

**PROPOSED  
AMENDMENT TO THE AREA DESIGNATIONS  
FOR STATE AMBIENT AIR QUALITY STANDARDS**

**AND**

**PROPOSED  
MAPS OF THE AREA DESIGNATIONS FOR THE  
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS**

***STAFF REPORT:  
INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING***

**To be considered by the  
California Air Resources Board  
November 18, 1999  
Sacramento, California**

**Report Release Date: October 1, 1999**

California Environmental Protection Agency  
Air Resources Board  
Planning and Technical Support Division  
P. O. Box 2815  
Sacramento, California 95812

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## **ACKNOWLEDGMENTS**

This document was prepared by the staff of the  
Air Quality Analysis Section, Planning and Technical Support Division

### **Principal Author**

David Ipps

### **Contributing Staff**

#### **Planning & Technical Support Division:**

Cynthia Garcia  
Steve Gouze  
Marcella Nystrom  
Jeff Wright

#### **Office of Legal Affairs:**

Judith G. Tracy

### **Reviewed and Approved by:**

Debora Popejoy, Manager, Air Quality Analysis Section  
Bart Croes, Chief, Air Quality Data Branch  
Terry McGuire, Chief, Planning and Technical Support Division

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## OVERVIEW AND RECOMMENDATION

### A. OVERVIEW

#### 1. Introduction

The Health and Safety Code (H&SC) section 39607(e) (refer to Attachment A) requires the Air Resources Board (ARB or Board) to establish area designation criteria. These designation criteria (see Attachment B) provide the basis for the Board to designate areas as attainment, nonattainment, or unclassified for the State ambient air quality standards (State standards). Further, the H&SC requires the Board to periodically review the designation criteria, thereby ensuring their continued relevance. The Board last approved amendments to the designation criteria in 1998. The staff is not proposing any changes to the criteria this year.

In addition, H&SC section 39608 (also shown in Attachment A) requires the Board to establish and annually review the area designations. Based on the air quality data from the most recently available three years (1996 through 1998), the staff proposes one amendment to the area designations. The proposed amendment is summarized in subsection 2, below. The text of the amendment to the area designations is shown in Attachment C, and the air quality data used for making the designations are summarized in Attachment D.

This Staff Report also includes maps and tables of the area designations for both the State and National ambient air quality standards. The reporting of this information is required under section 40718 of the H&SC (also shown in Attachment A). The maps and tables, as provided in Attachment E, reflect the area designations for the State standards as proposed in Chapter II of this Staff Report and the area designations for the National standards as currently in effect. Further information regarding the area designations for the National standards may be obtained by contacting the U. S. Environmental Protection Agency, or visiting its web site at <http://www.epa.gov/airprogm/oar/oaqps/greenbk>.

Finally, the notices distributed by the staff regarding the proposed amendment are shown in Attachment F.

## **2. Proposed Amendment to the Area Designations**

The proposed amendment to the area designations (California Code of Regulations (CCR), Title 17, sections 60200 through 60209) would make the following change to the regulations:

- Redesignate Sonoma County (portion in North Coast Air Basin) from attainment to nonattainment for ozone.

## **B. RECOMMENDATION**

The staff recommends that the Board adopt the proposed amendment to the area designation regulations. The full text of the proposed amendment is given in Attachment C of this Staff Report.

# **CHAPTER I**

## **BACKGROUND**

### **A. INTRODUCTION**

This chapter gives some background information on the criteria used in making the area designations and on the area designations themselves. The following sections describe the legal requirements, the criteria used in making the area designations, the implications of being redesignated, and the area designation review process.

### **B. LEGAL REQUIREMENTS**

H&SC section 39607(e) requires the Board to establish and periodically review the criteria for designating areas as attainment or nonattainment for the State standards (see Attachment A). The Board originally adopted the required designation criteria in June 1989. The Board subsequently amended the designation criteria in June 1990, May 1992, December 1992, November 1993, November 1995, and September 1998.

H&SC section 39608 requires the Board to use the designation criteria in designating areas of California as attainment, nonattainment, or unclassified for the State standards (see Attachment A). Areas that cannot be designated as attainment or nonattainment are designated as unclassified. The area designations are made on a pollutant-by-pollutant basis for all pollutants listed in the CCR, Title 17, section 70200. The nine affected pollutants are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM<sub>10</sub>), sulfates, lead, hydrogen sulfide, and visibility reducing particles. H&SC section 39608 also requires the Board to review the area designations each year and update them as new information becomes available.

In addition, H&SC section 40718 requires the Board to publish maps showing the areas with one or more measured violations of any state or national ambient air quality standard (see Attachment A). The maps and summary tables provided in Attachment E of this Staff Report fulfill this requirement. The maps and tables for the State standards reflect the proposed amendment to the area designations as described in Chapter II of this Staff Report. The maps and tables for the National standards reflect the current federal area designations, as promulgated by the United States Environmental Protection Agency (U. S. EPA) (40 CFR 81.305, as amended at 63 Fed. Reg. 37,258 (July 10, 1998) and 64 Fed. Reg. 39,416 (July 22, 1999).

### **C. SUMMARY OF THE DESIGNATION CRITERIA**

## 1. General Provisions

The designation criteria describe the procedures the Board must use in determining an area's designation status with respect to the State standards. The text of the designation criteria is shown in Attachment B. In summary, the designation criteria specify:

- The data the Board will use for making the area designations.
- How the Board will determine the size of designated areas.
- How the Board will determine whether an area qualifies as attainment, nonattainment, nonattainment-transitional, or unclassified.
- The requirement for an annual review of the area designations by the Board's Executive Officer.

## 2. Data to Use

To the extent possible, the Board makes area designations for each pollutant based on recent ambient air quality data. The air quality data must be **data for record**, which are those air quality data that satisfy specific siting and quality assurance procedures established by the U.S. EPA. Generally, data for record are those data collected by or under the direction of the Board or the air pollution control districts or air quality management districts (districts). When adequate, recent air quality data are not available, the Board may use other types of information to determine an appropriate area designation. These other types of information may include historical air quality data, emission data, meteorological or topographical data, and data relating to the characteristics of population or emissions.

## 3. Size of Designated Areas

The size of the area designated for a pollutant may vary depending on the nature of the pollutant, the location of contributing emission sources, the meteorology, and the topographic features. Normally, an air basin is the area designated for ozone, nitrogen dioxide, PM<sub>10</sub>, sulfates, and visibility reducing particles. A county (or the portion of a county located within an air basin) is normally the area designated for carbon monoxide, sulfur dioxide, lead, and hydrogen sulfide. In both cases, however, the Board may designate a smaller area if the Board finds that the smaller area has distinctly different air quality. This finding is based on a review of the air quality data, meteorology, topography, and the distribution of population and emissions. Sources with emissions that contribute to a violation must be included within the smaller area. To the extent practicable, the Board uses political boundary lines to define a smaller designated area.

## 4. Highly Irregular or Infrequent Events



While area designations for state standards are based on ambient air quality data, the designation criteria provide for excluding certain values. In particular, the designation criteria provide for excluding exceedances affected by “highly irregular or infrequent events” because it is not reasonable to mitigate these exceedances through the regulatory process. Appendix 2 to the designation criteria (refer to Attachment B) defines three types of highly irregular or infrequent events:

- Extreme concentration events.
- Exceptional events.
- Unusual concentration events.

An **extreme concentration event** is identified by a statistical procedure which calculates the concentration that is not expected to occur more frequently than once per year. This value is commonly referred to as the Expected Peak Day Concentration (EPDC). Adverse meteorology is one potential cause of an extreme concentration event. Measured concentrations that are higher than the Expected Peak Day Concentration are identified as extreme concentrations and are not considered as violations of the State standard. A specific, identifiable cause is not necessary for an exceedance to be determined as an extreme concentration.

A pollutant-specific Expected Peak Day Concentration is calculated for each monitoring site using air quality data measured at the site during a three-year period. The site-specific Expected Peak Day Concentrations (EPDC) for ozone, carbon monoxide, nitrogen dioxide, PM<sub>10</sub>, and hydrogen sulfide are listed in Attachment D. These Expected Peak Day Concentrations are based on air quality data for 1996 through 1998. This is the most recent three-year period for which data are available and is the same three-year period used in reviewing the area designations described in this Staff Report. The data for sulfur dioxide, sulfates, lead, and visibility reducing particles are not presented in Attachment D because there were no violations of the relevant State standards or the data are insufficient for determining the appropriate EPDCs. Complete data for all pollutants except visibility reducing particles will be available at a later date in electronic format (see page D-1 for details.)

An **exceptional event** is a specific, identifiable event that causes an exceedance of a State standard but is beyond reasonable regulatory control. An exceptional event may be caused by an act of nature (for example, a forest fire or a severe wind storm) or it may be of human origin (for example, a chemical spill or industrial accident).

An **unusual concentration event** is an anomalous exceedance of a State standard that cannot be identified as an extreme concentration event or an exceptional event. Unusual concentration events can be identified only for areas designated as attainment or unclassified at the time of the exceedance. In identifying such events, the Executive Officer must make specific findings based on relevant information (refer to Appendix 2 to the designation criteria in Attachment B). An area may retain its attainment or unclassified designation based on the exclusion of one or more exceedances affected by an unusual concentration event for up to three

consecutive years. If an exceedance occurs during the fourth year, the area is redesignated as nonattainment, unless the exceedance can be excluded as an extreme concentration event or an exceptional event.

## 5. Designation Categories

The designation criteria specify four designation categories: nonattainment, nonattainment-transitional, attainment, and unclassified. The Board will designate an area as **nonattainment** for a pollutant if air quality data show that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating an area as nonattainment.

The **nonattainment-transitional** designation is a subcategory of nonattainment. The Board will designate an area as nonattainment-transitional for a pollutant other than ozone if air quality data show that a State standard for that pollutant was violated two or fewer times at each of the sites in the area during the latest calendar year. In addition, an evaluation of recent air quality data trends and meteorological and emission data must show that the air quality in the area either has stabilized or has improved. Finally, each site in the area must be expected to reach attainment for the pollutant within three years.

The nonattainment-transitional subcategory also can apply to designations for ozone. Under H&SC section 40925.5(a), the ozone nonattainment-transitional designation is made **by operation of law** (refer to Attachment A). Specifically, a nonattainment district or a portion of a district within an air basin is designated as nonattainment-transitional for ozone by operation of law if air quality data show that the State ozone standard was exceeded three or fewer times at each of the sites in the district or in an area that is a portion of a district within an air basin during the most recent calendar year for which air quality data are available. Although the nonattainment-transitional designations for ozone are made by operation of law, the Board has adopted guidelines for use in evaluating whether an area satisfies the requirements of H&SC section 40925.5(a). These guidelines are specified in CCR, Title 17, section 70303.5 of the designation criteria (refer to Attachment B).

In 1998, the Board approved an amendment to the designation criteria to provide for a review of data for the current calendar year. Since the nonattainment-transitional designation is based on only one year of data, it can be unstable due to year-to-year changes in meteorology. To provide more stability to the nonattainment-transitional designations, the amendment added a provision for reviewing data collected during the current calendar year. If data for the current year show more than three exceedances at any monitoring location in the area, thereby ensuring that the area would not qualify as nonattainment-transitional during the next annual review, the staff would propose that the area's designation remain nonattainment.

In contrast to nonattainment and nonattainment-transitional, the Board will designate an

area as **attainment** for a pollutant if the data show that the State standard for that pollutant was not violated during the previous three calendar years. Again, exceedances affected by highly irregular or infrequent events are not considered violations and, therefore, are not used as a basis for designating areas as nonattainment. As a result, an area could have measured concentrations that exceed a state Standard and still be designated as attainment. Finally, the Board will designate an area as **unclassified** for a pollutant if the available data do not support a designation of nonattainment or attainment.

## **D. IMPLICATIONS OF THE AREA DESIGNATIONS**

### **1. Areas Redesignated as Nonattainment**

A district that includes an area that is redesignated as nonattainment for a particular pollutant (referred to as a nonattainment district) experiences two principal consequences under the law. First, state law requires the nonattainment districts to develop plans for attaining the State standards for ozone, carbon monoxide, nitrogen dioxide, and sulfur dioxide. The nonattainment districts must submit these attainment plans to the Board for approval (H&SC section 40911). Ozone nonattainment districts that are impacted by transport from upwind areas (in other words, ozone violations are caused by emissions transported from upwind areas located outside the district) are required to develop ozone attainment plans for mitigating only those violations that would occur in the absence of the transport contribution (H&SC sections 39610(b) and 40912). In this case, the responsible upwind district(s) would be required to mitigate the ozone violations in the downwind nonattainment area that are caused by overwhelming transport (see CCR, Title 17, section 70600).

A district with an area that is redesignated as nonattainment for any of the remaining five pollutants--PM<sub>10</sub>, sulfates, lead, hydrogen sulfide, or visibility reducing particles--is not subject to any specific statutory planning requirements. However, such districts must adopt and enforce rules and regulations to expeditiously attain the State standards for these five pollutants (H&SC sections 40001, 40913). Furthermore, a nonattainment district may develop and implement an attainment plan or adopt regulations to control the emissions that contribute to these pollutants (H&SC section 40926).

The second consequence of a nonattainment designation is that the Board may require a nonattainment district to collect additional permit fees from large, nonvehicular sources located in the nonattainment area (H&SC section 39612; CCR, Title 17, sections 90800.5 through 90803). Only those sources which are authorized by district permits to emit 500 tons per year or more of any nonattainment pollutant or its precursors are subject to the additional permit fees. The fees are used to help defray the costs of state programs related to nonvehicular sources and implemented under the California Clean Air Act of 1988 (Stats. 1988, ch. 1568). With certain exceptions, nonattainment districts also are authorized to levy a fee of up to \$4.00 on motor

vehicles registered in the district for the purposes of California Clean Air Act implementation (H&SC sections 44223 and 44225).

## **2. Areas Redesignated as Nonattainment-Transitional**

Nonattainment-transitional is a subcategory of the nonattainment designation. Therefore, a district with a nonattainment area that is redesignated as nonattainment-transitional is still subject to the same legal requirements as a nonattainment district (refer to discussion in subsection 1, above).

However, in contrast to the nonattainment designation, a nonattainment-transitional designation may signal a change in how these legal requirements are implemented. For example, a district that currently is implementing an approved attainment plan may determine that some of the additional control measures contained in the attainment plan are not needed to reach attainment by the earliest practicable date. As a result, the nonattainment-transitional designation provides the district with a signal that it may be appropriate to review and perhaps modify its approved attainment plan. District actions in response to a nonattainment-transitional designation must be consistent with state and federal regulations and statutes. H&SC section 40925.5 specifically allows a district with an area designated as nonattainment-transitional for ozone to shift some stationary source control measures from the rulemaking calendar to the contingency category if the district finds these control measures are no longer necessary to accomplish expeditious attainment of the State ozone standard. These actions do not apply to control measures required to mitigate the effects of pollutant transport. The Board may disapprove any action of the district within 90 days if the Board finds that the action will delay expeditious attainment of the State ozone standard.

## **3. Areas Redesignated as Attainment or Unclassified**

State law does not impose any specific planning requirements upon districts with areas redesignated as attainment or unclassified. However, state law does require that the State standards not only be attained but also, maintained. State law requires the districts and the Board to make a coordinated effort to protect and enhance the ambient air quality (H&SC sections 39001 through 39003). As part of this effort, the districts must adopt rules and regulations sufficiently effective to achieve and maintain the State standards (H&SC sections 40001 and 41500).

## **E. AREA DESIGNATION REVIEW PROCESS**

Both the H&SC (section 39608(c)) and the designation criteria (CCR, Title 17, section 70306) require the Board to review the area designations annually and to redesignate areas as new information becomes available (refer to Attachments A and B, respectively). As part of this review process, the staff distributed two notices. These notices are shown in Attachment F.

On April 6, 1999, the staff sent a letter to all districts notifying them of the May 1, 1999, deadline for requesting a change in an area's designation, submitting information for consideration in the annual review process, or requesting a nonattainment-transitional designation for pollutants other than ozone. The nonattainment-transitional designations for ozone are made by operation of law and confirmed by the Board's staff, so a formal district request is not needed.

On July 19, 1999, the staff distributed a general announcement for a public consultation meeting held August 12, 1999. This announcement included a discussion of the staff's proposed amendment to the area designations. As required by the designation criteria, the proposed area redesignation is based on the staff's review of the air quality data collected during the most recent three calendar years--1996 through 1998.

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## CHAPTER II

### PROPOSED AMENDMENT TO THE AREA DESIGNATIONS

#### A. INTRODUCTION

This chapter describes and explains the proposed amendment to the area designations based on changes in air quality during the most recent three calendar years of 1996 through 1998 from the previous three-year period.

The proposed redesignation is based on air quality data for record as defined in section 70301 of the designation criteria. The air quality data used for redesignating an area as nonattainment must be representative of the averaging time specified in the State standard. The air quality data used for qualifying an area as attainment or nonattainment-transitional must meet the representativeness and completeness criteria. The specific requirements for evaluating data representativeness and data completeness are given in Appendices 1 and 3 of the CCR, Title 17, sections 70300 through 70306 (refer to Attachment B).

As required by the designation criteria, the staff reviewed the air quality data collected during the most recent three-year period of 1996 through 1998. Based on these data, redesignation is appropriate for ozone only. Section B of this chapter describes the area and circumstances for which the staff is proposing area redesignation for ozone. No action is proposed for the remaining pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, sulfates, lead, hydrogen sulfide, and visibility reducing particles. Therefore, the current area designations for these eight pollutants would remain unchanged.

Section C describes a number of areas where air quality data would appear to signal a change in the area designation but for which the staff does not recommend a redesignation, for reasons given in each specific subsection.

Section D summarizes the staff's recommendation to the Board regarding the amendment to a specific section of the area designation regulations.

## Designation Value (DV)

The following sections make reference to the Designation Value (DV), which is the measured ambient concentration used to determine the attainment status of a given area. The DV is defined as follows:

The Designation Value (DV) for a pollutant for a given monitoring site, for purposes of making designations for the State ambient air quality standards for the area in which the site is located, is the highest concentration after excluding measurements affected by Highly Irregular or Infrequent Events. Specifically, the DV is the highest measured concentration during a specified three-year period that is equal to or lower than the Expected Peak Day Concentration (EPDC), after the EPDC is rounded to the level of precision of the relevant State standard. Determinations of EPDCs do not exclude concentrations affected by Exceptional Events or Unusual Concentration Events. However, measured concentrations identified as affected by an Exceptional Event or Unusual Concentration Event are not used in determining the DV.

For example, if the calculated ozone EPDC for a site is 0.096 parts per million (ppm), and the four highest measured concentrations are 0.12, 0.11, 0.10, and 0.09 ppm, then the DV is equal to 0.10 ppm. This is because the EPDC of 0.096 ppm would be first rounded to 0.10 ppm (consistent with the precision of the ozone standard which is two decimal places), and 0.10 ppm is the highest measured concentration equal to or lower than the rounded EPDC. The measured concentrations of 0.12 ppm and 0.11 ppm are higher than the rounded EPDC of 0.10 ppm and are excluded as extreme concentrations and not considered as the Designation Value.

When there are less than three complete years of air quality data, the calculated EPDC may not be considered valid for an attainment determination. In these cases, the EPDC is not compared to the measurements, and the DV is simply the highest measured concentration at the site during the specified three-year period, after excluding measurements affected by Exceptional Events or Unusual Concentration Events. Further explanation on determining the validity of EPDCs and a tabulation of the DVs and EPDCs for the 1996-1998 period, as used for determining area designations, are given in Attachment D.

## **B. PROPOSED AREA REDESIGNATION FOR OZONE**

The State standard for ozone is a one-hour average concentration of 0.09 parts per million (ppm). This concentration is not to be exceeded (CCR, Title 17, section 70200). Under the designation criteria the geographic area for ozone designation is generally the air basin, unless the Board finds that there are areas within an air basin that are distinctly different (refer to Attachment B). The H&SC, section 40925.5 requires that ozone redesignations to nonattainment-transitional by operation of law be made at the district level under specified conditions.



Based on air quality data for 1996 through 1998, the staff proposes that the portion of Sonoma County located in the North Coast Air Basin be redesignated from attainment to nonattainment for ozone.

### **1. Sonoma County (portion in North Coast Air Basin)**

The staff proposal pertains to the (northern) portion of Sonoma County that is located in the North Coast Air Basin. (The southern portion of the County, located in the San Francisco Bay Area Air Basin, which is already designated as nonattainment for ozone, is not affected by the staff proposal.) The North Coast Air Basin (NCAB) portion of Sonoma County is currently designated as attainment for the State ozone standard. The Board has historically found that counties within the NCAB have distinctly different air quality and has made ozone designations in this air basin at the county level.

During the three-year period of 1996 through 1998, the monitoring site with the highest ozone concentrations within the NCAB portion of Sonoma County is the Healdsburg-Municipal Airport site. The calculated Expected Peak Day Concentration (EPDC) for ozone at this site is 0.103 ppm, based on three complete years of data. This compares to an EPDC of 0.091 ppm for the previous three-year period.

There were nine (9) exceedances of the State ozone standard during the 1996-1998 period at the Healdsburg site. Seven of the exceedances occurred in 1998, and two exceedances occurred in 1997. The area was not redesignated to nonattainment during the 1998 review of area designations because the exceedances in 1997 were excluded as extreme concentrations due to a lower EPDC.

The nine exceedances include one measurement each of 0.13 ppm and 0.12 ppm, two measurements of 0.11 ppm, and five measurements of 0.10 ppm. Since the rounded EPDC is equal to 0.10 ppm, the four highest measurements (above 0.10 ppm) are excluded as extreme concentrations. As a result there are five violations, all of which are at 0.10 ppm. Violations are exceedances of the State ozone standard that are not excludable as affected by highly irregular or infrequent events. The Designation Value (DV) at the site is therefore equal to 0.10 ppm.

The ozone concentrations at the Healdsburg site on the days of the violations are generally higher than those at monitoring sites in surrounding counties. To confirm the validity of the ozone data at Healdsburg, the staff analyzed air quality, meteorological, and related data for the days of the violations but did not uncover any potential causes of erroneous data. While the ozone concentrations at the two nearest sites of Santa Rosa and Ukiah were lower than those at Healdsburg, the total oxidant concentrations of combining ozone and nitrogen dioxide concentrations were similar to the ozone concentrations at Healdsburg in both cases. In addition, a special audit of the ozone monitoring equipment at the site conducted in June 1999 by the staff of the ARB's Monitoring and Laboratory Division showed that all operational parameters were

within required limits and confirmed that the site meets the siting criteria. Thus, the staff has determined that the ozone violations at the Healdsburg site are valid.

Therefore, based on the above air quality data and considerations, the Board's staff proposes that the portion of Sonoma County located in the North Coast Air Basin be redesignated from attainment to nonattainment for the State ozone standard.

Because the NCAB portion of Sonoma County is a new ozone nonattainment area under the California Clean Air Act, the ARB staff must evaluate the possibility that the area was impacted by transported ozone or ozone precursors from upwind air basin(s), pursuant to Health and Safety Code, section 39610 (see Attachment A). The staff is evaluating all available meteorological and air quality data to determine the extent of transport impacts. The transport assessment will be discussed at a public consultation meeting on October 14, 1999.

In addition, the staff proposes a nonsubstantive change to update the reference to nonattainment-transitional areas in section 60201 of the area designation regulations.

## **C. AREAS NOT RECOMMENDED FOR REDESIGNATION**

This section describes several areas of the State that are not recommended for redesignation. These areas fall into one of two categories: either (1) the area's air quality appears to qualify it for the attainment designation, but the data are incomplete or the site(s) do not meet the criteria for measuring the highest concentrations in the area; or (2) the area has one or more exceedances that would signal a nonattainment designation but the exceedance(s) are excluded as affected by a highly irregular or infrequent event. The specifics of each case are described below.

### **1. Inyo County for Ozone**

Inyo County is located in the Great Basin Valleys Air Basin. Currently, Inyo County is designated as unclassified for the State ozone standard.

The National Park Service has been collecting ozone data at a site in the Death Valley National Park. The ozone data at the Death Valley site showed one exceedance of 0.095 ppm during 1996. In the last two annual reviews of area designations, the staff determined that this exceedance was affected by an unusual concentration event, on the basis that the impact of the exceedance was limited to the local area, the exceedance was not likely to recur, and the data were not sufficient to support a nonattainment designation. Thus, the area's unclassified designation for the State ozone standard was maintained in the last two reviews.

During the period of 1996 through 1998, the ozone data are sufficient for calculating a valid Expected Peak Day Concentration (EPDC) of 0.092 ppm (rounded to 0.09 ppm, the precision of the State standard). The 1996 exceedance of 0.095 ppm (rounded to 0.10 ppm) is now excludable as an extreme concentration. This would appear to qualify Inyo County for attainment for ozone.

However, a closer examination of the data revealed that data are incomplete during two important summer periods. Specifically, ozone data were incomplete or missing for nine (9) days in August 1996 and for eleven (11) days in May 1997. Thus, the data do not meet the criteria of being 75 percent complete for each of these two months. If complete data were available for these two periods, it is possible that there might be additional exceedances or that the EPDC would be higher. For example, if the EPDC were to increase to 0.095 ppm or above with more complete data, the 1996 exceedance would not be excludable as an extreme concentration and would be considered as a violation of the ozone standard. Because of this potential for violation(s), the staff does not believe that an attainment designation would be appropriate for Inyo County.

In conclusion, based on the available data, the staff does not recommend any change to Inyo County's unclassified designation for the State ozone standard.

## **2. El Dorado County (portion in Lake Tahoe Air Basin) for Ozone**

The portion of El Dorado County located in the Lake Tahoe Air Basin is currently designated as attainment for the State ozone standard.

During the 1996-1998 period, the monitoring site with ozone data in the Lake Tahoe Air Basin portion of El Dorado County is the South Lake Tahoe-Sandy Way site. The calculated Expected Peak Day Concentration (EPDC) for ozone at this site is 0.082 (rounded to 0.08) ppm, based on three complete years of data. There was one exceedance of 0.095 ppm in 1997. Because this exceedance is higher than the valid EPDC, it is excluded as an extreme concentration. The Designation Value (DV) at the site is 0.083 ppm, which is below the State ozone standard.

Because the only exceedance is excluded as extreme concentrations, the staff does not recommend any change to the ozone attainment designation for the portion of El Dorado County located in the Lake Tahoe Air Basin.

### **3. Calaveras County for PM<sub>10</sub>**

The State suspended particulate matter (PM<sub>10</sub>) standards are expressed in terms of two averaging times: 24-hour and annual geometric mean (AGM). The 24-hour PM<sub>10</sub> standard is 50 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), not to be exceeded. The AGM PM<sub>10</sub> standard is 30  $\mu\text{g}/\text{m}^3$ , not to be exceeded.

Calaveras County is located in the Mountain Counties Air Basin. Currently, Calaveras County is designated as nonattainment for the State PM<sub>10</sub> standards.

The monitoring site with PM<sub>10</sub> data in Calaveras County is the San Andreas-Gold Strike Road site. For the three-year period of 1996 through 1998, the calculated Expected Peak Day Concentration (EPDC) for PM<sub>10</sub> at this site is 53.3 (rounded to 53)  $\mu\text{g}/\text{m}^3$ , based on three complete years of data. There was one exceedance of 112  $\mu\text{g}/\text{m}^3$  in 1997. Because this exceedance is higher than the valid EPDC, it is excluded as an extreme concentration. The Designation Value (DV) at the site is 36  $\mu\text{g}/\text{m}^3$ , which is below the State 24-hour PM<sub>10</sub> standard of 50  $\mu\text{g}/\text{m}^3$ . The data seem to indicate that Calaveras County would qualify for attainment for PM<sub>10</sub>.

However, the San Andreas-Gold Strike Road site was set up originally to measure maximum ozone concentrations. While PM<sub>10</sub> monitoring was also included, the site location was not selected for measuring the highest PM<sub>10</sub> concentrations in the area. A staff review of the monitoring site showed that the site is located near a cemetery and a school building, but otherwise is not close to any residential or commercial facilities. The site is surrounded in almost all directions by open fields of grass and trees. Panoramic photographs taken from the site do not show any motor vehicles or other potential human activities within sight distance. The site does not appear to reflect or measure the impact of any type of PM<sub>10</sub> sources in the area. The staff thus believes that this particular site might not have recorded all possible PM<sub>10</sub> exceedances in Calaveras County.

In addition, the PM<sub>10</sub> data are incomplete for purposes of the AGM standard. There were only two PM<sub>10</sub> observations in April 1997 at the San Andreas site, less than the 75 percent capture of monthly data required by the representativeness criteria. Further, while the exceedance of 112  $\mu\text{g}/\text{m}^3$  is excluded as an extreme concentration, the large magnitude of this measurement indicates that concentrations much higher than the State PM<sub>10</sub> standard of 50  $\mu\text{g}/\text{m}^3$  are possible in Calaveras County, and that additional exceedances might have occurred if there had been more frequent sampling or if monitoring took place at another location in the County.

In conclusion, because the San Andreas-Gold Strike Road site does not represent population exposure or highest PM<sub>10</sub> concentrations in Calaveras County and also because of the above data considerations, the staff does not recommend any change to Calaveras County's nonattainment designation for the State PM<sub>10</sub> standards.

### **4. El Dorado County (portion in Mountain Counties Air Basin) for PM<sub>10</sub>**

The portion of El Dorado County located in the Mountain Counties Air Basin (MCAB) is currently designated as nonattainment for the State PM<sub>10</sub> standards.

The monitoring site with PM<sub>10</sub> data in the MCAB portion of El Dorado County is the Placerville-Gold Nugget Way site. For the three-year period of 1996 through 1998, the calculated Expected Peak Day Concentration (EPDC) for PM<sub>10</sub> at this site is 54.5 (rounded to 55)  $\mu\text{g}/\text{m}^3$ , based on three complete years of data. There were two exceedances: a 62  $\mu\text{g}/\text{m}^3$  in 1997 and a 58  $\mu\text{g}/\text{m}^3$  in 1996. Because these exceedances are higher than the valid EPDC, they are excluded as extreme concentrations. The Designation Value (DV) at the site is 42  $\mu\text{g}/\text{m}^3$ , which is below the State 24-hour PM<sub>10</sub> standard of 50  $\mu\text{g}/\text{m}^3$ . The data seem to indicate that the MCAB portion of El Dorado County would qualify for attainment for PM<sub>10</sub>.

However, similar to the San Andreas-Gold Strike Road site mentioned above, the Placerville-Gold Nugget Way site was set up originally to measure maximum ozone concentrations. While PM<sub>10</sub> monitoring was also included, the site location was not selected for measuring the highest PM<sub>10</sub> concentrations in the area. A staff review of the monitoring site revealed that the site is located in a remote area, away from the center of town where the vehicular and human activities occur. The site is situated on a ridge and isolated from major commercial and residential neighborhoods of Placerville. The site does not appear to reflect or measure the impact of any type of PM<sub>10</sub> sources in the area. The staff thus believes that this particular site might not have recorded all possible PM<sub>10</sub> exceedances in the MCAB portion of El Dorado County.

In addition, the PM<sub>10</sub> data are incomplete for purposes of the AGM standard. There were only three PM<sub>10</sub> observations in October 1996 at the Placerville site, less than the 75 percent capture of monthly data required by the representativeness criteria. Further, while the two exceedances are excluded as an extreme concentrations, the occurrence of multiple exceedances indicates that a significant number of exceedances are possible in the MCAB portion of El Dorado County, and that additional exceedances might have occurred if there had been more frequent sampling or if monitoring took place at another location in this portion of the County.

In conclusion, because the Placerville-Gold Nugget Way site does not represent population exposure or highest PM<sub>10</sub> concentrations in the MCAB portion of El Dorado County and also because of the above data considerations, the staff does not recommend any change to the nonattainment designation of the Mountain Counties Air Basin portion of El Dorado County for the State PM<sub>10</sub> standards.

## 5. Sonoma County (portion in North Coast Air Basin) for PM<sub>10</sub>

The North Coast Air Basin (NCAB) portion of Sonoma County is currently designated as nonattainment for the State PM<sub>10</sub> standards. This geographical area is the same as that for the proposed ozone redesignation described above.

During the three-year period of 1996 through 1998, among the three sites in the State and Local Air Monitoring Stations (SLAMS) network for the NCAB portion of Sonoma County, the site with the highest PM<sub>10</sub> concentrations is the Guerneville-Church and First Streets site. The calculated Expected Peak Day Concentration (EPDC) for PM<sub>10</sub> at this site is 48.4 (rounded to 48)  $\mu\text{g}/\text{m}^3$ , based on three complete years of data. This compares to an EPDC of 50  $\mu\text{g}/\text{m}^3$  for the previous three-year period.

There was one exceedance of the State 24-hour PM<sub>10</sub> standard in 1997 of 53  $\mu\text{g}/\text{m}^3$  at the Guerneville site. Since this value is higher than the rounded EPDC of 48  $\mu\text{g}/\text{m}^3$ , it is excluded as an extreme concentration and not considered in determining the area designation. The Designation Value (DV) at the site is 44  $\mu\text{g}/\text{m}^3$ , which is lower than the State 24-hour PM<sub>10</sub> standard of 50  $\mu\text{g}/\text{m}^3$ . The highest annual geometric mean (AGM) PM<sub>10</sub> concentration at the Guerneville site is 14.8 (rounded to 15)  $\mu\text{g}/\text{m}^3$ , which is below the State AGM PM<sub>10</sub> standard of 30  $\mu\text{g}/\text{m}^3$ . The data for the SLAMS network seem to indicate that the NCAB portion of Sonoma County would qualify for attainment for PM<sub>10</sub>.

However, there is one additional PM<sub>10</sub> monitoring site in the NCAB portion of Sonoma County that is not yet part of the SLAMS network. The site is located on Limerick Lane, about three miles south of the center of Healdsburg. This site has been operated and maintained by the Northern Sonoma County Air Pollution Control District as a special purpose monitoring site. The site has been audited by the ARB staff as meeting siting requirements, and thus the air quality data from the site are considered valid as data for record, although the data are not yet available through the ARB's or the U.S. EPA's data bases.

During the three-year period of 1996 through 1998, there were three exceedances of 93, 67, and 53  $\mu\text{g}/\text{m}^3$  at the Limerick Lane site on May 22, December 30, and August 8 (all in 1997), respectively. These exceedances are not excludable because the data at the site are not sufficiently complete to calculate a valid Expected Peak Day Concentration (EPDC). As a result, these exceedances are violations of the State PM<sub>10</sub> standard of 50  $\mu\text{g}/\text{m}^3$ .

In conclusion, because there are three violations of the State 24-hour PM<sub>10</sub> standard in the area, the staff does not recommend any change to the nonattainment designation of the North Coast Air Basin portion of Sonoma County for the State PM<sub>10</sub> standards.

## **6. San Diego Air Basin for Sulfates**

The State standard for total sulfates is a 24-hour average concentration of 25 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), not to be equaled or exceeded. Currently, the San Diego Air Basin is designated as attainment for the State standard for sulfates.

In the three-year period of 1996 through 1998, there was one exceedance of  $27 \mu\text{g}/\text{m}^3$  at the San Diego-12th Avenue monitoring site in 1997. After an extensive examination of the cause of this exceedance during the 1998 review of area designations, the staff determined that the exceedance was likely caused by transport of sulfur dioxide emissions from a power plant in the Rosarito area of Mexico. Since this plant was expected to be converted from fuel oil to natural gas in the next several years, exceedances were not expected to recur. The staff also determined that the impact of the sulfate exceedance was limited to the local area and the data were not complete enough to support a nonattainment designation. Therefore, the exceedance was identified by the staff as affected by an unusual concentration event, and was so approved by the Air Resources Board at the September 1998 hearing.

A staff review of the sulfate data showed that there were no other exceedances of the State sulfates standard during the period of 1996 through 1998. The staff thus maintains that the exceedance in 1997 be excluded as affected by an unusual concentration event and not be considered in determining the current area designation. Because there are no violations, the staff does not recommend any change in the attainment designation of San Diego Air Basin for the State sulfates standard.

## **7. Santa Barbara County for Hydrogen Sulfide**

The State standard for hydrogen sulfide is a one-hour average concentration of 0.03 parts per million (ppm), not to be equaled or exceeded. Santa Barbara County is located in the South Central Coast Air Basin. Currently, Santa Barbara County is designated as attainment for the State hydrogen sulfide standard.

During the 1996-1998 period, there was one exceedance of 0.26 ppm at the Lompoc-Odor monitoring site and one exceedance of 0.05 ppm at the Capitan-Popco North site. The calculated Expected Peak Day Concentrations (EPDC) for these two sites are 0.02 ppm and 0.01 ppm, respectively, based on three complete years of data at each site. Because each exceedance is higher than the respective EPDC, both are excluded as extreme concentrations. After the exclusions, there are no violations at any site in Santa Barbara County.

Because the only exceedances are excluded as extreme concentrations, the staff does not recommend any change to Santa Barbara County's attainment designation for hydrogen sulfide.

**D. STAFF RECOMMENDATION**

The staff recommends that the Board adopt the proposed amendment to section 60201 of the area designation regulations. The full text of the proposed amendment is shown in Attachment C of this Staff Report.



## **CHAPTER III**

### **ALTERNATIVES TO THE PROPOSED AMENDMENT**

The requirement for annually reviewing the area designations is specified in State law (Health and Safety Code, section 39608(c)). The proposed amendment to the area designations is described in Chapter II of this Staff Report. The proposed area redesignation reflects the application of the designation criteria set forth in California Code of Regulations (CCR), Title 17, sections 70300 through 70306. The proposed area redesignation is accompanied by a discussion of its basis and justification. The staff has considered the potential alternatives to the proposed amendment to the area designations, namely, the no action alternative. However, based on the available data, the staff finds the proposed amendment is more appropriate than the no action alternative.

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## **CHAPTER IV**

### **IMPACTS OF THE PROPOSED AMENDMENT**

#### **A. PUBLIC HEALTH AND WELFARE IMPACTS**

The adoption of the proposed amendment to the area designations is not expected in and of itself to result in any adverse impacts on public health and welfare. However, because State law specifies certain requirements based on an area's designation status, there may be indirect impacts.

The proposed amendment would redesignate one area as nonattainment for the State ozone standard. Redesignating an area as nonattainment may result in the Board and districts adopting plans and control measures. Therefore, adopting the proposed redesignation ultimately may indirectly benefit public health and welfare. Any potentially adverse impacts on public health and welfare that are identified with respect to specific plans and control measures would be included in the development and consideration of such plans and control measures.

#### **B. ECONOMIC IMPACTS**

The proposed amendment to the area designations does not contain requirements for action. Subsequent requirements for action may result after additional steps, such as plan preparation and approval, are taken. The area designations are labels that describe the healthfulness of the air quality in each area. Because these regulations by themselves contain no requirements for action, they have no direct economic impact, and the following general determinations are appropriate:

The Executive Officer has determined that adoption of the proposed amendment will not create costs or savings, as defined in Government Code section 11346.5(a)(6), to any State agency or in federal funding to the State, costs or mandate to any local agency or school district whether or not reimbursable by the State pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code, or other nondiscretionary savings to local agencies.

The Executive Officer also has determined, in accordance with Government Code section 11346.5(a)(8), that adoption of the proposed amendment will not have a significant adverse economic impact on businesses, including the ability of California businesses to compete with businesses in other States. The Executive Officer has determined that there will be no, or an insignificant, potential cost impact, as defined in Government Code

section 11346.5(a)(9), on private persons or businesses directly affected as a result of adopting the proposed amendment.

In accordance with Government Code section 11346.3, the Executive Officer has determined that adoption of the proposed amendment will not affect the creation or elimination of jobs within the State of California, the creation of new businesses or the elimination of existing businesses within California, or the expansion of businesses currently doing business within California.

In accordance with Government Code section 11346.5(a)(11), the Executive Officer has determined that adoption of the proposed amendment will not have a significant effect on housing costs.

Finally, the Executive Officer has also determined, pursuant to Government Code section 11346.5(a)(3)(B), that the proposed regulatory action will not affect small business, because by itself, the amendment contains no requirements for action and, therefore, has no direct economic impact.

Before taking final action on the proposed amendment to the regulations, the Board must determine that no alternative considered by the agency would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

## CHAPTER V

### DOCUMENTS RELIED UPON

The following is a list of the documents the staff used in developing the proposed amendment documented in this Staff Report:

1. Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, N.C., # EPA-450/4-86-007 (July 1986).

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