attainment.

## 1.2 PURPOSE

To facilitate the transition from the federal one-hour ozone standard to the new eight-hour ozone standard, USEPA established planning requirements for areas such as Santa Barbara County which (1) had attained the federal one-hour ozone standard by June 15, 2004, (2) were subject to a maintenance plan for the federal one-hour ozone standard and (3) are classified as attainment for the federal eight-hour ozone standard. These requirements provide "anti backsliding" provisions specifying which of the federal one-hour ozone obligations would continue to apply and required submission of a 10-year maintenance plan for the eight-hour federal ozone standard under Section 110(a)(1) of the federal Clean Air Act Amendments.

~~While Our County's air quality has improved enough to be considered in attainment of the federal eight-hour ozone standard and a preliminary review of our air quality monitoring data indicates that we have attained the state one-hour ozone standard. The 2007 Plan will continue to serve as our "road map" towards attaining the state ozone standard. we have yet to comply with the state one-hour ozone standard.~~ While this 2007 Plan was prepared in the context of state planning requirements for attaining the state one-hour ozone standard it fulfills three purposes - the aforementioned one-hour ozone standard attainment demonstration , maintenance of the one-hour standard and how we plan to attain the state eight-hour standard. ~~The purpose of~~ This 2007 Clean Air plan (2007 Plan) ~~is to also~~ charts a course of action that will provide for ongoing maintenance of the federal eight-hour ozone standard through the year 2014. ~~as well as the expeditious attainment of the state one-hour ozone standard.~~ 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).

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

Section 110(a)(1) of the Federal Act requires the preparation of a plan to provide for maintenance of the federal eight-hour ozone standard for at least 10 years after an area is redesignated to an attainment area. This “Maintenance Plan” must be submitted to USEPA by June 15, 2007.

At a minimum the Maintenance Plan must contain the following five components:

1. Attainment inventory
  - Based on a “typical summer day”
  - Base year of 2002
2. Maintenance demonstration
  - Project attainment in 2014
  - Sufficient to show that ozone precursor emissions will not exceed the level necessary to attain the eight-hour federal ozone standard
3. Verification of continued attainment
  - Compare actual versus projected emissions for interim year(s)
4. Ambient air quality monitoring
  - Continue to operate monitoring network in accordance with Title 40, Code of Federal Regulations, Part 58
  - Any proposed modifications must be justified and approved by USEPA
5. Contingency plans
  - Contingency measures
  - Schedule for adopting contingency measures
  - Triggers for implementing contingency measures – ambient violations

This 2007 Plan is the fifth major planning effort under the Federal Act and also complies with the triennial progress report and plan revision requirements under the State Act. Many of the local control measures proposed in this 2007 Plan satisfy the “every feasible” measure requirements of the State Act and serve as “contingency” measures for the Federal Act. If Santa Barbara County experiences a “violation” of the federal eight-hour ozone standard during the planning horizon of this 2007 Plan, we will evaluate and expedite the implementation of the “contingency” measures outlined in this 2007 Plan. A complete summary of all state and federal Clean Air Act requirements that apply to Santa Barbara County is provided in Chapter 8.

California law mandates that APCD's periodically revise and update attainment plans to achieve the state ozone standard as expeditiously as practicable. The efforts being undertaken for this 2007 Plan also address attainment of the state ozone standard. This 2007 Plan will therefore satisfy all state triennial planning requirements.

Deleted: one-hour

Deleted: one-hour

Health and Safety Code section 40925.5(a) specifies that a district that is nonattainment for the state ozone standard shall be designated "nonattainment transitional" by operation of law if during a single calendar year, the state standard is not exceeded more than three times at any monitoring station within the district. A nonattainment transitional district must comply with Health and Safety Code sections 40925.5(b) through (d). Essentially, these sections require a nonattainment transitional district to determine whether one or more of the stationary source control measures scheduled for adoption or implementation within the next three years is still necessary to accomplish the expeditious attainment or to maintain the state standard. If any such measure will not do so, the district shall shift those measures to the contingency category. While our 2005 ambient monitoring data show that no station experienced more than two exceedances, the California Air Resource Board (ARB) did not find Santa Barbara County to be nonattainment transitional because the Santa Rosa Island monitoring station failed to meet the minimum data recovery rate of 80% for three months of the year. A letter from ARB (in Chapter 10 – Public Participation) explains their decision to not designate Santa Barbara County nonattainment transitional.

This 2007 Plan will be forwarded to the California Air Resources Board (ARB) for their review and approval before being submitted to the USEPA for their approval and incorporation into the State Implementation Plan (SIP).

In April 2005, ARB approved a new more health protective air quality standard for ozone with special consideration for children's health. The new state eight-hour ozone standard, set at 0.070 parts per million (ppm), is not to be exceeded and is in addition to the existing state one-hour ozone standard set at 0.09 ppm. This standard became effective on May 17, 2006 ~~is anticipated to go into effect towards the end of 2006~~. Based on a preliminary examination of our ambient air quality data, Santa Barbara County will be classified as nonattainment for the state eight-hour ozone standard (please see Chapter 2 for a discussion of state eight-hour exceedance data). While ARB has yet to issue any guidance for this planning effort, ~~we believe~~ all of the measures recommended in this 2007 Plan will expedite our progress towards complying with the new state eight-hour ozone standard.

Deleted: we will be required to prepare a plan to attain the new state eight-hour ozone standard, A

Deleted: .

Deleted:

Deleted: All

#### 1.4 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 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 one-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 Outer Continental Shelf 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, 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 one-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 one-hour 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 Amendments 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 one-hour ozone standard; and a plan to show maintenance of the federal one-hour ozone standard through the year 2006. The 1994 CAP also provided a three-year update to the 1991 AQAP for the state one-hour 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 ROP, 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 one-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 one-hour ozone standard through the development of a revised Clean Air Plan. The 1998 Clean Air Plan (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).

Since 1999, local air quality data collected in Santa Barbara County showed that we had achieved the federal one-hour ozone standard. Achieving this milestone allowed us to request USEPA to designate the county as an attainment area for this standard. The 2001 CAP was adopted by the APCD Board of Directors on November 15, 2001 and subsequently amended on December 19, 2002. The 2001 CAP addressed all federal planning requirements for “maintenance plans” and provided for ongoing attainment of the federal one-hour ozone standard through the year 2015. The plan was forwarded by the ARB to USEPA on February 21, 2002, formally approved by USEPA on July 9, 2003, and became effective on August 8, 2003 with Santa Barbara County being officially designated as an attainment area. The 2001 CAP also addressed the state triennial plan revision and progress report requirements under the State Act.

The 2004 Clean Air Plan (2004 Plan) was prepared to address the California Clean Air Act mandates under Health and Safety Code sections 40924 and 40925 requiring that every three years areas update their clean air plans to attain the state one-hour ozone standard. The 2004 Plan was a three year update to the 2001 CAP. Because we have yet to meet the state one-hour ozone standard, the State Act requires that we report our the overall effectiveness of our air quality plan, the extent of air quality improvements resulting from the plan and any revisions to deficiencies identified in the plan. On December 16, 2004, the APCD Board of Directors adopted the 2004 Plan to fulfill this requirement.

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

## **1.5 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 2002. 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 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 2010, 2015 and 2020.

Chapter 7, Federal Maintenance Plan, demonstrates how the APCD will satisfy the provisions of the federal act and maintain the federal 8-hour ozone standard.

Chapter 8, 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 2007 Plan complies with all applicable requirements.

Chapter 9, State Mandated Triennial Progress Report and Triennial Plan Revision, summarizes how the development and adoption of the 2007 Plan satisfies the triennial update requirements of the California Clean Air Act.

Chapter 10, Public Participation, summarizes all public input received during the development of this 2007 Plan.

## **1.6 REFERENCES**

California Health and Safety Code: 2005 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).

U.S. Environmental Protection Agency: "Maintenance Plan Guidance Document for Certain 8-hour Ozone Areas Under Section 110(a)(1) of Clean Air Act". Memorandum from Lydia N. Wegman, Director, Air Quality Strategies and Standards Division to Air Division Directors, Regions I-X, May 20, 2005.

**TABLE 1 - 1**

**COMPARISON OF THE 1991 AQAP, 1994 CAP, 1998 CAP, 2001 CAP, 2004 PLAN, AND 2007 PLAN**

	<b>1991 AQAP</b>	<b>1994 CAP</b>	<b>1998 CAP</b>	<b>2001 CAP</b>	<b>2004 PLAN</b>	<b>2007 PLAN</b>
<b>MANDATES</b>	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	Federal Clean Air Act Amendments of 1990 California Clean Air Act of 1988	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 one-hour ozone standard is 0.09 parts per million.	Addresses both the state one-hour ozone standard (0.09 parts per million) and the federal one-hour ozone standard (0.12 parts per million).	Addresses both the state one-hour ozone standard (0.09 parts per million) and the federal one-hour ozone standard (0.12 parts per million).	Addresses both the state one-hour ozone standard (0.09 parts per million) and the federal one-hour ozone standard (0.12 parts per million).	Addresses only the state one-hour ozone standard (0.09 parts per million).	Addresses only the state one-hour ozone standard (0.09 parts per million).and the federal eight-hour ozone standard (0.08 parts per million)
<b>REGION COVERED</b>	All of Santa Barbara County failed to attain the state one-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 one-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. Emission Inventories are also provided for the Outer Continental Shelf.	The 2004 Plan covers the onshore area of Santa Barbara County and the Outer Continental Shelf.	The 2007 Plan covers the onshore area of Santa Barbara County and the Outer Continental Shelf.
<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 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 was 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 was developed, including an updated inventory of Outer Continental Shelf sources. The 1999 inventory will be used to develop an "attainment inventory" and to forecast 2005, 2010, and 2015 emissions. Also, an emission budget for ROG and NO <sub>x</sub> are re-established.	A 2000 baseline inventory of emission sources countywide was developed including an updated inventory of Outer Continental Shelf sources. The 2000 inventory will be used to forecast 2005, 2010, 2015, and 2020 emissions.  No emission budgets are established or re-established in the plan.	A 2002 baseline inventory of emission sources countywide was developed including an updated inventory of Outer Continental Shelf sources. The 2002 inventory will be used to forecast 2010, 2015, and 2020 emissions.  No emission budgets are established or re-established in the plan.
<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 one-hour ozone standard was achieved, or to have included all feasible control measures.	The 1994 CAP was required to demonstrate attainment of the federal one-hour ozone standard by 1996; document amendments to the 1993 ROP Plan; initiate the federal redesignation process; and satisfy state triennial update requirements.	The 1998 CAP is required to demonstrate attainment of the federal one-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 CAP contains a Maintenance Plan and redesignation request for the federal one-hour ozone standard.  This 2001 CAP also satisfies state planning requirements.	The 2004 Plan focuses solely on California Clean Air Act requirements.	The 2007 Plan focuses on both a Maintenance Plan for the federal eighth-hour ozone standard and triennial update and revision for the state one-hour ozone standard.

