

**Proposed Amendments to the Area Designation Criteria
and Area Designations for State Ambient Air Quality Standards**

and

**Maps of Area Designations for
State and National Ambient Air Quality Standards**

***STAFF REPORT:
Initial Statement of Reasons for Proposed Rulemaking***

Release Date: December 5, 2003

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

This document has been reviewed and approved by the staff of the California Environmental Protection Agency, Air Resources Board. Approval does not signify that the contents necessarily reflect the views and policies of the California Air Resources Board.

If you have special language needs, please contact Marcella Nystrom, document coordinator, at (916) 323-8543 or mnystrom@arb.ca.gov.

TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

ACKNOWLEDGMENTS

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

Principal Authors

Marcella Nystrom
Dr. Patricia Velasco

Contributing Staff

Office of Legal Affairs
George Poppic

Air Quality Data Branch

Pheng Lee
Michael Redgrave

Emission Inventory Branch

Neva Sotolongo

Reviewed and Approved by:

Gayle M. Sweigert, Manager, Air Quality Analysis Section
Karen Magliano, Manager, Particulate Matter Analysis Section
Robert Effa, Chief, Air Quality Data Branch
Robert D. Fletcher, Chief, Planning and Technical Support Division

EXECUTIVE SUMMARY

The Air Resources Board (ARB or Board) has established health-based State ambient air quality standards (State standards) to identify outdoor pollutant levels that are considered safe for the public—including those individuals most sensitive to the effects of air pollution, such as children and the elderly. After State standards are established, State law requires ARB to designate each area of the State as attainment, nonattainment, or unclassified for each State standard. The area designations, which are based on the most recent air quality data, indicate the healthfulness of the air throughout the State. As required by State law, ARB has also established designation criteria to ensure that the area designations for State standards are made in a consistent manner.

The Board originally adopted the designation criteria and area designation regulations in 1989. State law requires ARB to annually review the area designations and periodically review the designation criteria to ensure their continued relevance. In the past, the Board has made area designations for nine pollutants with State standards. In June 2002, the Board adopted a new PM_{2.5} standard resulting in the need to make area designations for PM_{2.5} and to amend the designation criteria to specify a geographic area for the PM_{2.5} designations.

Proposed Changes to the Designation Criteria Regulations

As a result of our review, the ARB staff proposes amending several provisions of the designation criteria, as summarized below. One amendment would add PM_{2.5} to the list of pollutants designated by air basin. The remaining amendments would not change the way in which the Board designates areas, but would simply clarify existing aspects of the designation criteria and assure consistency among the various provisions of the designation criteria. The full text of the proposed amendments is included as Attachment A to this staff report.

- *Add PM_{2.5} to the list of pollutants designated by air basin.*
- *Add language to clarify the circumstances for designating a portion of a district within an air basin as nonattainment-transitional for ozone.*
- *Add language to clarify the procedure in Appendix 1: Criteria for Determining Data Representativeness.*
- *Add language to clarify the procedure in Appendix 3: Criteria for Determining Data Completeness.*
- *Clarify within the designation criteria that the word “standard” refers to a “State” standard.*
- *Clarify within the designation criteria that the “appendices” referenced are appendices to the designation criteria.*

Proposed Changes to the Area Designation Regulations

Based on the 2000 through 2002 air quality data, ARB staff is proposing changes to the current area designations for ozone, carbon monoxide, and sulfates for several areas of California. The most notable change is that there are now two new areas of the State that attain the health-based State ozone standard. In addition, the ARB staff is proposing to make area designations for the State PM_{2.5} standard. These proposed changes are summarized below. Furthermore, because some of the proposed PM_{2.5} designation areas are not defined as an air basin or county, the ARB staff is proposing to update and add several boundary definitions to the non-county area descriptions contained in the area designation regulations. Specifically, these include updating the current city of Calexico boundary description and adding new boundary descriptions for central San Bernardino County (using the federal Southeast Desert Modified AQMA for ozone description) and the Portola Valley area of Plumas County. The full text of the proposed regulatory changes can be found in Attachment B to this staff report.

PROPOSED AREA DESIGNATIONS FOR STATE STANDARDS

| PROPOSED AREA DESIGNATIONS FOR POLLUTANTS OTHER THAN PM_{2.5} | | | |
|--|--|------------------------------|------------------------------|
| <i>Pollutant</i> | <i>Area / Air Basin</i> | <i>Current Designation*</i> | <i>Proposed Designation*</i> |
| Ozone | San Luis Obispo County (South Central Coast AB) | NA-T | A |
| | Sonoma County (North Coast AB) | NA-T | A |
| | Butte County (Sacramento Valley AB) | NA-T | N |
| | North Central Coast Air Basin | NA-T | N |
| | Colusa County APCD (Sacramento Valley AB) | N | NA-T |
| CO | Los Angeles County (South Coast AB) | N | NA-T |
| Sulfates | San Bernardino County Portion of Searles Valley Planning Area (Mojave Desert AB) | N | A |
| PROPOSED AREA DESIGNATIONS FOR PM_{2.5} | | | |
| <i>Air Basin</i> | <i>Area Included</i> | <i>Proposed Designation*</i> | |
| Mojave Desert | Central San Bernardino County (portion of San Bernardino County within the federal Southeast Desert Modified AQMA for ozone) | N | |
| Mountain Counties | Portola Valley area of Plumas County | N | |
| Sacramento Valley | Butte and Sacramento counties; portion of Placer County within air basin | N | |
| Salton Sea | City of Calexico in Imperial County | N | |
| San Diego | Entire air basin | N | |
| San Francisco Bay Area | Entire air basin | N | |
| San Joaquin Valley | Entire air basin | N | |

| PROPOSED AREA DESIGNATIONS FOR PM_{2.5} (continued) | | |
|--|---|------------------------------|
| <i>Air Basin</i> | <i>Area Included</i> | <i>Proposed Designation*</i> |
| South Central Coast | Ventura County (including Anacapa and San Nicolas islands) | N |
| South Coast Air Basin | Entire air basin (including San Clemente and Santa Catalina islands) | N |
| Lake County | Entire air basin | A |
| Great Basin Valleys | Entire Air Basin | U |
| Lake Tahoe | Entire Air Basin | U |
| Mojave Desert (remainder) | Remainder of San Bernardino County; portion of Kern County, portion of Los Angeles County, and portion of Riverside County within air basin | U |
| Mountain Counties (remainder) | Remainder of Plumas County; Amador, Calaveras, Mariposa, Nevada, Sierra, and Tuolumne counties; portion of El Dorado County and portion of Placer County within air basin | U |
| North Central Coast | Entire air basin | U |
| North Coast | Entire air basin | U |
| Northeast Plateau | Entire air basin | U |
| Sacramento Valley (remainder) | Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba counties; portion of Solano County within air basin | U |
| Salton Sea (remainder) | Remainder of Imperial County and portion of Riverside County within air basin | U |
| South Central Coast (remainder) | San Luis Obispo and Santa Barbara counties (including San Miguel, Santa Barbara, Santa Cruz, and Santa Rosa islands) | U |

*** Designation Categories:**

- A = Attainment; N = Nonattainment; NA-T = Nonattainment-Transitional; U = Unclassified. The Unclassified designation indicates no or insufficient air quality data.

Other Information in this Staff Report

As required by State law, this staff report also includes maps and tables identifying areas with at least one violation of a State standard or national ambient air quality standard (national standard). The maps and tables provided in Attachment C to this staff report fulfill the statutory requirement and reflect the proposed area designations for State standards that are summarized above. The maps and tables also reflect the area designations for national standards in effect at the time this staff report was published.

[This page intentionally left blank]

TABLE OF CONTENTS

CHAPTER I BACKGROUND

| | |
|--|---|
| A. <i>Introduction</i> | 1 |
| B. <i>State and National Ambient Air Quality Standards</i> | 1 |
| C. <i>Legal Requirements</i> | 2 |
| D. <i>Implications of the Area Designations</i> | 3 |
| 1. <i>Areas Designated as Nonattainment</i> | 3 |
| 2. <i>Areas Designated as Nonattainment-Transitional</i> | 4 |
| 3. <i>Areas Designated as Attainment or Unclassified</i> | 5 |
| E. <i>Public Process</i> | 5 |

CHAPTER II CURRENT AREA DESIGNATION CRITERIA

| | |
|--|---|
| A. <i>Introduction</i> | 7 |
| B. <i>General Provisions of the Designation Criteria</i> | 7 |
| C. <i>Designation Categories</i> | 7 |
| D. <i>Data Requirements</i> | 9 |
| E. <i>Size of Designated Area</i> | 9 |
| F. <i>Highly Irregular or Infrequent Events</i> | 9 |

CHAPTER III PROPOSED AMENDMENTS TO THE AREA DESIGNATION CRITERIA

| | |
|--|----|
| A. <i>Introduction</i> | 11 |
| B. <i>Section 70302: Geographic Extent of Designations</i> | 12 |
| C. <i>Section 70303.5: Requirements for Ozone Nonattainment-Transitional</i> | 13 |
| D. <i>Appendix 1: Criteria for Determining Data Representativeness</i> | 13 |
| E. <i>Appendix 3: Criteria for Determining Data Completeness</i> | 14 |
| F. <i>Other Amendments</i> | 14 |

TABLE OF CONTENTS
(continued)

CHAPTER IV

PROPOSED AMENDMENTS TO THE AREA DESIGNATIONS

| | |
|--|----|
| A. <i>Introduction</i> | 17 |
| B. <i>Designation Process</i> | 18 |
| C. <i>Designation Value</i> | 19 |
| D. <i>Ozone</i> | 20 |
| 1. <i>Areas Redesignated as Attainment for Ozone</i> | 21 |
| 2. <i>Areas Redesignated as Nonattainment for Ozone</i> | 23 |
| 3. <i>Areas Redesignated as Nonattainment-Transitional for Ozone</i> | 24 |
| E. <i>Carbon Monoxide</i> | 25 |
| 1. <i>Area Redesignated as Nonattainment-Transitional for CO</i> | 26 |
| F. <i>Sulfates</i> | 28 |
| 1. <i>Area Redesignated as Attainment for Sulfates</i> | 28 |
| 2. <i>Confirmation of Sulfates Designations Based on Air Quality Data</i> | 29 |
| 3. <i>Confirmation of Sulfates Designations Based on Screening Procedure</i> | 31 |
| G. <i>Particulate Matter</i> | |
| 1. <i>Introduction</i> | 32 |
| 2. <i>Suspended Particulate Matter (PM10)</i> | 37 |
| 3. <i>Fine Suspended Particulate Matter (PM2.5)</i> | 37 |
| H. <i>Areas Not Recommended for Redesignation</i> | 46 |
| 1. <i>Glenn County for Ozone</i> | 46 |
| 2. <i>Lake County Air Basin for Visibility Reducing Particles</i> | 47 |

CHAPTER V

| | |
|--|----|
| ALTERNATIVES TO THE PROPOSED AMENDMENTS | 49 |
|--|----|

CHAPTER VI

IMPACTS OF THE PROPOSED AMENDMENTS

| | |
|--|----|
| A. <i>Economic Impacts</i> | 51 |
| 1. <i>Legal Requirement</i> | 51 |
| 2. <i>Potential Impact on Businesses, Business Competitiveness, Employment, and Business Creation, Elimination, or Expansion</i> | 51 |
| 3. <i>Potential Cost to Local and State Agencies</i> | 52 |

TABLE OF CONTENTS

(continued)

CHAPTER VII

ENVIRONMENTAL IMPACTS AND ENVIRONMENTAL JUSTICE

| | |
|--|----|
| A. <i>Introduction</i> | 53 |
| B. <i>Air Quality and Environmental Benefits</i> | 53 |
| C. <i>Environmental Justice</i> | 54 |

ATTACHMENTS

| | |
|---|-----|
| A. <i>Proposed Amendments to the Area Designation Criteria</i> | A-1 |
| B. <i>Proposed Amendments to the Area Designations</i> | B-1 |
| C. <i>Maps and Tables of Area Designations for</i> <i>State and National Ambient Air Quality Standards</i> | C-1 |
| D. <i>Convention for Rounding Ambient Air Quality Data</i> | D-1 |
| E. <i>Procedure for Designating an Area with Respect to the</i> <i>State Particulate Matter Standards (PM10 and PM2.5)</i> | E-1 |
| F. <i>Bibliography</i> | F-1 |

[This page intentionally left blank]

CHAPTER I

BACKGROUND

A. INTRODUCTION

This chapter provides background information on the differences between the State and national ambient air quality standards, the legal requirements for the designation criteria and area designations, the implications of being designated for the various pollutants, and the public process used in developing the proposed amendments to the regulations. Subsequent chapters discuss the proposed changes to the area designation criteria and the proposed 2003 area designations for State standards.

B. STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

To protect public health, the Board has adopted health-based ambient (outdoor) air quality standards. These standards define the maximum amount of an air pollutant that can be present in ambient air. Ambient air quality standards are established to protect even sensitive individuals in our communities. California law requires the ARB to set State ambient air quality standards (State standards) in consideration of public health, safety, and welfare.

Before 2002, the Board had adopted State standards for nine pollutants: ozone, carbon monoxide (CO), suspended particulate matter (PM₁₀), nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and visibility reducing particles. In June 2002, the Board adopted a new State standard for fine particulate matter or PM_{2.5}. The State PM_{2.5} standard is 12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), measured as an annual arithmetic mean. When the Board adopted the State PM_{2.5} standard, it also made modifications to the existing State PM₁₀ and sulfates standards. The Board lowered the existing State annual PM₁₀ standard from 30 $\mu\text{g}/\text{m}^3$ to 20 $\mu\text{g}/\text{m}^3$ and revised the averaging method (from an annual geometric mean to an annual arithmetic mean). In addition, the Board changed the measurement method for the State sulfates standard, but left the level of the standard unchanged at 25 $\mu\text{g}/\text{m}^3$ for a 24-hour averaging time. The old method for sulfates was based on total suspended particulate matter or TSP measurements, while the new method is based on PM₁₀ measurements. All of these changes became effective on July 5, 2003.

In addition to the State standards, the Federal Clean Air Act requires the United States Environmental Protection Agency (U.S. EPA) to set national ambient air quality standards (national standards) for the nation. It also permits states to adopt additional or more health-protective standards. California's State standards for certain pollutants

are more protective of public health than national standards. In addition, California has established State standards for other pollutants that are not covered by national standards (for example, sulfates, hydrogen sulfide, and visibility reducing particles).

An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Some ambient air quality standards are expressed as a concentration that is not to be exceeded. Others are expressed as a concentration that is not to be equaled or exceeded.

The national standards are further categorized as primary standards and secondary standards. The national primary standards are meant to protect public health. The national secondary standards are meant to protect the public welfare from any known or anticipated adverse effects of the pollutant. The national standard area designation maps and tables in Attachment C to this staff report reflect the national primary standards. Attachment C also contains a table that lists the applicable pollutant levels, averaging times, and analytical measurement methods for both the State standards and the national standards.

The U.S. EPA promulgated new ozone and PM2.5 national standards in July 1997. These new national standards have been the subject of many legal challenges, and the U.S. EPA has not yet promulgated the area designations. However, U.S. EPA is expected to make these area designations by the end of 2004. Because the area designations for the new federal ozone and PM2.5 standards are not yet final, maps and tables for these standards are not included in Attachment C to this staff report. However, interested persons can contact U.S. EPA for the current status of the new national standards, or visit their web site at:

<http://www.epa.gov/ttn/oarpg/naaqsfm>

C. LEGAL REQUIREMENTS

Health and Safety Code (H&SC) section 39607(e) requires the Board to establish and periodically review criteria for designating areas as attainment or nonattainment for the State standards. 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. The criteria describe the procedures that the Board must use in determining area designations for State standards and are summarized in Chapter II.

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. H&SC section 39608 also requires the Board to conduct an annual review

of the area designations and update them as new information becomes available. As warranted, the Board makes changes to the existing area designations, as well as making area designations for any new or revised State standards.

The area designations are made on a pollutant-by-pollutant basis, for all pollutants listed in the California Code of Regulations (CCR), title 17, section 70200. This year marks the first time the Board will make area designations for the new State fine particulate matter or PM2.5 standard that the Board adopted in June 2002. Because the State PM2.5 standard is listed in CCR, title 17, section 70200, it is automatically included in the area designation process.

In addition to the designation criteria and area designation requirements, H&SC section 40718 requires the Board to publish maps showing the areas with one or more measured violations of any State standard or national standard. The maps and summary tables provided in Attachment C of this staff report fulfill this requirement. The maps and tables for the State standards reflect the changes to the area designations as described in Chapter IV of this staff report. The maps and tables for the national standards reflect the current federal area designations, as promulgated by U.S. EPA (for additional information about the area designations for national standards, visit the U.S. EPA website at:

<http://www.epa.gov/airprogm/oar/oaqps/greenbk>

D. IMPLICATIONS OF THE STATE AREA DESIGNATIONS

The State designation criteria specify four designation categories: nonattainment, nonattainment-transitional, attainment, and unclassified. A nonattainment designation indicates a violation of the State standard. A nonattainment-transitional designation indicates improving air quality, with occasional violations or exceedances of the State standard. In contrast, an attainment designation indicates no violation of the State standard. Finally, an unclassified designation indicates either no or incomplete air quality data. Although the area designations themselves are simply labels indicating the healthfulness of air quality and do not contain any requirements for action, there may be other legal requirements, based on an area's designation status, as described below.

1. Requirements for Areas Designated as Nonattainment

An air pollution control district or air quality management district (district) that includes an area designated as nonattainment for a particular pollutant, experiences several consequences under the law. First, State law requires 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 to mitigate those violations that occur in the absence of transport (in other words, ozone violations that are caused by locally generated emissions; H&SC sections 39610(b) and 40912). Violations caused by a combination of transported and locally generated emissions must be mitigated by both the upwind and downwind areas. Ozone violations caused by overwhelming transport must be mitigated by the responsible upwind district(s).

In addition to these requirements for nonattainment districts, recent legislation added specific requirements for PM10 and PM2.5 nonattainment areas. On October 8, 2003, Senate Bill 656 (Sher) was signed by the Governor. This new law requires the ARB to develop and adopt a list of the most readily available, feasible, and cost-effective control measures to reduce PM10, PM2.5, and their precursor emissions, by January 1, 2005. The list of measures will be developed in consultation with the districts, with the intent of making progress toward attaining the State and national PM2.5 and PM10 standards. These control measures are to be based on rules, regulations, and programs in effect in California as of January 1, 2004. Emission source categories to be addressed include stationary combustion sources, woodstoves and fireplaces, commercial grilling operations, agricultural burning, construction and grading operations, and diesel powered engines used in stationary and mobile applications. By July 31, 2005, the ARB and districts shall adopt implementation schedules for the identified measures.

Finally, a district with an area designated as nonattainment for any of the remaining pollutants 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 pollutants (H&SC sections 40001 and 40913). Furthermore, a nonattainment district has the option of developing and implementing an attainment plan or adopting 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 collects permit fees from large, nonvehicular sources located in the nonattainment area (H&SC section 39612; CCR, title 17, sections 90800.5 through 90802). Only those sources authorized by district permit to emit 250 tons per year or more of any nonattainment pollutant or its precursors are subject to these permit fees. The fees are used to help defray the costs of State programs related to nonvehicular sources (Note: The Board adopted the fee regulations described above in July 2003. However, the fee regulations are not yet effective, as the Board has not yet completed the State Office of Administrative Law process). With certain exceptions, nonattainment districts 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 Designated 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 requirements as a nonattainment district, which were described in the preceding section. However, in contrast to the nonattainment designation, a nonattainment-transitional designation may signal a change in how these 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. However, 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 Designated as Attainment or Unclassified

State law does not impose any specific planning requirements upon districts with areas designated 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. PUBLIC PROCESS

The H&SC requires the Board to periodically review the criteria it uses for making State area designations. Furthermore, both the H&SC (section 39608) 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. In order to facilitate public comment during the designation process, we requested public input in a number of ways.

After our initial review of the 2000 through 2002 air quality data, we noted potential changes to the existing area designations for ozone, carbon monoxide, and sulfates. We also conducted a preliminary assessment of the PM_{2.5} data and determined the likely area designations for the new State PM_{2.5} standard. After these preliminary reviews, we

contacted the affected districts to discuss the results of the review. These discussions included the basis for the designation change, additional information relevant to the designation change, and an opportunity for district input. Furthermore, we encouraged districts to submit any other information they would like considered.

We also established a web-based subscriber notification process or listserv. For those who subscribe, the listserv provides automatic electronic updates related to the designation criteria and area designation issues.

On September 23, 2003, we announced a public workshop scheduled for October 15, 2003. This announcement included a discussion of the staff's proposed amendments to both the designation criteria and the area designations. The proposed changes to the area designations are based on most recent three complete calendar years of air quality data: 2000 through 2002.

At the October 15, 2003, workshop, we presented the preliminary proposed changes to the designation criteria and the area designations for State standards. In addition, all materials available at the workshop were posted on our web page, including the workshop notice, the workshop slide presentation, the full text of the proposed changes to the designation criteria regulations, the rationale for the proposed changes to the designation criteria, the procedure for designating areas with respect to the State PM10 and PM2.5 standards, and a list of proposed changes to the area designations for State standards.

The proposed amendments described in this staff report incorporate comments received from the public. The Board is scheduled to consider these amendments at a public hearing in January 2004.

CHAPTER II

CURRENT AREA DESIGNATION CRITERIA

A. INTRODUCTION

This chapter provides a summary of the existing designation criteria. The following sections describe the general provisions of the designation criteria, the area designation categories, the data requirements, the size of the designated areas, and the requirements for identifying highly irregular or infrequent events. The full text of the designation criteria is included in Attachment A to this staff report.

B. GENERAL PROVISIONS OF THE DESIGNATION CRITERIA

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

- The requirements for each area designation category;
- The data the Board will use for making the area designations;
- How the Board will determine the size of a designated area; and
- The requirement for an annual review of the area designations by the Board's Executive Officer.

C. DESIGNATION CATEGORIES

In determining which designation category is appropriate for an area, it is essential to understand the difference between an *exceedance* and a *violation*. An exceedance is any concentration that is higher than the level of the State standard. In contrast, violations are a subset of the exceedances. A violation is any exceedance (concentration above the level of the State standard) that is not affected by a highly irregular or infrequent event, and therefore, cannot be excluded from the area designation process (refer to discussion in Section F, below).

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. As explained above, 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 most recent calendar year. In addition, an evaluation of recent air quality trends and meteorological and emissions data must show that 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 can also apply for ozone. However, unlike the other pollutants, the ozone nonattainment-transitional requirements are specified in State law (H&SC section 40925.5), and the designation criteria set forth guidelines for evaluating whether an area satisfies the H&SC requirements. Furthermore, in contrast to the nonattainment-transitional designation for other pollutants, the ozone nonattainment-transitional designation occurs by operation of law. This means the ozone nonattainment-transitional designations occur automatically, without any formal Board action.

H&SC section 40925.5 specifies that the ozone nonattainment-transitional designation is based on exceedances, not violations. As a result, all measurements above the level of the State ozone standard are considered. Specifically, a nonattainment district (or the portion of a district within an air basin) is designated as nonattainment-transitional for ozone if air quality data show three or fewer exceedances of the State standard at each site in the area during the most recent calendar year. Because the ozone nonattainment-transitional designation is based on a single year of data, it can be unstable due to year-to-year changes in meteorology. To provide more stability, the designation criteria allow for a review of 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 the area would not qualify as nonattainment-transitional during the next annual review, the area remains designated as nonattainment. This approach prevents districts from going in and out of nonattainment-transitional from one year to the next.

In contrast to nonattainment and nonattainment-transitional, the Board will designate an area as *attainment* for a pollutant if data show the State standard for that pollutant was not violated during the previous three calendar years. As described earlier, exceedances affected by highly irregular or infrequent events are not considered violations, and therefore, are not considered in designating areas as attainment. As a result, an area can have measured concentrations that are higher than the level of the 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. DATA REQUIREMENTS

To the extent possible, the Board makes area designations for each pollutant based on the most 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 and adopted by the Board. Generally, data for record are those data collected by or under the direction of the Board or the districts. Air quality data from other sources may also qualify as data for record, as long as the same requirements are met. For area designation purposes, air quality measurements and statistics are rounded to the precision of the State standard before being compared with the State standard. The rounding convention is summarized in Attachment D to this staff report.

When adequate and 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, emissions data, meteorological data, topographical data, and data relating to the characteristics of population or emissions.

E. SIZE OF DESIGNATED AREA

The size of the area designated for a pollutant may vary depending on the nature of the pollutant, the location of contributing emission sources, meteorology, and topographic features. Normally, an air basin is the area designated for ozone, nitrogen dioxide, suspended particulate matter, 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. In designating a smaller area as nonattainment, the sources with emissions that contribute to a violation must be included within the designated area. In defining a smaller designation area, the Board uses political boundary lines whenever possible.

F. 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 high 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 defines three types of highly irregular or infrequent events:

- Extreme concentration events;
- Exceptional events; and
- Unusual concentration events.

An *extreme concentration event* is identified by a statistical procedure that 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 or EPDC. Adverse meteorology is one potential cause of an extreme concentration event. However, a specific, identifiable cause is not necessary for an exceedance to be identified as an extreme concentration.

In practice, a pollutant-specific EPDC is calculated for each monitoring site using air quality data measured at the site during the most recent three calendar years. The EPDC value is rounded to the precision of the State standard and then compared with the air quality measurements from the same site, which are also rounded to the precision of the State standard. Air quality measurements that exceed the State standard and are higher than the EPDC value, are excluded from the area designation process. These exceedances are not considered violations of the State standard. However, air quality measurements that exceed the State standard and are equal to or lower than the EPDC value are not excluded from the area designation process. These values are considered violations of the State standard.

In contrast to an extreme concentration event, 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).

Finally, an *unusual concentration event* is an unexpected or atypical exceedance of a State standard that cannot be identified as an extreme concentration event or an exceptional event. Unusual concentration events are identified only for areas already 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. Generally, unusual concentration events are identified in areas with limited air quality data, and therefore, uncertainty as to what level of concentrations are expected to occur.

The unusual concentration event allows a wait-and-see approach in making nonattainment designations. However, there is a time limit. 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. The idea behind this time limit is that within three years, the air quality data record should be complete enough to determine whether the area is attainment or nonattainment.

CHAPTER III

PROPOSED AMENDMENTS TO THE AREA DESIGNATION CRITERIA

A. INTRODUCTION

H&SC section 39607(e) requires the Board to establish area designation criteria. These designation criteria provide the basis for the Board to designate areas as nonattainment, nonattainment-transitional, attainment, or unclassified for the State standards, as required by H&SC section 39608.

H&SC section 39607(e) further requires the Board to periodically review the designation criteria to ensure their continued relevance. As part of the current review, the ARB staff recommends amending several provisions of the designation criteria. One amendment would add PM_{2.5} to the list of pollutants designated by air basin. The remaining amendments are either for clarification purposes or to make language within the designation criteria consistent. As a result, these amendments would not change the way in which the Board makes the area designations. All of the proposed amendments are summarized below and described in the following sections. The full text of the proposed amendments, in underline and strikeout format, can be found in Attachment A to this staff report.

- *Add PM_{2.5} to the list of pollutants specified in section 70302(a) as designated by air basin.*
- *Add language to section 70303.5(a)(1) to clarify the circumstances for designating a portion of a district within an air basin as nonattainment-transitional for ozone.*
- *Expand the discussion in Appendix 1: Criteria for Determining Data Representativeness and make two minor changes to the accompanying table, in order to clarify the procedure.*
- *Expand the discussion in Appendix 3: Criteria for Determining Data Completeness to clarify the procedure.*
- *Clarify within the existing designation criteria that the word “standard” refers to a “State” standard.*
- *Clarify within the existing designation criteria that the “appendices” referenced are appendices to the designation criteria.*

**B. SECTION 70302:
GEOGRAPHIC EXTENT OF DESIGNATIONS**

Section 70302 of the designation criteria describes the geographic extent of the areas designated for each pollutant for which the Board makes area designations. Currently, section 70302 addresses the nine criteria pollutants for which State standards were in effect prior to 2003. These pollutants are: ozone, carbon monoxide, suspended particulate matter (PM10), nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and visibility reducing particles.

In 2002, the Board adopted a new State standard for fine particulate matter or PM2.5. The new State PM2.5 standard, which became effective on July 5, 2003, is 12 micrograms per cubic meter, expressed as an annual arithmetic mean. Similar to the other nine criteria pollutants, the State PM2.5 standard is listed in CCR, title 17, section 70200 (Table of Standards). Because the designation criteria apply to all pollutants for which State standards have been established in CCR, title 17, section 70200, PM2.5 is already included under the general provisions of the designation criteria. However, PM2.5 is not yet included in section 70302 of the designation criteria, which specifies the geographic extent of the area designated for each pollutant.

PM2.5 is a subset of PM10. It comprises a mixture of fine particles, many of which are secondary particles that are formed in the atmosphere. Because of their smaller size, PM2.5 particles can remain suspended in the air for long periods of time. The emissions that form PM2.5 come primarily from combustion sources. Throughout California, the major types of sources contributing to ambient PM2.5 concentrations include mobile sources, stationary sources, and biomass burning (which includes wood smoke and agricultural prescribed burning). While the extent of PM2.5 concentrations dominated by wood smoke may be more localized, PM2.5 concentrations dominated by mobile and stationary sources tend to be more regional in extent. Therefore, it is reasonable to specify a large geographic area as the default designation area for PM2.5.

Section 70302 of the designation criteria specifies two default sizes for the designation area: an air basin for the regional pollutants (ozone, nitrogen dioxide, PM10, sulfates, and visibility reducing particles) and a county for the local pollutants (carbon monoxide, sulfur dioxide, lead, and hydrogen sulfide). The staff proposes amending section 70302(a) of the designation criteria to add PM2.5 to the list of pollutants designated by air basin. Similar to the other pollutants listed in section 70302(a), the Board could designate smaller areas for PM2.5, as long as the Board finds that the smaller area has distinctly different air quality, deriving from sources and conditions not affecting the entire air basin. To the extent practical, these smaller areas would be defined along political boundary lines.

**C. SECTION 70303.5:
REQUIREMENTS FOR OZONE NONATTAINMENT-TRANSITIONAL**

Under State law in H&SC section 40925.5(a), a district is designated as nonattainment-transitional for the State ozone standard by operation of law, if its air quality meets certain conditions. To help implement this requirement, the Board added section 70303.5 to the designation criteria in December 1992. Section 70303.5 contains a set of guidelines for use in evaluating whether a district satisfies the requirements of H&SC section 40925.5(a).

In September 1998, the Board amended section 70303.5 to clarify that the nonattainment-transitional designation for ozone applies to a district or an area that is a portion of a district within an air basin. This is important in those cases where a district spans more than one air basin. The Board wanted to ensure that if the portion of a district within one air basin became nonattainment-transitional, that portion could be designated as nonattainment-transitional before those portions of the same district located in another air basin(s) qualified as nonattainment-transitional. The current language of section 70303.5 does not clearly specify that the portion of a district within an air basin should not be split in making a nonattainment-transitional designation.

The staff recommends adding language to section 70303.5(a)(1) to clarify how districts spanning more than one air basin are designated as nonattainment-transitional for ozone. The language would specify that an *entire* district or *entire portion* of a district within an air basin will be the area designated as nonattainment-transitional for ozone. These proposed amendments are for clarification only and do not change the way in which the ozone nonattainment-transitional designations are currently made.

**D. APPENDIX 1:
CRITERIA FOR DETERMINING DATA REPRESENTATIVENESS**

Appendix 1: Criteria for Determining Data Representativeness (Representativeness Criteria) describes the criteria the Board uses in determining whether an individual air quality measurement or statistic represents the averaging time specified in the State standard to which it is being compared. Under the designation criteria, air quality measurements and statistics used for making designations of nonattainment, nonattainment-transitional, and attainment must be representative.

The Representativeness Criteria lay out specific conditions that each individual air quality measurement or statistic (for example, an individual 8-hour average carbon monoxide concentration or a single annual average PM10 concentration) must satisfy in order to be deemed representative. These conditions generally require that a minimum of 75 percent of all the potential measurements be available.

The current Representativeness Criteria comprise a short description of the criteria, along with a table that sets out the specific criteria. Since the Board adopted the

designation criteria in June 1989, the table associated with the Representativeness Criteria has been a source of confusion. The table lists the minimum requirements for each averaging time, starting with the averaging time of the initial measurement (usually 1-hour or 24-hours) and moving up from there, to an annual averaging time. It is possible that a person unfamiliar with using the Representativeness Criteria may not understand how far up the table one must go in order to determine that an air quality measurement or statistic is representative.

To alleviate this confusion, the staff proposes to expand the discussion in Appendix 1: Criteria for Determining Data Representativeness to clarify the procedure for determining data representativeness. The staff also proposes two minor clarifying changes to the accompanying table. The first change would clarify the requirements for pollutants that are not sampled on a daily basis (for example, some PM samples are collected on a 1-in-6 day, 1-in-3 day, or 1-in-2 day sampling schedule—infrequent sampling). The second change would clarify that a daily statistic based on 3-hour samples is based on *all* 3-hour samples. None of these proposed amendments change the way in which the Board currently determines data representativeness or area designations.

E. APPENDIX 3: CRITERIA FOR DETERMINING DATA COMPLETENESS

Appendix 3: Criteria for Determining Data Completeness (Completeness Criteria) describes the criteria the Board uses in determining whether a group or set of individual air quality measurements or statistics is sufficient to reflect the time of day and season of the year during which high concentrations are expected to occur. Under the designation criteria, the set of air quality measurements, or statistics used for making designations of attainment or nonattainment-transitional, must be complete.

The staff proposes adding language to the Completeness Criteria to clarify that these criteria apply only to data used for making attainment and nonattainment-transitional designations. Furthermore, the proposed amendments clarify that air quality data are evaluated under the Completeness Criteria after they are first evaluated under the Representativeness Criteria. Finally, the staff proposes adding language to clarify that the “Required Years” portion of the Completeness Criteria apply only for attainment designations. These proposed amendments do not change the way in which the Board currently determines data completeness or area designations.

F. OTHER AMENDMENTS

The staff proposes two other minor amendments to the designation criteria. The first change would clarify within the existing designation criteria that the word “standard” refers to a State standard and not a national standard. The designation criteria in sections 70300 through 70306 and appendices 1 through 4, thereof, apply only to the State standards. In some cases, the State standards are specifically referenced. In

other cases, they are referenced only as the standards. To clarify that the State standards are the only ones subject to the provisions in the designation criteria and to make the references consistent throughout the designation criteria, the staff proposes adding the word “*state*” before all references to a standard. These proposed amendments are for clarification only and affect sections 70302, 70303, 70303.1, and 70304 and Appendix 2.

In addition, the staff proposes to clarify that the “appendices” referenced in the designation criteria are the appendices to the designation criteria. The ARB staff proposes adding the words “*to this article*” to sections 70303.1 and 70303.5 and Appendix 3 to clarify that the appendix referenced is an appendix to the designation criteria. Again, these proposed amendments are for clarification purposes only and do not change the way in which the Board currently determines the area designations.

[This page intentionally left blank]

CHAPTER IV

PROPOSED AMENDMENTS TO THE AREA DESIGNATIONS

A. INTRODUCTION

This chapter describes the area designation process and the proposed changes to the area designation regulations. As required by H&SC section 39608, the Board updates the area designations each year, based on a review of the most recent air quality data. This year's review is based on air quality data collected during the calendar years 2000 through 2002. The Board's update of the area designations includes changes warranted to existing area designations, as well as new area designations for revised or recently adopted State standards. These proposed changes amend the existing CCR, title 17, sections 60200 through 60209 and add new section 60210. Furthermore, the proposed amendments must be adopted by the Board and approved by the Office of Administrative Law before they become effective.

Based on data collected during 2000 through 2002, the staff is proposing a number of changes to the area designation regulations, as summarized below. The staff proposes updating and adding to the description of non-county areas set forth in section 60200. With respect to the area designations themselves, changes in area designation status are appropriate for ozone, CO, and sulfates. In addition, area designations are being proposed for the first time for the recently adopted State PM_{2.5} standard. Although the Board modified the State annual PM₁₀ standard, a review of the air quality data indicated no change to the existing State PM₁₀ area designations. Furthermore, no changes are proposed for the remaining pollutants: nitrogen dioxide, sulfur dioxide, lead, hydrogen sulfide, and visibility reducing particles.

- *Proposed Changes to Description of Non-County Areas (section 60200):*
 - *Update description of the city of Calexico to reflect the current boundary.*
 - *Add description of San Bernardino County portion of federal Southeast Desert Modified AQMA.*
 - *Add description of Portola Valley area of Plumas County.*

- *Proposed Changes to Ozone Area Designations (section 60201):*
 - *Redesignate San Luis Obispo County and North Coast Air Basin portion of Sonoma County as Attainment.*
 - *Redesignate Butte County and North Central Coast Air Basin as Nonattainment (occur by operation of law).*

- *Redesignate Colusa County as Nonattainment-Transitional (occurs by operation of law).*
- *Proposed Changes to Carbon Monoxide Area Designations (section 60202):*
 - *Redesignate South Coast Air Basin portion of Los Angeles County as Nonattainment-Transitional.*
- *Proposed Changes to Sulfates Area Designations (section 60206):*
 - *Redesignate San Bernardino County portion of Searles Valley Planning Area as Attainment.*
- *Proposed New PM_{2.5} Area Designations (section 60210):*
 - *Designate Lake County Air Basin as Attainment.*
 - *Designate San Diego Air Basin, San Francisco Bay Area Air Basin, San Joaquin Valley Air Basin, South Coast Air Basin, Butte County, Sacramento County, Sacramento Valley Air Basin portion of Placer County, city of Calexico, Portola Valley portion of Plumas County, and San Bernardino County portion of federal Southeast Desert Modified AQMA as Nonattainment.*
 - *Designate Great Basin Valleys Air Basin, Lake Tahoe Air Basin, North Central Coast Air Basin, North Coast Air Basin, Northeast Plateau Air Basin, remainder of Mojave Desert Air Basin, remainder of Mountain Counties Air Basin, remainder of Sacramento Valley Air Basin, remainder of Salton Sea Air Basin, and remainder of South Central Coast Air Basin as Unclassified.*

B. DESIGNATION PROCESS

The area designations are based on air quality data for record as defined in section 70301 of the designation criteria (for reference, the full text of the designation criteria is contained in Attachment A to this staff report). Data for record must meet established siting and quality assurance procedures. Generally, data for record are those data collected by the Board or the districts. However, data from other sources may also be considered, as long as they satisfy the established procedures.

The process used to designate an area with respect to a State standard is generally the same for each of the ten pollutants:

- Gather data for the three-year period for each site in the area.
- Evaluate data representativeness and data completeness for each site.
- Identify and exclude exceedances affected by highly irregular or infrequent events.
- Tabulate the number of exceedances and violations by site.
- Determine the designation value for each site in the area.
- Determine the designation value for the area.
- Determine the appropriate area designation category.

Determining the designation value is the most critical part of the designation process because the designation value determines, in large part, the area designation. More detail about the designation value and how it is determined, is given in the following section.

C. DESIGNATION VALUE

The *designation value* is the measured concentration that is used to determine the designation status of a given area. The designation value is defined as follows:

The designation value is the highest measured concentration that remains after excluding measurements identified as affected by highly irregular or infrequent events. A designation value is determined for each pollutant, for each monitoring site in an area. The highest designation value for any site in the area becomes the designation value for the area.

Under Appendix 2 to the designation criteria, there are three types of highly irregular or infrequent events: extreme concentration events, exceptional events, and unusual concentration events. Each of these types of events is described more fully in Chapter II. The extreme concentration event is the most frequently used method for excluding values from the designation process. Using a statistical process, the ARB staff computes a site-specific and pollutant-specific value representing the highest concentration expected to occur once per year, based on the distribution of data for the site. The resulting value is called the Expected Peak Day Concentration or EPDC. The measured or averaged (for example, 8-hour averages) pollutant concentrations are compared with the EPDC value, and any concentrations that are higher than the EPDC are excluded as extreme concentration events. The highest remaining concentration then becomes the designation value for the site, unless it is excluded as an exceptional event or unusual concentration event.

For example, consider a site with an ozone EPDC of 0.096 parts per million (ppm), and four high measured concentrations of 0.125 ppm, 0.113 ppm, 0.102 ppm, and 0.094 ppm. The ozone EPDC is rounded to 0.10 ppm (2 decimal places, which is the precision of the State ozone standard; refer to Attachment D to this staff report for a more detailed discussion of the rounding convention used in area designations). The four ozone measurements are also rounded to two digits, becoming 0.13 ppm, 0.11 ppm, 0.10 ppm,

and 0.09 ppm, respectively. The measurements of 0.13 ppm and 0.11 ppm are higher than the EPDC, and therefore, are excluded from the area designation process. The next highest measurement, 0.10 ppm is equal to or lower than the EPDC, so it is not excluded. Since 0.10 ppm is the highest measured value not excluded, it becomes the ozone designation value for the site. Within a designated area, the highest designation value for any site in the area becomes the designation value for the area.

When there are less than three complete years of air quality data for a site, the EPDC may not be valid for area designation purposes. If the EPDC is not valid, no measurements are excluded as extreme concentration events. In this case, the designation value for a site is simply the highest measured concentration during the specified three-year period, after excluding measurements affected by exceptional events or unusual concentration events.

D. OZONE

The State standard for ozone is a one-hour average concentration of 0.09 ppm, not to be exceeded. Based on data collected during 2000 through 2002, five areas qualify for a change in ozone designation. As summarized in Table 1, two areas qualify for redesignation as attainment, two areas qualify for redesignation as nonattainment, and one area qualifies for redesignation as nonattainment-transitional. Because the change from nonattainment to nonattainment-transitional for ozone occurs by operation of law, the change from ozone nonattainment-transitional back to nonattainment also occurs by operation of law. In contrast, a change from nonattainment-transitional to attainment for ozone requires Board action.

TABLE 1
Proposed Area Designations for the State Ozone Standard

| <i>Area</i> | <i>Current Designation</i> | <i>Proposed Designation</i> |
|--------------------------------|----------------------------|-----------------------------|
| San Luis Obispo County (SCCAB) | NA-T | A |
| Sonoma County (NCCAB) | NA-T | A |
| Butte County (SVAB) | NA-T | N* |
| North Central Coast Air Basin | NA-T | N* |
| Colusa County (SVAB) | N | NA-T* |

A = Attainment, NA-T = Nonattainment-Transitional, and N = Nonattainment,

* Change in designation occurs by operation of law.

1. Areas Redesignated as Attainment for Ozone

An attainment designation signifies clean and healthful air quality. The Board will redesignate an area as attainment for ozone if measured air quality data show that the State standard was not violated during the previous three calendar years. Furthermore, the air quality data must be representative of the averaging time of the standard, complete for the time period when high concentrations are likely to occur, and from a site expected to show high ozone concentrations.

The attainment designation is based on violations of the State standard. Exceedances identified as affected by highly irregular or infrequent events are not considered violations of the standard, and therefore, are excluded from the designation process. As a result, an area can have measured values that are above the level of the State standard and still be designated as attainment. Based on ozone data collected during 2000 through 2002, the staff proposes two areas be redesignated as attainment. The rationale for these redesignations is described below.

San Luis Obispo County (South Central Coast Air Basin)

San Luis Obispo County is located in the South Central Coast Air Basin (SCCAB). Currently, the County is designated as nonattainment-transitional for the State ozone standard. Consistent with requirements for the ozone nonattainment-transitional designation, San Luis Obispo County in the SCCAB coincides in area with the San Luis Obispo County Air Pollution Control District. The remaining portions of the SCCAB, Santa Barbara County and Ventura County, are designated as nonattainment.

During 2000 through 2002, six ozone monitoring sites were operating in San Luis Obispo County. During the three-year period, there were no measured exceedances of the State ozone standard. The ARB staff identified three County sites as high ozone sites: Paso Robles, Atascadero, and Morro Bay. Ozone data for Paso Robles and Atascadero are both representative and complete for all three years. However, data collected at Morro Bay are complete for 2001 and 2002, but not for 2000. During the month of August, 23 days are required for completeness (75 percent of 31 days). However, only 22 days are available for Morro Bay during August 2000. This is just shy of the required 23 days.

Because of one missing day, the August 2000 data record for Morro Bay does not meet the data completeness requirements set forth in the designation criteria. However, ARB staff conducted a very conservative analysis to determine whether there was a likelihood of ozone exceedances not only on one incomplete day, but on all nine of the incomplete August 2000 days. This included a review of the spatial ozone concentration patterns on each of the nine incomplete days during August 2000, as well as spatial ozone patterns on other days that exceeded the State ozone standard at Morro Bay. Based on a review of the ozone data, ARB staff concludes it was highly unlikely that ozone concentrations on the nine incomplete days exceeded the State ozone standard.

The nine incomplete days did not match the central California spatial patterns of widespread ozone exceedances on other days that exceeded the State ozone standard at Morro Bay. To the contrary, ARB staff found that ozone exceedances were limited to the San Joaquin Valley Air Basin (SJVAB) on eight of the nine days, with no exceedances on the remaining day. On four of these eight SJVAB exceedance days, exceedances were limited to the areas immediately downwind of Fresno and Bakersfield, while exceedances on the remaining four days were limited to the Fresno and Bakersfield urban and downwind areas. Moreover, the lack of high ozone concentrations at other sites in San Luis Obispo County, the North Central Coast Air Basin to the north, and Santa Barbara County to the south, indicate that an ozone exceedance at Morro Bay was highly unlikely on the nine incomplete days. Therefore, the ARB staff concludes that San Luis Obispo County did not have any ozone violations during the three-year period.

The designation value for San Luis Obispo County is 0.09 ppm for both the Paso Robles-Santa Fe Avenue and Atascadero-Lewis Avenue monitoring sites. This designation value does not exceed the State ozone standard. In designating an area smaller than an air basin as attainment for ozone, the Board must find that air quality in the smaller area is distinctly different from the rest of the air basin. San Luis Obispo County is separated from the other two counties in the SCCAB by mountains, and its air quality is more closely linked with that of the San Francisco Bay Area and San Joaquin Valley than that of Santa Barbara County or Ventura County (ARB, April 2001). Furthermore, because of the differences in topography and air quality, the three counties in the SCCAB are treated as separate planning areas. These factors indicate that the ozone air quality in San Luis Obispo County is distinctly different from that in the rest of the SCCAB. Therefore, the ARB staff proposes that San Luis Obispo County in the SCCAB be redesignated as attainment for the State ozone standard.

Sonoma County (North Coast Air Basin Portion)

Sonoma County is split between two air basins. The southern portion is located in the San Francisco Bay Area Air Basin and the northern portion is located in the North Coast Air Basin (NCAB). Currently, all of the NCAB is designated as attainment for the State ozone standard except the northern portion of Sonoma County, which is designated as nonattainment-transitional. Consistent with requirements for the ozone nonattainment-transitional designation, the northern portion of Sonoma County in the NCAB coincides in area with the Northern Sonoma County Air Pollution Control District. During 2000 through 2002, the only ozone monitor operating within northern Sonoma County was the Healdsburg-Municipal Airport site, which is considered a high concentration site. During the three-year period, the Healdsburg site did not measure any ozone exceedances. However, while data for 2000 and 2002 are both representative and complete, data are missing for 12 days during October 2001, thereby making the 2001 data incomplete.

Previous analyses indicate that all ozone violations measured at the Healdsburg site since 1996 were caused by the overwhelming transport of ozone or ozone precursor emissions from the San Francisco Bay Area Air Basin (ARB, March 2001). Additionally, staff found that ozone concentrations during the 12 missing days in October 2001 did not exceed the State standard in adjacent areas, including the San Francisco Bay Area Air Basin. Therefore, it is highly unlikely that sufficient ozone or ozone precursors could have been transported on these days to cause a State ozone violation at Healdsburg. Based on the data that are available, the highest measured concentrations at Healdsburg during the three-year period were concentrations of 0.09 ppm, measured during 2000 and 2001.

Based on these data, the staff concludes that northern Sonoma County did not have any ozone violations during the 2000 through 2002 time period, and proposes that the portion of Sonoma County in the NCAB be redesignated as attainment for ozone. This redesignation makes the entire NCAB attainment for the State ozone standard.

2. Areas Redesignated as Nonattainment for Ozone

The nonattainment designation signifies poor air quality. The Board will redesignate an area as nonattainment if air quality data for any site in the area show the State standard was violated at least once during the previous three calendar years. Because exceedances affected by highly irregular or infrequent events are not considered violations of the State standard, they are not used as a basis for redesignating an area as nonattainment. Based on data collected during 2000 through 2002, two areas qualify for redesignation as nonattainment for ozone. These redesignations are described in the following sections. Furthermore, because the areas are currently designated as nonattainment-transitional for ozone, the redesignation as nonattainment occurs by operation of law and does not require formal action by the Board.

Butte County (Sacramento Valley Air Basin)

Butte County is located in the Sacramento Valley Air Basin (SVAB). Currently, Butte County is designated as nonattainment-transitional for the State ozone standard. Glenn County is also designated as nonattainment-transitional, and the remainder of the SVAB is designated as nonattainment (*Note: although Colusa County is currently designated as nonattainment for ozone, the area qualifies for redesignation as nonattainment-transitional this year*).

During 2002, the Paradise-4405 Airport Road site had 17 exceedances of the State ozone standard. These exceedances ranged from 0.10 ppm to 0.11 ppm. The EPDC for the Paradise site is 0.10 ppm and is valid for the three-year period. When compared with the EPDC, four of the exceedances are excluded as extreme concentration events. However, the remaining 13 exceedances represent violations of the State ozone standard, and the designation value for the Paradise site is 0.10 ppm.

Similar to Paradise, the Chico-Manzanita Avenue site also had ozone violations. Four exceedances were measured at 0.10 ppm, which is above the level of the State standard. The EPDC for the Chico site is 0.10 ppm. Because none of the exceedances are higher than the EPDC, none are excluded and they are all considered violations of the State ozone standard. The designation value for the Chico site is 0.10 ppm.

Based on the violations at these two sites, Butte County in the SVAB no longer qualifies as nonattainment-transitional. Therefore, the area is redesignated as nonattainment for the State ozone standard by operation of law.

North Central Coast Air Basin

The North Central Coast Air Basin (NCCAB) is comprised of Monterey County, San Benito County, and Santa Cruz County. This three-county area comprises the Monterey Bay Unified Air Pollution Control District, and is currently designated as nonattainment-transitional for the State ozone standard.

During 2002, data for the Hollister-Fairview Road site showed four days with maximum 1-hour ozone concentrations exceeding the State standard. The exceedances on all four days were 0.10 ppm. The 2002 EPDC for the Hollister-Fairview Road site is also 0.10 ppm and is valid. Because the exceedances are not higher than the EPDC value, they are not excluded as extreme concentration events, and therefore, are considered violations of the State ozone standard.

During 2002, exceedances were also measured at the Pinnacles National Monument site. The Pinnacles data showed seven ozone exceedances. The concentrations on these seven days were 0.12 ppm, 0.11 ppm, and five measurements of 0.10 ppm. The EPDC for the Pinnacles site is valid and is 0.10 ppm. The two highest exceedances, 0.12 ppm and 0.11 ppm are excluded as extreme concentration events because they are higher than the EPDC value. However, the remaining five exceedances are not excluded and are considered violations of the State ozone standard. Therefore, 0.10 ppm becomes the designation value for the Pinnacles site.

The ozone nonattainment-transitional designation requires three or fewer exceedances at each site in the area during the most recent calendar year. Ozone data for both Hollister-Fairview Road and Pinnacles National Monument show more than three exceedances during 2002. As a result, the NCCAB no longer qualifies as nonattainment-transitional for ozone, and the NCCAB is redesignated as nonattainment for the State ozone standard by operation of law.

3. Area Redesignated as Nonattainment-Transitional for Ozone

Nonattainment-transitional is a subcategory of nonattainment. Under H&SC section 40925.5(a), the ozone nonattainment-transitional designation is made by operation

of law. Specifically, the entire nonattainment district (or entire portion of a district within an air basin) is designated as nonattainment-transitional if air quality data show that the State ozone standard was exceeded three or fewer times at each of the sites in the area during the most recent calendar year. In determining the ozone nonattainment-transitional designation, all exceedances are counted, regardless of whether the exceedance was affected by a highly irregular or infrequent event.

Although the nonattainment-transitional designations for ozone are made by operation of law, section 70303.5 of the designation criteria sets forth guidelines for the Board to use in evaluating whether an area satisfies the requirements of H&SC section 40925.5(a). Because the nonattainment-transitional designation is based on data from only one year, it can be unstable due to year-to-year changes in meteorology. To provide more stability, the guidelines in the designation criteria allow for a review of 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 area remains designated as nonattainment.

Colusa County (Sacramento Valley Air Basin)

Colusa County is located in the Sacramento Valley Air Basin (SVAB) and is currently designated as nonattainment for ozone. Furthermore, the County boundary coincides with the boundary of the Colusa County Air Pollution Control District. The remainder of the SVAB is also designated as nonattainment for ozone, with the exception of Butte County, which is designated as nonattainment-transitional (*Note: although Butte County is currently designated as nonattainment-transitional for ozone, the area qualifies for redesignation as nonattainment this year*).

During 2000 through 2002, ozone data are available for the Colusa-Sunrise Boulevard site. Ozone data collected during 2000 and 2001 show a number of exceedances of the State ozone standard. However, no exceedances were measured during 2002. The highest measured ozone concentration during 2002 was 0.09 ppm, and data for the year are both representative and complete. Furthermore, a review of preliminary data available for 2003 (January through October) also shows no exceedances of the State standard. Based on all the relevant data, Colusa County qualifies for redesignation as nonattainment-transitional for ozone by operation of law.

E. CARBON MONOXIDE

There are three State carbon monoxide (CO) standards: a 1-hour standard of 20 ppm, an 8-hour standard of 6.0 ppm that applies only in the Lake Tahoe Air Basin (LTAB), and an 8-hour standard of 9.0 ppm that applies in all other areas of the State. The 8-hour LTAB standard is not to be exceeded while the remaining two standards are not to be equaled or exceeded. Most areas of California are designated as attainment for the State CO

standards. However, two areas, the City of Calexico in Imperial County (Salton Sea Air Basin) and Los Angeles County (South Coast Air Basin portion) are still designated as nonattainment.

The designation criteria allow the Board to designate an area of the State as nonattainment-transitional for CO if air quality data show that the State standards were violated two or fewer times at each site in the area during the latest calendar year (note that exceedances affected by highly irregular or infrequent events are not considered violations of the State standard). In addition, an evaluation of recent air quality, meteorological, and emission data must show that CO air quality in the area has either stabilized or is improving. Finally, each site in the area must be expected to reach attainment within three years.

1. Area Redesignated as Nonattainment-Transitional for CO

Los Angeles County (South Coast Air Basin Portion)

The southwestern two-thirds of Los Angeles County is located in the South Coast Air Basin (SoCAB). Currently, this area is designated as nonattainment for the State CO standards. The remainder of the SoCAB is designated as attainment.

Based on data collected during 2002, the Los Angeles County portion of the SoCAB qualifies for redesignation as nonattainment-transitional. The 1-hour State CO standard has not been exceeded anywhere in the SoCAB since 1996. The maximum 1-hour concentration in the Los Angeles County portion of the Air Basin during 2002 was 15.8 ppm, which is below the level of the State 1-hour standard.

Although the 8-hour CO standard is still exceeded occasionally, there were no exceedances during 2002 at any monitoring site in the SoCAB except Lynwood, in Los Angeles County. Historically, the Lynwood site has shown the highest CO concentrations in the SoCAB. During 2002, the highest 8-hour average CO concentration at Lynwood was 10.1 ppm. All other 8-hour averages were below the level of the applicable State 8-hour standard. Furthermore, the 2002 CO data for Lynwood are both representative and complete.

As described earlier, the nonattainment-transitional designation for pollutants other than ozone is based not only on current air quality data, but also on an evaluation of air quality and emission trends. These data must show that CO air quality in the area has either stabilized or is improving. In addition, each site in the area must be expected to reach attainment within three years. The following paragraphs summarize the analysis for the SoCAB portion of Los Angeles County.

Over the last two decades, the Lynwood site has shown substantial reductions in 8-hour average CO concentrations. The maximum 8-hour concentration during 1985 was 27.7 ppm, compared with a maximum of 10.1 ppm during 2002. This represents an overall

reduction of about 63 percent. CO emission trends track the air quality trends. However, emissions show a slightly higher rate of reduction—68 percent reduction in emissions from 1985 to 2002.

As part of their 2003 South Coast Air Basin Air Quality Management Plan, the South Coast Air Quality Management District (SCAQMD) completed a simulation analysis to show attainment of the State and national CO standards. The SCAQMD projected future-year air quality using computer simulations for a 3-day fall meteorological episode. The 1-hour (19.0 ppm) and 8-hour (17.0 ppm) average CO concentrations during the October 31 through November 1, 1997, episode were the highest recorded in the SoCAB since 1996. The model's predicted 8-hour average concentration for 2002 closely matched the maximum concentration measured that year at Lynwood.

Table 2 shows the estimated carbon monoxide emission levels and predicted concentrations for 2002, 2003, 2004, and 2005. As mentioned above, the 2002 predicted 8-hour maximum concentration closely matches the maximum 8-hour concentration measured at Lynwood during 2002 (10.1 ppm). On-road CO emissions from motor vehicles are the primary contributors to high CO concentrations in the SoCAB. These emissions are projected to decrease by an average of 7 percent per year in 2003 through 2006. Total CO emissions are projected to decrease at a similar rate—approximately 6 percent per year during the same timeframe. Using a linear rollback technique, the SCAQMD predicts the maximum 8-hour CO concentration will be reduced to 9.1 ppm in 2003 and 8.4 ppm in 2004. Neither of these values exceed the State 8-hour CO standard, and therefore, show attainment within the 3-year timeframe required for the CO nonattainment-transitional designation. Furthermore, 1-hour CO concentrations are predicted to remain well below the level of the State 1-hour standard. Continued reductions in CO emissions should ensure continued maintenance of the State CO standards.

TABLE 2
Carbon Monoxide Emissions
and Predicted Maximum Concentrations for Lynwood*

| Year/Scenario | CO Planning Inventory Emissions (tons/day) | 8-Hour Maximum Concentration (ppm) | 1-Hour Maximum Concentration (ppm) |
|----------------------|---|---|---|
| 1997 Baseline | 6460 | 14.9 | 16.7 |
| 2002 Baseline | 4835 | 9.9 | 10.8 |
| 2003 Predicted | 4527 | 9.1 | 9.9 |
| 2004 Predicted | 4278 | 8.4 | 9.2 |
| 2005 Predicted | 4029 | 7.8 | 8.5 |

*Source: Final 2003 Air Quality Management Plan (Chapter 5: Future Air Quality); South Coast Air Quality Management District (2003).

Based on current air quality data and projected attainment within the next three years, the ARB staff proposes that the Los Angeles County portion of the South Coast Air Basin be

redesignated as nonattainment-transitional for the State CO standards.

F. SULFATES

The State sulfates standard is a 24-hour average concentration of 25 $\mu\text{g}/\text{m}^3$. This concentration is not to be equaled or exceeded. In June 2002, the Board revised the measurement method for the State sulfates standard. While the level of the State sulfates standard was maintained at 25 $\mu\text{g}/\text{m}^3$, the measurement method was changed from one based on total suspended particulate matter or TSP, to one based on PM10. The revised method became effective in July 2003.

The designation criteria specify two ways in which an area may be designated as attainment for the State sulfates standard. The first way is based on measured air quality data. An area is designated as attainment if measured concentrations do not show any violation of the State sulfates standard during the most recent three calendar years. The second way is based on the *Screening Procedure for Determining Attainment Designations for Areas with Incomplete Air Quality Data* (Screening Procedure) contained in Appendix 4 to the designation criteria.

The Board adopted the Screening Procedure as a tool for use when measured air quality data are either not available or not representative and complete. The Screening Procedure applies only to nitrogen dioxide, sulfur dioxide, sulfates, and lead and provides a conservative approach for designating areas as attainment for these four pollutants. The Screening Procedure specifies several limits or screening values for each of the four pollutants. If the values for a local area are below the level of the screening values, the Board may designate the area as attainment. The screening values for sulfates are listed below:

| | |
|--|-------------------------|
| <i>Total Annual Sulfur Oxides (SO_x) Emissions in Air Basin:</i> | <i>19,000 tons/year</i> |
| <i>Total Annual Point Source SO_x Emissions in County:</i> | <i>1,700 tons/year</i> |
| <i>Max Annual SO_x Emissions from Single Source in County:</i> | <i>900 tons/year</i> |

Because of the change in the sulfates measurement method, the staff evaluated data for all areas of the State to determine if any changes in designation were appropriate. This evaluation indicated a need to redesignate one area as attainment. All other areas of the State will maintain their current area designation, based on either sulfates air quality data or the Screening Procedure.

1. Area Redesignated as Attainment for Sulfates

**Searles Valley Planning Area Portion of San Bernardino County
(Mojave Desert Air Basin)**

The Searles Valley Planning Area (Searles Valley) is located in the northeastern corner of San Bernardino County and is part of the Mojave Desert Air Basin (MDAB). The Searles Valley portion of San Bernardino County is currently designated as nonattainment for the State sulfates standard. The remainder of the MDAB is designated as attainment.

The Board designated the Searles Valley portion of San Bernardino County as nonattainment for the State sulfates standard in 1991. This designation was based on data collected during 1990. These data showed four violations of the sulfates standard (one measurement of 29 $\mu\text{g}/\text{m}^3$ and three measurements of 28 $\mu\text{g}/\text{m}^3$). The Board reaffirmed the nonattainment designation in 1996, when the Mojave Desert Air Basin and Salton Sea Air Basin were created from the former Southeast Desert Air Basin. The maximum concentration for the 1993 through 1995 review period was 50 $\mu\text{g}/\text{m}^3$. This concentration was measured at the Trona-Athol monitoring site, which replaced the Trona-Market site. At that time, analyses showed that the Trona-Athol site did not measure concentrations as high as the Trona-Market site. Therefore, the Board's Executive Officer did not identify Trona-Athol as an equivalent site. Under the designation criteria, an area may not be redesignated as attainment based on air quality data, if the site with the highest concentrations has closed or been relocated, and there is no equivalent replacement site. As a result, the Searles Valley portion of San Bernardino County has remained designated as nonattainment for the State sulfates standard.

As part of the review of the State sulfates designations, the ARB staff reevaluated the Searles Valley situation. Since no PM10 sulfates data are available for the Searles Valley portion of San Bernardino County, the ARB staff evaluated the most current emissions estimates for the area, under the provisions of the Screening Procedure. The results of this evaluation are shown below.

| | |
|--|------------------------|
| <i>Total Annual Sulfur Oxides (SO_x) Emissions in Air Basin:</i> | <i>3,435 tons/year</i> |
| <i>Total Annual Point Source SO_x Emissions in County:</i> | <i>1,234 tons/year</i> |
| <i>Max Annual SO_x Emissions from Single Source in County:</i> | <i>427 tons/year</i> |

Comparison of these values with the screening values for sulfates indicates that the Searles Valley portion of San Bernardino County now qualifies as attainment. Therefore, the ARB staff proposes the Searles Valley portion of San Bernardino County in the MDAB be redesignated as attainment for sulfates. This area will be included with the remaining portions of the MDAB as a single attainment area for the State sulfates standard.

2. Confirmation of Sulfates Designations Based on Air Quality Data

San Francisco Bay Area Air Basin

During 2000 through 2002, PM10 sulfates data are available for 13 sites in the

San Francisco Bay Area Air Basin (SFBAAB). The site with the highest measured concentrations was Fremont-Chapel Way. Data for this site are representative and complete only for the year 2000, when the maximum 24-hour average concentration was $10 \mu\text{g}/\text{m}^3$. Under the Criteria for Determining Data Completeness in Appendix 2 to the designation criteria, an area may be designated as attainment with only one year of data if the air quality data meet certain conditions. Specifically, the data for the year must be representative and complete, and the maximum concentration (not including exceedances affected by highly irregular or infrequent events) must be less than one-half the level of the State standard. The maximum value of $10 \mu\text{g}/\text{m}^3$ measured at the Fremont-Chapel Way site is less than one-half the State sulfates standard of $25 \mu\text{g}/\text{m}^3$, even before excluding any values as highly irregular or infrequent events. Therefore, the ARB staff proposes the SFBAAB remain designated as attainment for the State sulfates standard.

San Joaquin Valley Air Basin

During 2000 through 2002, PM10 sulfates data are available for 11 sites in the San Joaquin Valley Air Basin (SJVAB). The Taft College site measured the highest concentration. Similar to the previous discussion, data for the Taft College site are representative and complete only for the year 2000, and the maximum measured sulfates concentration during that year was $8 \mu\text{g}/\text{m}^3$. Since this value is less than one-half the level of the State sulfates standard, the SJVAB satisfies the requirements for attainment. As a result, the ARB staff proposes the SJVAB remain designated as attainment for the State sulfates standard.

South Central Coast Air Basin

PM10 sulfates data were collected at four sites in the South Central Coast Air Basin (SCCAB) during 2000 through 2002. The maximum concentrations occurred at the Simi Valley-Cochran Street site. The highest 24-hour average sulfates value during the three-year period was $12 \mu\text{g}/\text{m}^3$, measured during the year 2000. Data for this year are both representative and complete under the requirements of the designation criteria. Furthermore, since the maximum measured concentration is less than one-half the level of the State standard, the area qualifies as attainment, based on one year of data. Therefore, the ARB staff proposes the SCCAB remain designated as attainment for the State sulfates standard.

South Coast Air Basin

During 2000 through 2002, PM10 sulfates concentrations were measured at 19 sites in the South Coast Air Basin (SoCAB). The site with the highest measured concentrations was the Hawthorne site in Los Angeles County. While data were collected at Hawthorne during all three years, the sulfates data are representative and complete only for two years: 2000 and 2002. During the year 2000, the maximum 24-hour average concentration was $16 \mu\text{g}/\text{m}^3$, and during 2002, the maximum concentration was $18 \mu\text{g}/\text{m}^3$. Under the Criteria for

Determining Data Completeness in Appendix 2 to the designation criteria, an area may be designated as attainment with only two years of data if data for both years are representative and complete, and the maximum concentration (not including exceedances affected by highly irregular or infrequent events) is less than three-fourths the level of the State standard. Three-fourths the level of the State sulfates standard is $18.75 \mu\text{g}/\text{m}^3$, which becomes $19 \mu\text{g}/\text{m}^3$ when it is rounded to the precision of the State sulfates standard. Since both of the maximum values measured at the Hawthorne site are less than $19 \mu\text{g}/\text{m}^3$, the area qualifies as attainment for sulfates based on two years of data. Therefore, the ARB staff proposes the SoCAB remain designated as attainment for the State sulfates standard.

3. Confirmation of Sulfates Designations Based on Screening Procedure

The remaining areas of the State all qualify as attainment based on the Screening Procedure for sulfates set forth in Appendix 4 to the designation criteria. The screening values established in the Screening Procedure are shown in Table 3, along with the screening values for each local area (air basin). Based on these data, the ARB staff proposes these areas remain designated as attainment for the State sulfates standard.

TABLE 3
Comparison of Screening Procedure Limits
and Local Screening Values for Sulfates

| SCREENING PROCEDURE LIMITS | | | |
|---|---|---|---|
| | Total Annual SO _x Emissions in Air Basin | Total Annual Point Source SO _x Emissions in County | Maximum Annual SO _x Emissions from Single Facility in County |
| | 19,000 tons/year | 1,700 tons/year | 900 tons/year |
| VALUES FOR LOCAL AREAS (AIR BASINS)* | | | |
| Great Basin Valleys AB | 252 tons/year | 226 tons/year | 123 tons/year |
| Lake County AB | 161 tons/year | 95 tons/year | 14 tons/year |
| Lake Tahoe AB | 44 tons/year | 4 tons/year | 4 tons/year |
| Mountain Counties AB | 774 tons/year | 387 tons/year | 67 tons/year |
| Northeast Plateau AB | 332 tons/year | 47 tons/year | 22 tons/year |
| North Central Coast AB | 1007 tons/year | 704 tons/year | 442 tons/year |
| North Coast AB | 821 tons/year | 398 tons/year | 148 tons/year |
| San Diego AB | 2741 tons/year | 358 tons/year | 122 tons/year |
| Sacramento Valley AB | 1945 tons/year | 843 tons/year | 216 tons/year |
| Salton Sea AB | 434 tons/year | 77 tons/year | 24 tons/year |

* All SO_x emissions estimates are based on the ARB 2002 Emission Inventory database (Almanac version).

G. PARTICULATE MATTER

1. Introduction

In 1982, the Board adopted State standards for PM10: a 24-hour standard of 50 $\mu\text{g}/\text{m}^3$ and an annual average standard of 30 $\mu\text{g}/\text{m}^3$. The Children's Environmental Health Protection Act (Senate Bill 25, Escutia, 1999) required review of the State PM10 standards for their ability to adequately protect public health, including that of infants and children. The review also included an evaluation of PM2.5. As a result of this review, the Board established in June 2002, a new State annual standard for PM2.5 of 12 $\mu\text{g}/\text{m}^3$ and lowered the level of the annual PM10 standard to 20 $\mu\text{g}/\text{m}^3$. In addition, the ARB revised the averaging method for the State annual PM10 standard from an annual geometric mean to an annual arithmetic mean. The annual arithmetic mean also applies to the State PM2.5 standard. These State standards became effective July 5, 2003. The Board also approved a list of PM10 and PM2.5 samplers. These approved samplers include continuous monitors for use in determining compliance with the State PM standards.

Table 4 presents a summary of the proposed area designations for the State PM10 and PM2.5 standards, including the proposed area designation boundaries. For each area, Table 4 lists the designation value (DV) for the relevant standard (annual PM2.5, 24-hour PM10, and annual PM10), the proposed area designation for the State PM2.5 standard, the designation status for the 24-hour and annual State PM10 standards, and the proposed area designation for PM10. The area designation for PM10 is based on the designation status for either the State 24-hour or annual standard. A nonattainment designation for either State PM10 standard triggers an overall nonattainment designation for the area. Discussions of the proposed area designations for both PM10 and PM2.5 follow the table.

In addition, the procedure used in making the area designations for the new State PM2.5 and revised State PM10 standards is included as Attachment E to this staff report.

The area designation criteria (CCR, title 17, section 70302) specify that the geographic extent of the area designated for PM10 and PM2.5 will be an air basin. However, these criteria allow the State to consider factors such as air quality data, meteorology, topography, or the distribution of population or emissions in determining areas smaller than an air basin. In determining appropriate boundaries for the PM designated areas, the ARB staff considered geography and meteorology, the extent of urban areas, transportation corridors, the location of emission sources, and existing political jurisdictions. Where the proposed designation area is smaller than an air basin, the specific reasons are noted.

TABLE 4
2003 Proposed Area Designations for State Particulate Matter Standards¹

| Air Basin | PM2.5 | | | PM10 | | | | | |
|--|--|---|--------------------------------------|---|--|---------------------|---|---------------------|--------------------------------------|
| | Area Included | Annual (Std = 12 µg/m ³) | | Area Included | 24 Hour (Std = 50 µg/m ³) | | Annual (Std = 20 µg/m ³) | | Proposed Designation ⁶ |
| | | DV ² | Proposed Designation ³ | | DV | Status ⁴ | DV | Status ⁵ | |
| Great Basin Valleys | Entire air basin | | U | Entire air basin | 6505 | N | 139 | N | N |
| Lake County | Entire air basin | 6 | A | Entire air basin | 30 | A | 13 | A | A |
| Lake Tahoe | Entire air basin | | U | Entire air basin | 58 | N | | U | N |
| Mojave Desert | Central San Bernardino (portion of San Bernardino County within the federal Modified AQMA for ozone) | 14 | N | Entire air basin | 98 | N | 34 | N | N |
| | Remainder (portions of Kern, Los Angeles, and Riverside counties within air basin) | | U | | | | | | |
| Mountain Counties | Plumas County - Portola Valley - Remainder of County | 13 | N U | Plumas County | 73 | N | | U | N |
| | Remainder (Amador, Calaveras, Mariposa, Nevada, Sierra, Tuolumne counties, and portions of El Dorado and Placer County within air basin) | | U | Amador County | | U | | U | U |
| | | | | Calaveras County | 44 | N ⁷ | 21 | N | N |
| | | | | El Dorado County (portion within air basin) | 47 | N ⁸ | | U | N |
| Mariposa County - Yosemite National Park - Remainder of County | | | 154 | N U | 30 | N U | N U | | |

TABLE 4 (continued)
2003 Proposed Area Designations for State Particulate Matter Standards¹

| Air Basin | PM2.5 | | | PM10 | | | | | |
|-------------------------------------|--|---|--------------------------------------|---|--|---------------------|---|---------------------|--------------------------------------|
| | Area Included | Annual (Std = 12 µg/m ³) | | Area Included | 24 Hour (Std = 50 µg/m ³) | | Annual (Std = 20 µg/m ³) | | Proposed Designation ⁶ |
| | | DV ² | Proposed Designation ³ | | DV | Status ⁴ | DV | Status ⁵ | |
| Mountain Counties (continued) | | | | Nevada County | 92 ⁹ | N | | U | N |
| | | | | Placer County (portion within air basin) | 86 ¹⁰ | N | | U | N |
| | | | | Sierra County | 68 ¹¹ | N | | U | N |
| | | | | Tuolumne County | | U | | U | U |
| North Central Coast | Entire air basin | | U | Entire air basin | 77 | N | 31 | N | N |
| North Coast | Entire air basin | | U | Entire air basin | 73 | N | 25 | N | N |
| Northeast Plateau | Entire air basin | | U | Entire air basin | 69 | N | | U | N |
| Sacramento Valley | Butte County | 16 | N | Entire air basin | 105 | N | 32 | N | N |
| | Sacramento County | 13 | N | | | | | | |
| | Placer County (portion within air basin) | 13 | N | | | | | | |
| | Remainder (Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba; portion of Solano within air basin) | | U | | | | | | |
| Salton Sea | Imperial County - Calexico - Remainder of County | 15 | N U | Entire air basin | 373 | N | 87 | N | N |

TABLE 4 (continued)
2003 Proposed Area Designations for State Particulate Matter Standards¹

| Air Basin | PM2.5 | | | PM10 | | | | | |
|------------------------------|--|---|--------------------------------------|--|--|---------------------|---|---------------------|--------------------------------------|
| | Area Included | Annual (Std = 12 µg/m ³) | | Area Included | 24 Hour (Std = 50 µg/m ³) | | Annual (Std = 20 µg/m ³) | | Proposed Designation ⁶ |
| | | DV ² | Proposed Designation ³ | | DV | Status ⁴ | DV | Status ⁵ | |
| Salton Sea (continued) | Remainder (portion of Riverside County within air basin) | | U | | | | | | |
| San Diego | Entire air basin | 16 | N | Entire air basin | 139 | N | 52 | N | N |
| San Francisco Bay Area | Entire air basin | 14 | N | Entire air basin | 85 | N | 30 | N | N |
| San Joaquin Valley | Entire air basin | 24 | N | Entire air basin | 205 | N | 60 | N | N |
| South Central Coast | Ventura County (including Anacapa and San Nicolas islands) | 15 | N | Entire air basin (including Anacapa, San Nicolas, San Miguel, Santa Barbara, Santa Cruz, and Santa Rosa islands) | 178 | N | 31 | N | N |
| | Remainder (San Luis Obispo and Santa Barbara Counties, including San Miguel, Santa Barbara, Santa Cruz, and Santa Rosa islands) | | U | | | | | | |
| South Coast | Entire air basin (including San Clemente and Santa Catalina islands) | 26 | N | Entire air basin (including San Clemente and Santa Catalina islands) | 139 | N | 63 | N | N |

Footnotes for Table 4

1. Designation Categories: A = Attainment; N = Nonattainment; U = Unclassified
2. DV = Designation Value. The DV for the State 24-hour PM10 standard is the highest concentration during the previous three calendar years that is not excluded as a highly irregular or infrequent event. For the State annual PM10 and PM2.5 standards, the DV is the highest calculated annual average concentration during the previous three calendar years.
3. If the designation value for the annual PM2.5 standard is $12 \mu\text{g}/\text{m}^3$ or less = A; if $13 \mu\text{g}/\text{m}^3$ or greater = N
4. If the designation value for the 24-hour PM10 standard is $50 \mu\text{g}/\text{m}^3$ or less = A; if $51 \mu\text{g}/\text{m}^3$ or greater = N
5. If the designation value for the annual PM10 standard is $20 \mu\text{g}/\text{m}^3$ or less = A; if $21 \mu\text{g}/\text{m}^3$ or greater = N
6. An area is designated nonattainment if either the 24-hour or the annual PM10 standards are not attained. All State PM10 area designations remain unchanged from last year.
7. As pointed out in the 1999 review of area designations, the only monitor in Calaveras County does not represent population exposure, and therefore, the previous nonattainment status for the 24-hour PM10 standard is maintained.
8. As pointed out in the 1999 review of area designations, the only monitor in El Dorado County does not reflect or measure the impact of any PM10 sources in the area, and therefore the previous nonattainment status for the 24-hour PM10 standard is maintained.
9. Designation value for 2000; since no more recent data are available the previous nonattainment status is maintained.
10. Designation value for 1997; since no more recent data are available nonattainment status is maintained.
11. Designation value for 2000; since no more recent data are available nonattainment status is maintained.

2. *Suspended Particulate Matter (PM10)*

Based on air quality data collected during 2000 through 2002, the ARB staff does not propose any changes to the existing area designations for the State PM10 standards. As shown in Table 4 and in Attachment C to this staff report, most of California remains designated as nonattainment for this pollutant. The Lake County Air Basin remains the only area of the State to attain both the 24-hour and annual PM10 standards. Thirteen air basins, six counties in the Mountain Counties Air Basin (MCAB), and the Yosemite National Park (Yosemite) area in Mariposa County do not attain the State 24-hour PM10 standard. In addition, eleven of the State's thirteen air basins, Calaveras County in the MCAB, and Yosemite also do not attain the revised State annual PM10 standard. As a result, all of the existing PM10 nonattainment areas remain designated as nonattainment.

In reviewing the area designations for PM10, ARB staff retained the existing boundaries for the PM10 attainment and nonattainment areas. The designated areas are primarily air basins, with exceptions in the MCAB, where counties and the Yosemite area comprise smaller nonattainment areas. As described in the 1989 area designation staff report (ARB, April 1989), the split of the MCAB is based on the distinct effects that possible pollutant transport from the Sacramento and San Joaquin valleys may have on the western portions of many of the MCAB counties. These effects are due in part to the topography and meteorology of the MCAB area. The Yosemite area is a distinct nonattainment area based on supplemental air quality data and unique topography and meteorology, as noted in the revision to the 1989 area designation staff report (ARB, June 1989).

3. *Fine Suspended Particulate Matter (PM2.5)*

The installation of federally-approved PM2.5 mass monitors at 81 sites throughout the State began in 1998 and was completed in 2000. Due to performance limitations in California's environment, we replaced samplers with a different brand of federally-approved monitor in 2002. As a result, the PM2.5 data available for a number of sites do not meet the representativeness and/or completeness criteria required for attainment and nonattainment designations. Consequently, many areas are designated as unclassified. However, the ARB will continue to evaluate data from sites in these areas as they become available.

As shown in Table 4 and in Attachment C to this staff report, ARB staff proposes approximately half of California be designated as nonattainment for the new State annual PM2.5 standard, with Lake County Air Basin as the only attainment area. The proposed nonattainment areas include four air basins (San Diego, San Francisco Bay Area, San Joaquin Valley, and South Coast), three additional counties (Butte, Sacramento, and Ventura), the portion of Placer County within the Sacramento Valley Air Basin, the central portion of San Bernardino County, the city of Calexico in

Imperial County, and the Portola Valley area of Plumas County. Adequate PM2.5 data are not yet available for the remaining areas in the State. ARB staff proposes these areas be designated as unclassified.

In proposing the area designations for PM2.5, ARB staff used air basin boundaries, where appropriate. We propose smaller areas within the air basin when significant differences among the areas exist. Differences may include topography, the extent of urban areas, transportation corridors, and the location of emission sources. Proposed boundaries are based on county, district, or city boundaries, pre-existing State and federal nonattainment area boundaries for related pollutants (for example, ozone or PM10), or distinct geographic features. The boundaries and justification for the proposed State PM2.5 area designations are described in the following sections.

Great Basin Valleys Air Basin

Limited PM2.5 data for the most recent three years are available from three monitors at two sites in the Great Basin Valleys Air Basin (GBVAB). Since the data do not meet the representativeness or completeness criteria, ARB staff proposes the GBVAB be designated as unclassified for the State PM2.5 standard.

Lake County Air Basin

PM2.5 data from the only monitoring site in Lake County Air Basin (LCAB) meet the representativeness and completeness criteria required for an attainment designation, with a designation value of 6 $\mu\text{g}/\text{m}^3$. As a result, ARB staff proposes that LCAB be designated as attainment for the State PM2.5 standard.

Lake Tahoe Air Basin

The limited PM2.5 data available from three monitors at the two sites in the Lake Tahoe Air Basin (LTAB) do not meet either the representativeness or the completeness criteria. ARB staff therefore proposes that LTAB be designated as unclassified for the State PM2.5 standard.

Mojave Desert Air Basin

The Mojave Desert Air Basin (MDAB) is the largest air basin in California, comprising nearly 26,000 square miles and covering most of California's high desert. It includes portions of four counties: Kern, Los Angeles, Riverside, and San Bernardino. Only two percent of California's population lives in this air basin, mostly concentrated in the Los Angeles County portion of the MDAB and the southwestern edge of the San Bernardino County portion of the MDAB.

In the San Bernardino County portion of MDAB, total emissions of PM2.5 and PM2.5

precursors are close to four times the emissions in the Los Angeles County portion of

MDAB and more than fifteen times the emissions in the Riverside County portion of MDAB. Available PM_{2.5} air quality data show that the San Bernardino County portion of MDAB exceeds the State PM_{2.5} standard. Although PM_{2.5} data for the Los Angeles County portion of MDAB and the Kern County portion of MDAB do not meet the representative and completeness criteria needed to support an attainment designation, the available data indicate that on an annual average basis, PM_{2.5} concentrations tend to be significantly below the level of the State standard. Based on these factors, ARB staff proposes that sub-areas within the MDAB be designated as indicated below. In addition, pursuant to section 70302 of the designation criteria, ARB staff proposes that contiguous areas that would have the same designation within an air basin be one designated area.

Nonattainment Area: San Bernardino County Portion of the Federal Southeast Desert Modified AQMA

PM_{2.5} data are available from two monitors at one site in Victorville, which is located in the southwestern corner of the San Bernardino County portion of MDAB. These data, with a peak annual average PM_{2.5} concentration of 14 µg/m³, would support a nonattainment designation for the County. However, due to the concentration of emission sources in the southwestern portion of the MDAB and the nature of common precursors between ozone and PM_{2.5}, the Mojave Desert Air Quality Management District (MDAQMD) requested that the nonattainment area for PM_{2.5} be limited to the portion of San Bernardino County within the federal Southeast Desert Modified Air Quality Management Area for ozone (federal ozone AQMA). The MDAQMD also provided two years of PM_{2.5} data the District collected for the Marine Corps Air Ground Combat Center in Twentynine Palms. The data show very low PM_{2.5} levels throughout the year, with annual average PM_{2.5} concentrations of 6 µg/m³. Twentynine Palms is located within the federal ozone AQMA, close to the southeastern boundary of this area. Therefore, we do not expect areas east of the federal ozone AQMA boundary to exceed the State PM_{2.5} standard. No PM_{2.5} data are available to indicate how far to the north the nonattainment area boundary should be drawn. However, the medium-sized city of Barstow, with two interstate highways and a total population comparable to the city of Twentynine Palms, contributes PM_{2.5} and PM_{2.5} precursor emissions to the region. Therefore, this area should be included within the nonattainment area.

Based on this information, ARB staff proposes that the portion of San Bernardino County within the federal Southeast Desert Modified AQMA for ozone be designated as nonattainment for the State PM_{2.5} standard. The boundaries for the proposed nonattainment area are described in the Code of Federal Regulations, Title 40, Chapter 7, Part 81, Section 81.305. Because this is a non-county area, the ARB staff proposes to include the description of the federal Southeast Desert Modified AQMA for ozone within the area designation regulations as CCR, title 17, section 60200(b).

Unclassified Areas: Remainder of the San Bernardino County Portion of the MDAB and the Kern, Los Angeles, and Riverside County Portions of the MDAB

Limited PM_{2.5} data for the last three years are available for one monitor at each of the two sites in the Kern County portion of the MDAB and one monitor at each of the two sites in the Los Angeles County portion of the MDAB. These PM_{2.5} data do not meet the representativeness or completeness criteria to support an attainment designation. Also, no monitoring data are available for the remainder of San Bernardino County within the MDAB or the Riverside County portion of MDAB. Hence, ARB staff proposes that the remainder of San Bernardino County within MDAB and the portions of Kern, Los Angeles, and Riverside counties within MDAB be designated as unclassified for the State PM_{2.5} standard.

Mountain Counties Air Basin

In designating areas for PM_{2.5} in the Mountain Counties Air Basin (MCAB), we propose retaining the same boundaries as the existing PM₁₀ areas, where counties constitute smaller designation areas. However, there are some isolated valleys with distinct microclimates, with meteorology and air quality that are not representative of an entire county. ARB staff therefore proposes that sub-areas within the MCAB be designated as indicated below. In addition, pursuant to area designation criteria in CCR, title 17, section 70302, ARB staff proposes that contiguous areas that would have the same designation within an air basin be one designated area.

Nonattainment Area: Portola Valley (Plumas County)

PM_{2.5} data were obtained from two monitors located at Portola and Quincy in Plumas County. Data available from these monitors do not meet the representativeness or completeness criteria. The Portola monitor however, was missing only a few data points. Therefore, by substituting the missing PM_{2.5} concentrations in 2001 with a concentration of 0 µg/m³, we calculated an annual PM_{2.5} concentration of 13 µg/m³ for the Portola monitor. Hence, Portola would be nonattainment. Available PM_{2.5} data from the Quincy monitor show that PM_{2.5} concentrations in Quincy are consistently lower than the concentrations in Portola, especially during winter, which is the season of peak PM_{2.5} concentrations in Plumas County. Hence, the Quincy monitor is not expected to exceed the State PM_{2.5} standard.

The Northern Sierra Air Quality Management District (NSAQMD) requested that the nonattainment area in Plumas County be limited to the city of Portola. Portola and Quincy are each located in small and isolated valleys at approximately 5,000 feet elevation that appear to be representative of microenvironments. During the winter season, wood burning in woodstoves and fireplaces contributes significantly to the high PM_{2.5} concentrations measured at Portola.

ARB staff evaluated the topography, meteorology, and population distribution in the area surrounding Portola. Portola is situated in an area comprised of the Humbug and Mohawk Valleys that are geographically isolated from the remainder of Plumas County. However, there are a number of other communities within this area in addition to Portola, and the population within this region is growing. We refer to this entire area as the Portola Valley. Because of the additional population areas outside of Portola, the expected wood smoke contributions in these additional communities, and the growth potential of the area, we propose that the Portola Valley area in Plumas County be designated as nonattainment for the State PM2.5 standard.

In order to define the area encompassed by the Portola Valley, we further propose using hydrographic boundaries based on watersheds. A watershed boundary defines a ridge of high land that separates areas drained by different river systems. Specifically, the Portola Valley would be defined as that portion of Plumas County within the following Super Planning Watersheds (SPWS): Humbug Valley (# 55183301), Sulphur Creek (#55183302), Frazier Creek (#55183303), and Eureka Lake (#55183304). These are the SPWS as created by the California Interagency Watershed Mapping Committee and described in CalWater version 2.2, October 1999. Information about CalWater version 2.2 can be found on the web at the following address:

<http://www.ca.nrcs.usda.gov/features/calwater/index.html>. Since Portola Valley is a non-county area, the ARB staff proposes to include a reference to the area boundary description in the area designation regulations as CCR, title 17, section 60200(c).

Unclassified Areas: Amador, Calaveras, Mariposa, Nevada, Sierra, and Tuolumne Counties, the El Dorado and Placer County portions of MCAB, and the Remainder of Plumas County

PM2.5 concentrations were measured at one monitor each in Calaveras, Mariposa, and the remainder of Plumas counties. In addition, there were three PM2.5 monitors at two sites in Nevada County. No PM2.5 monitors were operating in the MCAB portions of El Dorado and Placer counties or in Amador, Sierra, or Tuolumne counties. Data from the San Andreas-Gold Strike Road site in Calaveras County show annual average PM2.5 concentrations that do not exceed the State standard. However, as described in the 1999 area designation staff report (ARB 1999), the San Andreas monitoring site was originally established to measure maximum ozone concentrations, and PM data from this site do not represent the highest PM concentrations that might be expected to occur in Calaveras County. The available PM2.5 data from monitors located in the remaining counties do not meet the representativeness or completeness criteria. The ARB staff therefore proposes that Amador, Calaveras, Mariposa, Nevada, Sierra, and Tuolumne counties, the El Dorado and Placer county portions of MCAB, and the remainder of Plumas County, be designated as unclassified for the State PM2.5 standard.

North Central Coast Air Basin

The limited PM2.5 data available from the two monitors in the North Central Coast Air Basin (NCCAB) do not meet the representativeness or completeness criteria. As a result, the ARB staff proposes that the NCCAB be designated as unclassified for the State PM2.5 standard.

North Coast Air Basin

PM2.5 data are available from two monitors at two sites in the North Coast Air Basin (NCAB). Since these data do not meet the representativeness or completeness criteria, ARB staff proposes that the NCAB be designated as unclassified for the State PM2.5 standard.

Northeast Plateau Air Basin

PM2.5 data obtained from the one monitor in the Northeast Plateau Air Basin (NEPAB) do not meet the representativeness or completeness criteria. ARB staff therefore proposes that the NEPAB be designated unclassified for the State PM2.5 standard.

Sacramento Valley Air Basin

The Sacramento Valley Air Basin (SVAB) is comprised of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties, and the portions of Placer and Solano counties within the SVAB. These counties include the heavily urbanized area in the southern and eastern portions of the Valley and the rural, mostly agricultural areas in the western and northern portions of the Valley. As a result, emissions sources of PM2.5 and PM2.5 precursors and resulting PM2.5 concentrations vary widely among these areas. In addition, annual average PM2.5 concentrations are strongly influenced by high concentrations during the fall and winter. These elevated concentrations during the fall and winter include contributions from both ammonium nitrate and carbon. While ammonium nitrate is more regional in nature, carbon sources such as woodsmoke and agricultural burning can be more localized. Because of the differences in PM2.5 concentrations throughout the SVAB, and because the counties within the SVAB with the highest PM2.5 concentrations appear to have a strong contribution from more localized carbon sources, ARB staff proposes that sub-areas within the SVAB be designated on a county basis, as indicated below. In addition, pursuant to area designation criteria in CCR, title 17, section 70302, ARB staff proposes that contiguous areas that would have the same designation within an air basin be one designated area.

Nonattainment Areas:

Butte County

In Butte County, PM_{2.5} concentrations were measured by four monitors at two sites. Concentrations at both sites exceeded the State annual PM_{2.5} standard, with a maximum annual PM_{2.5} concentration of 16 µg/m³ recorded at the Chico-Manzanita monitoring site. Hence, ARB staff proposes that Butte County be designated as nonattainment for the State PM_{2.5} standard.

Placer County Portion of SVAB and Sacramento County

Data available from four monitors at three sites in Sacramento County did not meet the representativeness and completeness criteria. However, by substituting missing data from 2002 with PM_{2.5} concentrations of 0 µg/m³ for one of the monitors, the calculated annual average PM_{2.5} concentration was 13 µg/m³ which is above the level of the State PM_{2.5} standard. As a result, Sacramento County would be nonattainment. PM_{2.5} data obtained from the one monitor in the Placer County portion of the SVAB show this area is nonattainment, as well, with a DV of 13 µg/m³. The ARB staff therefore proposes that Sacramento County and the SVAB portion of Placer County be designated as nonattainment for the State PM_{2.5} standard.

Unclassified Areas: *Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba Counties and the Solano County Portion of SVAB*

PM_{2.5} concentrations were measured at one monitor each in Colusa, Shasta, and Yolo counties and two monitors at one site in Sutter County. The available PM_{2.5} data do not meet the representativeness or completeness criteria. In addition, there are no PM_{2.5} monitors in the SVAB portion of Solano County or in Yuba County. The ARB staff therefore proposes that Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba counties and the Solano County portion of SVAB be designated as unclassified for the State PM_{2.5} standard.

Salton Sea Air Basin

The Salton Sea Air Basin (SSAB) includes two very distinct areas, the Coachella Valley in the Riverside portion of the SSAB and Imperial County, separated by the Salton Sea. Coachella Valley is an open desert area with a few medium-sized cities located in the northern and central portions of the Valley. Imperial County includes a valley with vast agricultural areas and with a few medium-sized cities in the central and the southern portions of the County. The southernmost city of Calexico, with a population of 30,000, is adjacent to the large Mexican city of Mexicali, with about one million inhabitants.

PM_{2.5} data are available from monitors in the towns of Brawley, El Centro, and Calexico. PM_{2.5} concentrations in Brawley and El Centro originate mostly from local

population activities and agricultural operations. The available data do not meet the representativeness and completeness criteria. However, they indicate that on an annual average basis, PM_{2.5} concentrations in Brawley and El Centro tend to be near, but below, the level of the State standard. In contrast, available data show that PM_{2.5} concentrations in Calexico do exceed the State standard. Furthermore, PM_{2.5} and PM_{2.5} precursor emissions generated in the neighboring Mexicali area significantly impact the PM_{2.5} concentrations measured in Calexico.

Based on these factors, we recommend that sub-areas within the SSAB be designated, as described below. However, ARB staff will reevaluate these boundaries when complete data are available for Brawley and El Centro, and data for either or both sites show PM_{2.5} concentrations exceeding the State standard.

Nonattainment Area: City of Calexico in Imperial County

PM_{2.5} data obtained from the monitoring site in Calexico show that the State standard is exceeded, with a DV of 15 µg/m³. As a result, ARB staff proposes that the city of Calexico in Imperial County be designated as nonattainment for the State PM_{2.5} standard. The ARB staff also proposes that the boundary of the city of Calexico area be consistent with the boundary used for the State CO nonattainment area contained in the area designation regulations, updated to a more current boundary. The City of Calexico boundary, as defined in the U.S. Census Bureau, Census 2000 (Place ID #09710), will be included in CCR, title 17, section 60200(a).

Unclassified Areas: Remainder of Imperial County and the Riverside County Portion of SSAB

The PM_{2.5} data available from the monitors at Brawley and El Centro in Imperial County, and from three monitors at two sites in the Riverside County portion of the SSAB, do not meet the representativeness or completeness criteria. Therefore, ARB staff proposes that the remainder of Imperial County and the Riverside County portion of SSAB be designated as unclassified for the State PM_{2.5} standard.

San Diego County Air Basin

Five monitors measured PM_{2.5} concentrations at five sites in San Diego County. Available data show that the State PM_{2.5} standard was exceeded at two sites in the County, with the highest annual average PM_{2.5} concentration of 16 µg/m³ recorded at the San Diego-12th Avenue site. Although data for the other sites do not meet the representativeness or completeness criteria, available data consistently show annual average PM_{2.5} concentrations above the level of the State standard. Hence, the ARB staff proposes that San Diego County Air Basin be designated as nonattainment for the State PM_{2.5} standard.

San Francisco Bay Area Air Basin

PM2.5 concentration data are available from fourteen monitors at thirteen sites located throughout the San Francisco Bay Area Air Basin (SFBAAB). These PM2.5 data show that the State annual PM2.5 standard was exceeded at three sites, with a DV of 14 $\mu\text{g}/\text{m}^3$ recorded at the Livermore monitoring site. Although data for the remaining sites do not meet the representativeness or completeness criteria, the annual average PM2.5 concentrations at multiple sites are consistently above the level of the State standard. As a result, ARB staff proposes the SFBAAB be designated as nonattainment for the State PM2.5 standard.

San Joaquin Valley Air Basin

During the last three years, nineteen monitors at eleven sites in the San Joaquin Valley Air Basin (SJVAB) measured PM2.5 concentrations. Available data show that the State annual PM2.5 standard was exceeded at nine sites located throughout most of the Valley, with the peak annual average concentration of 24 $\mu\text{g}/\text{m}^3$ recorded at the Bakersfield-5558 California Avenue site. Although data for the other two sites do not meet the representativeness or completeness criteria, the available data consistently show annual average PM2.5 concentrations above the level of the State standard. ARB staff therefore proposes that the SJVAB be designated as nonattainment for the State PM2.5 standard.

South Central Coast Air Basin

The South Central Coast Air Basin (SCCAB) includes, from north to south, San Luis Obispo, Santa Barbara, and Ventura counties. The Los Padres National Forest separates Ventura County from Santa Barbara County. Urban areas in Ventura County are concentrated in the southern portion of the County, in both coastal and inland valley areas. Most of the population in Santa Barbara and San Luis Obispo counties resides in the coastal areas. Although the sea breeze ventilates the coastal areas of all three counties, meteorology differs among the three areas.

High PM2.5 concentrations have been recorded in the inland valleys of Ventura County. In contrast, low PM2.5 concentrations were recorded in San Luis Obispo and in northern Santa Barbara counties. Data for the city of Santa Barbara are insufficient to determine if the area is nonattainment for the State PM2.5 standard. Based on these factors, ARB staff proposes that sub-areas within the SCCAB be designated on a county basis, as described below. In addition, pursuant to section 70302 of the designation criteria, ARB staff recommends that contiguous areas having the same designation within the air basin be one designated area.

Nonattainment Area: Ventura County

PM2.5 monitoring data were obtained from five monitors at four sites in Ventura County.

Data from one of the monitoring sites show that concentrations in the County exceeded the State annual PM2.5 standard. Although data for the remaining sites do not meet the representativeness or completeness criteria, annual average concentrations for two of these sites are consistently above the level of the State standard. ARB staff therefore proposes that Ventura County be designated as nonattainment for the State PM2.5 standard.

Unclassified Areas: Santa Barbara and San Luis Obispo Counties

PM2.5 data are available from two monitors at two sites in Santa Barbara County and three monitors at two sites in San Luis Obispo County. Since these PM2.5 data do not meet the representativeness or completeness criteria, ARB staff proposes that Santa Barbara and San Luis Obispo counties be designated as unclassified for the State PM2.5 standard.

South Coast Air Basin

Twenty-two monitors measured PM2.5 concentrations at seventeen sites in the South Coast Air Basin (SoCAB). Data from twelve sites located throughout the SoCAB show exceedances of the State standard, with the peak annual PM2.5 concentration of 26 $\mu\text{g}/\text{m}^3$ recorded at the San Bernardino-4th Street site. Although data from the rest of the sites do not meet the representativeness or completeness criteria, annual average PM2.5 concentrations at four of these sites are consistently above the level of the State standard. Hence, ARB staff proposes that the SoCAB be designated as nonattainment for the State PM2.5 standard.

H. AREAS NOT RECOMMENDED FOR REDESIGNATION

Sometimes, air quality data for an area will appear to signal a change in area designation, but further evaluation indicates that a change is not warranted. This year, two areas fall into this category, and the rationale for not changing their area designation status is described below.

1. Glenn County for Ozone

Glenn County is located in the Sacramento Valley Air Basin (SVAB) and is currently designated as nonattainment-transitional for the State ozone standard. Most of the remaining portions of the SVAB are currently designated as nonattainment, with the exception of Butte County, which is currently designated as nonattainment-transitional. *(Although these are the current designations, the ARB staff is proposing that Butte County be redesignated as nonattainment and Colusa County be redesignated as nonattainment-transitional for ozone.)*

During 2000 through 2002, ozone data were collected at the Willows-East Laurel Street

site in Glenn County. This site represents an area of high concentrations, and the data collected are both representative and complete for all three years. During the three-year period, the highest measured ozone concentration was 0.09 ppm. This is also the designation value for Glenn County, and it does not exceed the State ozone standard.

Based on the measured ozone data, it would appear that Glenn County qualifies for redesignation as attainment. However, the designation criteria require that when an area smaller than an air basin is designated as attainment, the area be unique in terms of air quality. Specifically, the designation criteria require that the smaller area have distinctly different air quality, deriving from sources and conditions not affecting the entire air basin. The ARB staff must base this finding on air quality data, meteorology, topography, or the distribution of population and emissions.

Glenn County comprises a mostly rural area, with sparse population and few emission sources. However, the County is part of the larger Sacramento Valley area. There are few barriers to the movement of air parcels in this part of the Valley, and the various counties are more similar in terms of air quality than they are unique. In addition, the Interstate 5 corridor transects the Valley, further tying the areas together.

Based on these factors, the ARB staff does not find that Glenn County has air quality unique from other areas of the SVAB and does not propose that Glenn County be redesignated as attainment for the State ozone standard. Since the County did not have any exceedances of the State standard during 2002, the ARB staff proposes the area retain its current nonattainment-transitional designation.

2. Lake County Air Basin for Visibility Reducing Particles

Lake County Air Basin (LCAB) is comprised of Lake County and is located in the northern portion of California. The area is currently designated as attainment for the State visibility reducing particles (VRP) standard.

The State VRP standard applicable in the LCAB is expressed as an 8-hour average of 0.23 extinction coefficient per kilometer due to particles, when relative humidity is less than 70 percent. The extinction coefficient is the natural logarithm of the fractional transmission of a beam of light per kilometer through an air mass and is nominally equal to a visibility of 10 miles due to particles when relative humidity is less than 70 percent. The State VRP standard is not to be exceeded. Currently, no VRP data consistent with the measurement method specified in the State VRP standard are available for LCAB. However, the area does have measurements of light scatter (B_{scat}) and coefficient of haze (COH), which can be combined and used as a surrogate for VRP. The surrogate values tend to be biased high in comparison to values measured according to the method specified in the State VRP standard. Therefore, the surrogate values can be used for determining attainment because they represent a “worst case” scenario. Conversely, because they are biased high, the surrogate values are not appropriate for

determining nonattainment.

Both B_{scat} and COH data are available for a site in Lakeport during 2000 through 2002, and these data are both representative and complete for all three years. The surrogate values show no exceedances of the State VRP standard during 2000 and 2001. However, the data show seven exceedances during 2002, with values ranging from 0.29 to 0.68. These values all occurred during August 2002 (one on August 4 and the remainder on August 14 through 19). Forest fires in the surrounding areas during this same timeframe may have impacted the values.

Based on these exceedances, it may appear that LCAB no longer qualifies as attainment for the State VRP standard. However, the EPDC for the three-year period is 0.25, and therefore, all of the high values are excluded as extreme concentration events. The highest remaining value is 0.23, which is below the level of the State VRP standard. Therefore, the ARB staff does not propose any change to Lake County Air Basin's current attainment designation for the State VRP standard.

CHAPTER V

ALTERNATIVES TO THE PROPOSED AMENDMENTS

State law (H&SC section 39607(e)) requires the Board to establish and periodically review criteria for designating areas as attainment, nonattainment, or unclassified for the State standards. In developing and revising the designation criteria, section 39607(e) also requires the Board to consider instances where there are poor or limited ambient air quality data and to consider highly irregular or infrequent violations. The designation criteria are set forth in CCR, title 17, sections 70300 through 70306 and Appendices 1 through 4, thereof. The proposed amendments to the designation criteria are consistent with the legal requirements. Chapter III of this staff report describes the proposed amendments, along with a discussion of the need and justification for the proposal. The staff has considered alternatives to the proposed amendments (namely, the no action alternative), and has found none more suitable than those proposed. The proposed amendments are necessary to ensure the continued relevance of the designation criteria and its applicability to current State standards.

The requirement for annually reviewing the area designations is also specified in State law (H&SC section 39608(c)). The proposed amendments to the area designations are described in Chapter IV of this staff report. The proposed area designations reflect the application of the designation criteria set forth in CCR, title 17, sections 70300 through 70306 and Appendices 1 through 4, thereof, as they are proposed to be amended in Chapter III of this staff report. Each proposed area designation is accompanied by a discussion of its basis and justification. The staff has considered the potential alternatives to the proposed amendments (namely, the no action alternative). However, based on the available data, the staff finds the proposed amendments are more appropriate than the no action alternative. The no action alternative would not be consistent with State law. In addition, the no action alternative would not inform the public about the healthfulness of air quality based on the most recent data.

[This page intentionally left blank]

CHAPTER VI

IMPACTS OF THE PROPOSED AMENDMENTS

A. ECONOMIC IMPACTS

The staff does not expect the proposed amendments to have any adverse impacts on California employment, business status, or competitiveness.

1. Legal Requirement

The Government Code requires State agencies proposing to adopt or amend any administrative regulation to assess the potential for adverse economic impact on California business enterprises and individuals. The assessment shall include consideration of the impact of the proposed regulatory amendments on California jobs, business expansion, elimination, or creation, and the ability of California businesses to compete in other states.

State agencies are also required to estimate the cost or savings to any State or local agency and school district in accordance with instructions adopted by the Department of Finance. This estimate is to include non-discretionary costs or savings to local agencies and the costs or savings in federal funding to the State.

2. Potential Impact on Businesses, Business Competitiveness, Employment, and Business Creation, Elimination, or Expansion

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed amendments are presented below.

The proposed amendments to the designation criteria and area designation regulations do not contain any requirements for action. Subsequent requirements for action may result after additional steps, such as plan preparation and approval, are taken. The designation criteria provide the basis for determining the appropriate area designations for State standards, and the area designations are simply 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.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. The ARB is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

The Executive Officer also has made an initial determination that the proposed regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

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

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will not affect small businesses because the proposed regulatory action does not contain any requirements for action.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the agency or that has otherwise been identified and brought to the attention of 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.

3. *Potential Cost to Local and State Agencies*

Similar to the previous discussion, neither the designation criteria nor the area designations contain any requirements for action, and these regulations have no direct economic impact. Therefore, pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action will not create costs or savings 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 under Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code, or other nondiscretionary savings to state or local agencies.

Before taking final action on the proposed amendments 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 VII

ENVIRONMENTAL IMPACTS AND ENVIRONMENTAL JUSTICE

A. INTRODUCTION

The intent of the proposed regulatory actions is to provide a process and use that process to identify areas with unhealthy ambient air quality. Adopting the proposed amendments to the designation criteria and the area designations will not result in any direct impact on public health or the environment because the regulations do not contain any requirements for action. However, because State law specifies certain requirements based on an area's designation status, there may be indirect benefits, based on the area designations.

B. AIR QUALITY AND ENVIRONMENTAL BENEFITS

The designation criteria simply set forth a procedure for the Board to use in designating areas for the State standards. Because the designation criteria do not contain any requirements for action, they will not result in any air quality or environmental benefits.

Similar to the designation criteria, the area designations do not contain any requirements for action. However, in contrast to the criteria, the area designations do label areas with respect to the healthfulness of their air quality. Based on these labels, certain planning requirements may come into play, thereby providing some indirect benefits to air quality and the environment.

The proposed amendments to the area designations would change the State ozone designations for five areas, the CO designation for one area, and the sulfates designation for one area. Under State law, there are specific planning requirements for areas designated as nonattainment or nonattainment-transitional for ozone and CO. Furthermore, areas designated as attainment are required to adopt and implement rules and regulations necessary to maintain attainment status. Although there are currently no specific planning requirements for the State sulfates standard, under State law, areas are required to adopt rules and regulations sufficient for attaining all State standards as soon as practicable. Therefore, the proposed changes in area designations will indirectly result in air quality and environmental benefits, as districts adopt rules and regulations aimed at attaining the State standards.

This year is the first time the Board is making area designations for the new State PM2.5 standard. Areas will be designated as attainment, nonattainment, or unclassified for PM2.5, indicating which areas have healthful PM2.5 air quality, which areas do not meet the State PM2.5 standard, and which areas lack data with respect to the State PM2.5 standard. Recent legislation applicable to areas designated as nonattainment for PM10 or PM2.5 will require the adoption and implementation of emission control measures over the

next several years. However, all areas being proposed as PM2.5 nonattainment areas are already designated as nonattainment for the State PM10 standards. As a result, these areas are already subject to the control requirements, and the proposed PM2.5 designations are not expected to result in any additional requirements. However, the proposed PM2.5 designations will allow an area to more effectively focus its PM control strategy. These control requirements will result in air quality and environmental benefits.

C. ENVIRONMENTAL JUSTICE

The Board is committed to evaluating community impacts of proposed regulations, including environmental justice concerns. Because some communities experience higher exposures to air pollutants, it is a priority of the Board to ensure that full protection is afforded to all Californians. The proposed amendments to the designation criteria and the area designations do not contain any requirements for action. However, the area designations are designed to identify areas with unhealthful air quality, based on the most recently available data.

Based on an area's designation category, there may be specific planning requirements for improving the level of air quality. These requirements will result in reduced emissions for all nonattainment communities throughout the State. Furthermore, although State law does not impose any specific planning requirements upon districts with areas designated as attainment or unclassified, State law does require 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). These requirements will result in improved air quality in communities throughout the State, with associated lower potential health risks.