

**PROPOSED
AMENDMENTS TO THE DESIGNATION CRITERIA AND
AMENDMENTS TO THE AREA DESIGNATIONS
FOR STATE AMBIENT AIR QUALITY STANDARDS**

AND

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

STAFF REPORT

**To be considered by the
Air Resources Board
September 24, 1998
Bakersfield, California**

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OVERVIEW AND RECOMMENDATION

A. OVERVIEW

1. Introduction

This Staff Report proposes two groups of regulatory changes. The first group of changes affects the criteria that the Air Resources Board uses for designating areas with respect to the State ambient air quality standards (State standards). The second group of changes affects the actual area designations for the State standards.

The Health and Safety Code (H&SC) section 39607(e) (refer to Attachment A) requires the Air Resources Board (Board) to establish area designation criteria. These designation criteria (see Attachment B) provide the basis for the Board to designate areas as attainment, nonattainment, or unclassified for the State standards. In addition, the H&SC requires the Board to periodically review the designation criteria, thereby ensuring their continued relevance.

The staff does not propose adding any new requirements to the existing designation criteria. The staff does propose, however, a number of amendments which clarify current practices, correct errors, make the regulations easier to interpret, and delete extraneous language and references. The proposed amendments are summarized in subsection 2, below. The text of the amendments to the criteria is shown in Attachment C, and supporting information for the amendments is shown in Attachment D.

In addition, H&SC section 39608 (also shown in Attachment A) requires the Board to establish and annually review the area designations. Based on the air quality data from the most recently available three years (1995 through 1997), the staff proposes several amendments to the area designations. These proposed amendments are summarized in subsection 3, below. The text of the amendments to the area designations is shown in Attachment E, and the air quality data used for making the designations are summarized in Attachment F.

Finally, this Staff Report includes maps and tables of the area designations for both the state and national ambient air quality standards. This information is required under section 40718 of the H&SC (also shown in Attachment A). The maps and tables, as provided in Attachment G, reflect the area designations for the State standards as proposed in Chapter III of this Staff Report and the area designations for the national standards as currently in effect. The notices distributed by the staff regarding the proposed amendments are shown in Attachment H.

2. Proposed Amendments to the Designation Criteria

The proposed amendments to the designation criteria (California Code of Regulations (CCR), Title 17, sections 70300 through 70306 and Appendices 1 through 4, thereof) would not change the current application of the designation criteria. Rather, they would clarify current practices, correct errors, make the regulations easier to interpret and internally consistent, and delete unnecessary or obsolete language and references. The proposed amendments would make the following changes to the regulations:

- Revise section 70300 to reflect the designation of areas rather than air basins, and add “nonattainment-transitional” to the list of potential designation categories.
- Revise section 70301 to better describe the two types of data that may qualify as “data for record,” and add a reference for when data become “data for record.”
- Revise section 70303 to remove the requirements for the nonattainment-transitional designation for pollutants other than ozone (subsections (c) and (d)) (these requirements are now proposed to be specified in new section 70303.1).
- Add section 70303.1 to specify the requirements for designating areas as nonattainment-transitional for pollutants other than ozone (these requirements were previously specified in section 70303, subsections (c) and (d)).
- Revise section 70303.5 to clarify that the nonattainment-transitional designation for ozone may apply to a portion of a district if the portion of the district is an area designated as nonattainment for ozone. Revise the existing language to better describe current practices. Add provision for designation in the event that air quality data indicate more than three exceedances in the current year.
- Revise Appendix 1 to delete extraneous language and unnecessary references.
- Reorganize Appendix 2 to clarify current practices in evaluating potential highly irregular or infrequent events. The extreme concentration event would become the first type of event evaluated, followed by the exceptional event and unusual concentration event. Revise the document referenced under the Extreme Concentration Event Procedure to reflect a minor change and conform with current computational procedures. Incorporate the new document by reference.
- Revise Appendix 3 to delete extraneous language and unnecessary references.
- Revise sections 70301 through 70303, and 70304 through 70306, and Appendix 2 to

reflect the word “will” instead of “shall” when used in reference to the Board.

3. Proposed Amendments to the Area Designations

The proposed amendments to the area designations (CCR, Title 17, sections 60200 through 60209) would make the following changes to the regulations:

- For ozone: identify the change in designation by operation of law from nonattainment to nonattainment-transitional for the following districts, unless valid air quality data for the current year show more than three exceedances at any monitoring site in the area:
 - Colusa County Air Pollution Control District.
 - Monterey Bay Unified Air Pollution Control District.
 - Placer County Air Pollution Control District
(Mountain Counties Air Basin portion).
 - San Luis Obispo County Air Pollution Control District.
 - Tehama County Air Pollution Control District.
 - Yolo-Solano Air Quality Management District.

(Based on ozone data for 1995 through 1997, the Bay Area Air Quality Management District qualifies as nonattainment-transitional. However, air quality data for 1998 show more than three exceedances at a monitoring site in the area. Therefore, based on the proposed amendments to section 70303.5 of the designation criteria, the staff recommends that the Bay Area Air Quality Management District remain designated as nonattainment for ozone.)

- For carbon monoxide: redesignate the Fresno Urbanized Area in the San Joaquin Valley Air Basin from nonattainment to attainment, and redesignate El Dorado County (Lake Tahoe Air Basin portion) from nonattainment-transitional to attainment.
- For suspended particulate matter (PM₁₀): redesignate Lassen County in the Northeast Plateau Air Basin from unclassified to nonattainment.
- For sulfates: redesignate San Diego County in the San Diego Air Basin from attainment to nonattainment.

B. RECOMMENDATION

The staff recommends the Board adopt the proposed amendments to the designation criteria regulations and the proposed amendments to the area designation regulations. The full text of the proposed amendments is given in Attachments C, D, and E to this Staff Report.

CHAPTER I

BACKGROUND

A. INTRODUCTION

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

B. LEGAL REQUIREMENTS

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

H&SC section 39608 requires the Board to use the designation criteria in designating areas of California as attainment or nonattainment for the state standards (Attachment A). Areas that cannot be designated as attainment or nonattainment are designated as unclassified. The area designations are made on a pollutant-by-pollutant basis for all pollutants listed in the CCR, Title 17, section 70200. The nine affected pollutants are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM₁₀), sulfates, lead, hydrogen sulfide, and visibility reducing particles. H&SC section 39608 also requires the Board to review the area designations each year and update them as new information becomes available.

In addition, H&SC section 40718 requires the Board to publish maps showing the areas with one or more measured violations of any state or national ambient air quality standard (Attachment A). The maps and summary tables provided in Attachment G to this Staff Report fulfill this requirement. The maps and tables for the State standards reflect the proposed amendments to the area designations as described in Chapter III of this Staff Report. The maps and tables for the national standards reflect the current federal area designations, as promulgated by the United States Environmental Protection Agency (U.S. EPA) (see 40 CFR 81.305).

C. SUMMARY OF THE DESIGNATION CRITERIA

1. General Provisions

The designation criteria describe the procedures the Board must use in determining an area's designation status with respect to the State standards. The text of the current designation criteria (before the staff's proposed amendments) is shown in Attachment B. This discussion of the criteria is not affected by the proposed amendments. In summary, the designation criteria specify:

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

2. Data to Use

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

3. Size of Designated Areas

The size of the area designated for a pollutant may vary depending on the nature of the pollutant, the location of contributing emission sources, the meteorology, and the topographic features. Normally, an air basin is the area designated for ozone, nitrogen dioxide, PM₁₀, sulfates, and visibility reducing particles. A county (or the portion of a county located within an air basin) is normally the area designated for carbon monoxide, sulfur dioxide, lead, and hydrogen sulfide. In both cases, however, the Board may designate a smaller area if the Board finds that the smaller

area has distinctly different air quality. This finding is based on a review of the air quality data, meteorology, topography, and the distribution of population and emissions. Sources with emissions that contribute to a violation must be included within the smaller area. To the extent practicable, the Board uses political boundary lines to define a smaller designated area.

4. Highly Irregular or Infrequent Events

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

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

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

A pollutant-specific Expected Peak Day Concentration is calculated for each monitoring site using air quality data measured at the site during a three-year period. The site-specific Expected Peak Day Concentrations (EPDC) for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM₁₀, and hydrogen sulfide are listed in Attachment F. These Expected Peak Day Concentrations are based on air quality data for 1995 through 1997. This is the most recent three-year period for which data are available and is the same three-year period used in reviewing the area designations described in this Staff Report.

An **exceptional event** is a specific, identifiable event that is beyond reasonable regulatory control and causes an exceedance of a State standard. An exceptional event may be

caused by an act of nature (for example, a severe wind storm or forest fire) or it may be of human origin (for example, a chemical spill or industrial accident).

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

5. Designation Categories

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

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

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

section 40925.5(a). These guidelines are specified in section 70303.5 of the designation criteria (refer to Attachment B).

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

D. IMPLICATIONS OF THE AREA DESIGNATIONS

1. Areas Redesignated as Nonattainment

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

A district with an area that is redesignated as nonattainment for any of the remaining five pollutants--PM₁₀, sulfates, lead, hydrogen sulfide, or visibility reducing particles--is not subject to any specific statutory planning requirements. However, such districts must adopt and enforce rules and regulations to expeditiously attain the state standards for these five pollutants (H&SC sections 40001, 40913). Furthermore, a nonattainment district may develop and implement an attainment plan or adopt regulations to control the emissions that contribute to these pollutants (H&SC section 40926).

The second consequence of a nonattainment designation is that the Board may require a nonattainment district to collect additional permit fees from large, nonvehicular sources located in

the nonattainment area (H&SC section 39612; CCR, Title 17, sections 90800.5 through 90803). Only those sources which are authorized by district permit to emit 500 tons per year or more of any nonattainment pollutant or its precursors are subject to the additional permit fees. The fees are used to help defray the costs of state programs related to nonvehicular sources and implemented under the California Clean Air Act of 1988 (Stats. 1988, ch. 1568). With certain exceptions, nonattainment districts also are authorized to levy a fee of up to \$4.00 on motor vehicles registered in the district for the purposes of California Clean Air Act implementation (H&SC sections 44223 and 44225).

2. Areas Redesignated as Nonattainment-Transitional

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

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

3. Areas Redesignated as Attainment or Unclassified

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

41500).

E. AREA DESIGNATION REVIEW PROCESS

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

On April 8, 1998, the staff sent a letter to all districts notifying them of the May 1, 1998, deadline for requesting a change in an area's designation, submitting information for consideration in the annual review process, or requesting a nonattainment-transitional designation for pollutants other than ozone. (Note: The nonattainment-transitional designations for ozone are made by operation of law, rather than by the Board, so a formal district request is not needed).

On June 1, 1998, the staff distributed a general announcement for a public consultation meeting held June 26, 1998. This announcement included a discussion of the staff's proposed amendments to the designation criteria. It also included a table summarizing the staff's proposed redesignations. As required by the designation criteria, the proposed area redesignations are based on the staff's review of the air quality data collected during the most recent three calendar years--1995 through 1997. They also reflect the proposed amendments to the designation criteria as described in Chapter II of this Staff Report.

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CHAPTER II

PROPOSED AMENDMENTS TO THE DESIGNATION CRITERIA

A. INTRODUCTION

This chapter describes the proposed amendments to the designation criteria. The staff does not propose adding any new requirements to the existing criteria. The staff does propose, however, a number of amendments which clarify current practices, correct minor errors, make the regulations easier to interpret and internally consistent, and delete extraneous language and references. The proposed amendments affect sections 70300 through 70306 and Appendices 1 through 3 of the designation criteria. The proposed revisions are described below in Section B.

B. DESCRIPTION OF PROPOSED AMENDMENTS

1. Proposed Amendments to Section 70300: General Statement of Purpose

Section 70300 states the objective of the designation criteria. The staff proposes two minor revisions to the language of this section. These changes will help make the language of the regulations internally consistent.

First, section 70300 currently states that the criteria will serve as a guide for the Board in designating air basins. The term *air basin* was originally used because it was consistent with the language of H&SC section 39607(e) (refer to Attachment A). However, subsequent legislation allows us to designate areas other than an air basin. For example, H&SC section 40925.5 mandates the designation of districts as nonattainment-transitional for ozone. To make the language of section 70300 consistent with the H&SC and with other provisions of the designation criteria, we propose to substitute the more general word *area* for the existing word *air basin*.

The second change would add nonattainment-transitional to the list of potential designations. This makes the language of section 70300 more complete and consistent with other sections of the designation criteria which make specific reference to nonattainment-transitional. The full text of the proposed amendments to section 70300 is shown in Attachment C to this Staff Report.

2. Proposed Amendments to Section 70301: Air Quality Data Used for Designations

Section 70301 of the designation criteria contains two subsections. Subsection (a) specifies the type of air quality data that qualify as “data for record” and therefore, are appropriate for use in the designation process. Subsection (b) specifies the time period for data used in the designation process. The staff proposes three changes to this section to clarify the qualifying types of data and to specify a time when data officially become data for record.

The staff proposes that the first sentence of current subsection (a) be isolated to stand on its own. This sentence specifies that designations will be based on data for record. Isolating this sentence clarifies that data for record are the only air quality data appropriate for use in the designation process.

Second, for clarity, the staff proposes splitting the remaining portion of current subsection (a) into two parts: new subsections (1) and (2). New subsection (1) would apply to data collected by or under the auspices of the State Board or districts and would establish the siting and quality assurance procedures necessary for these data to qualify as data for record. New subsection (2) would apply to air quality data from other providers. The subsection would specify the requirements for submitting data to the Executive Officer and the siting and quality assurance procedures that must be satisfied in order to identify the data as data for record. Because the Executive Officer must review these data, subsection (2) would also provide for a 90 day review period with provisions for an extension, if necessary.

Finally, the staff proposes adding a new subsection (c) to clarify when data officially become data for record. As proposed, the data would become data for record when the Executive Officer completes his review of the area data. Ordinarily, the data review is complete when the Staff Report is published and made available for the 45-day comment period. Specifying a particular time is especially important in the case of the ozone nonattainment-transitional designations which are made by operation of law because it determines when the designations become effective. The full text of the proposed amendments to section 70301 is shown in Attachment C to this Staff Report.

3. Proposed Amendments to Section 70303: Criteria for Designating An Area as Nonattainment

Section 70303 contains the requirements for designating areas as nonattainment and for designating areas as nonattainment-transitional for pollutants other than ozone. For clarity, the staff proposes removing the nonattainment-transitional requirements from this section and

putting them in a new section 70303.1 (refer to discussion in following section). The full text of this proposed change is shown in Attachment C to this Staff Report.

4. Proposed Addition of Section 70303.1: Criteria for Designating an Area as Nonattainment-Transitional for Pollutants Other than Ozone

New section 70303.1 would specify the criteria for designating areas as nonattainment-transitional for pollutants other than ozone. These criteria, currently contained in subsections (c) and (d) of section 70303, would not be changed, and the nonattainment-transitional designation would remain a subcategory of the nonattainment designation. However, by adding a new section 70303.1, the requirements for each of the designation categories (nonattainment, nonattainment-transitional, attainment, and unclassified) would be specified in a separate section of the designation criteria. As a result, the regulations would be easier to interpret. The proposed language of new section 70303.1 is shown in Attachment C to this Staff Report.

5. Proposed Amendments to Section 70303.5: Requirements for Ozone Nonattainment-Transitional

Section 70303.5 contains the criteria for designating areas as nonattainment-transitional for ozone. These designations are carried out by operation of law, as set forth in section 40925.5 of the Health and Safety Code (refer to Attachment A). Although the ozone nonattainment-transitional designations occur by operation of law, the designation criteria contain guidelines that the Board uses to review the qualifying data for the designations. The staff proposes several changes to section 70303.5, as described below.

The first proposed change would add a new subsection (1) 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 and where a district is composed of more than one designated area. For example, the Placer County Air Pollution Control District is split among three air basins: the Sacramento Valley Air Basin, the Mountain Counties Air Basin, and the Lake Tahoe Air Basin. In this situation, one portion of the district may qualify as nonattainment-transitional before the remaining portions qualify. The proposed amendment would allow each portion of a district that is designated nonattainment for ozone to be designated separately, as it qualifies for nonattainment-transitional. However, the sub-district area must have been designated as a nonattainment area consistent with the requirements specified in section 70302(a) of the designation criteria. Section 70302(a) states that although an air basin is the basic area designated for ozone, the Board may designate a smaller area if it finds the area has distinctly different air quality deriving from sources and conditions not affecting the entire air basin. These findings may be based on air quality data, meteorology, topography, or the distribution of population and emissions. Generally, the smaller area designated

for ozone under section 70302(a) will be a county or the entire portion of a district located within an air basin.

The second proposed change would provide for a review of data for the current year. The nonattainment-transitional designation is based on only one year of data. As a result, the designations are highly affected by year-to-year changes in meteorology. Because of the meteorological influence, the nonattainment-transitional designations can be unstable, with areas moving back and forth between nonattainment and nonattainment-transitional. This was evident during the Board's 1993 through 1997 area designation reviews when Mono County moved back and forth between nonattainment (1993 and 1995) and nonattainment-transitional (1994, 1996, and 1997). To provide more stability to the nonattainment-transitional designations, the staff proposes adding a provision that would provide for reviewing data collected during the current year. If data for the current year show more than three exceedances at any monitoring location in the area, thereby ensuring that the area would not qualify as nonattainment-transitional during the next annual review, the staff would propose that the area's designation remain nonattainment.

The remaining proposed changes would renumber several subsections and restate the existing requirements, making them easier to understand. The full text of the proposed amendments to section 70303.5 is shown in Attachment C to this Staff Report.

6. Proposed Amendments to Appendix 1: Criteria for Determining Data Representativeness

Appendix 1 to the designation criteria describes the criteria the Board uses for determining whether data are representative for use in designating areas with respect to the State standards. In this case, representativeness refers to whether or not the amount of data available is sufficient to reliably characterize the air quality during the respective time period. The staff proposes three minor changes to Appendix 1.

The first change would delete the extraneous reference to the body of the designation criteria contained in paragraph one. The complete reference is unnecessary since the Appendix is a part of the designation criteria. The second change would delete the word "deemed," also found in the first paragraph. This word is extraneous, and it does not add to the meaning of the remaining language.

The third change would delete the example given in paragraph three of Appendix 1. While the example provides some clarification, it is not essential for understanding the meaning of the paragraph. The full text of the proposed amendments to Appendix 1 is found in Attachment C to this Staff Report.

7. Proposed Amendments to Appendix 2: Air Resources Board Procedure for

Reviewing Air Quality Data Possibly Affected by a Highly Irregular or Infrequent Event

The designation criteria currently provide for excluding, from the area designation process, exceedances affected by highly irregular or infrequent events. Such exceedances are excluded because they are not reasonable to control through the regulatory process. The procedures for identifying data affected by highly irregular or infrequent events are set forth in Appendix 2 to the designation criteria. Appendix 2 defines three types of highly irregular or infrequent events:

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

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

In contrast to an exceptional event, an exceedance caused by an extreme concentration event may or may not have a specific, identifiable cause. Instead, an extreme concentration is defined as a concentration that statistically is expected to be exceeded less frequently than once per year, on average.

Finally, an unusual concentration event is an event which causes an anomalous exceedance of a State standard that cannot be identified as an exceptional event or an extreme concentration event. An unusual concentration event may be identified only in areas already designated as attainment or unclassified at the time the exceedance occurs. Furthermore, an area may maintain its attainment or unclassified designation based on the exclusion of an unusual concentration event for only three years. If an exceedance occurs during the fourth year, and the exceedance cannot be identified as an exceptional event or extreme concentration event, the area is redesignated as nonattainment.

The staff proposes three revisions to Appendix 2. The first revision would change the order of the three types of qualifying events to reflect the staff's current practice for evaluating highly irregular or infrequent events. In practice, potential highly irregular or infrequent events are evaluated first as extreme concentration events, second as exceptional events, and finally as unusual concentration events. Changing the order of the events as they appear in Appendix 2 will help clarify the evaluation process.

The second change would update the reference which describes the computational procedures used in determining extreme concentration events. The extreme concentration event procedure in Appendix 2 references a document entitled: *"Supplement to the Technical Support Document for Proposed Amendments to the Criteria for Designating Areas of California as*

Nonattainment, Attainment, or Unclassified for State Ambient Air Quality Standards” (May 1992). This reference document describes the statistical procedure and contains a computer program in Pascal language that can be used to calculate the extreme concentration values. This Pascal code is the program the Air Resources Board used when it first adopted the extreme concentration event procedure in May of 1992. Since then, the procedure has been implemented in other programming languages. As a result, the staff proposes updating the reference document to exclude the Pascal code. The updated reference would also reflect minor modifications to better explain the procedure. The new reference document, entitled: “*Procedure for Computing the Values Used in Identifying Extreme Concentration Events*” (August 1998) is proposed to be incorporated by reference and is included in Attachment D of this Staff Report. The staff proposes changing the extreme concentration event procedure in Appendix 2 to reflect the updated reference document.

The third revision would make a minor change in the computer program the Board uses to calculate the extreme concentration values. An extreme concentration value is that concentration which is expected to be exceeded once per year, on average. The value is both site-specific and pollutant-specific. Measured concentrations that are higher than the extreme concentration value are excluded from the area designation process. The staff found that a change is needed in the procedure used to calculate a weighted average. The weights used are intended to reflect the distribution of the measured air quality data across ten concentration bins. In some unusual circumstances, the counts produced by the current program could differ by one (+/- 1) from the correct count for some bins, thereby slightly changing the weights used later in the procedure. This might occur in the following circumstances: (1) when the data for many days are missing, (2) when the sampling schedule is infrequent (e.g., not daily), and/or (3) when there are wide gaps between some of the measured concentrations used in calculating the extreme concentration value.

Summary tables showing the differences resulting from the programming change for a number of sites and pollutants are shown in Attachment D to this Staff Report. In general, the differences are very small, and implementing this change does not affect the designation status of any area. In other words, those areas that were previously designated as nonattainment remain nonattainment, and those areas previously designated as attainment remain attainment. Implementing the programming change will ensure that future extreme concentration event calculations are consistent with the procedure referenced in the designation criteria regulations.

The full text of the proposed amendments to Appendix 2 is shown in Attachment C to this Staff Report.

8. Proposed Amendments to Appendix 3: Criteria for Determining Data Completeness

Appendix 3 to the designation criteria describes the criteria the Board uses for determining

whether data are complete. Complete data are required when designating areas as attainment or nonattainment-transitional. In general, the Completeness Criteria assure that the data are complete enough to depict the temporal variations in pollutant concentrations that are expected in a particular area. The staff proposes two minor changes to Appendix 3. These changes are similar to those proposed for Appendix 1.

The first change would delete the extraneous reference to the body of the designation criteria contained in paragraph one. The complete reference is unnecessary since Appendix 3 is part of the designation criteria, itself. The second change would delete the word “deemed,” found in the first and second paragraphs. This word is extraneous and does not add to the meaning of the remaining language. The full text of the proposed amendments to Appendix 3 is found in Attachment C to this Staff Report.

9. General Changes to the Designation Criteria

The designation criteria serve as a guide to the Air Resources Board in making the area designations for State standards. As such, the criteria contain a number of references to the ARB or the Executive Officer and how the agency will carry out its obligations with respect to making the area designations. In some cases, the designation criteria reference things the ARB or Executive Officer “*will*” do and in other cases, things the ARB or Executive Officer “*shall*” do. The use of these terms is not consistent throughout the regulations. Generally, “will” implies an intention to do something in the future.

Therefore, to provide consistency throughout the regulations and make the regulations consistent with the general intent, the staff proposes changing the word “shall” to the word “will” in all cases where the action applies to the ARB or the Executive Officer. This change would affect sections 70301 through 70303, sections 70304 through 70306, and Appendix 2 to the designation criteria. The full text of the proposed changes is shown in Attachment C to this Staff Report.

C. STAFF RECOMMENDATION

The staff recommends the Board adopt the proposed amendments to sections 70300 through 70306 and the proposed amendments to Appendices 1, 2, and 3 of the designation criteria. The staff further recommends the Board adopt new section 70303.1. None of these proposed amendments change the current application of the designation criteria. They do, however, clarify current practices, correct minor errors, make the regulations internally consistent and easier to interpret, and delete unnecessary language and references. The full text of the proposed amendments is shown in Attachment C to this Staff Report, and the document proposed to be incorporated by reference is shown in Attachment D.

CHAPTER III

PROPOSED AMENDMENTS TO THE AREA DESIGNATIONS

A. INTRODUCTION

This chapter describes and explains the proposed amendments to the area designations due to air quality changes. The proposed area redesignations are consistent with the proposed amendments to the designation criteria described in Chapter II of this report.

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

As required by the designation criteria, the staff reviewed the air quality data collected during the most recent three-year period of 1995 through 1997. Based on these data, redesignations are appropriate for carbon monoxide, PM₁₀, and sulfates. In addition, under H&SC section 40925.5, six areas qualify for designation as nonattainment-transitional for ozone. Sections B, C, D, and E of this chapter describe the areas and circumstances for which the staff is proposing area redesignations and amendments for these four pollutants. Based on the data for 1995 through 1997, no action is proposed for the remaining five pollutants: nitrogen dioxide, sulfur dioxide, lead, hydrogen sulfide, and visibility reducing particles. Therefore, the current area designations for these pollutants would remain unchanged.

Prior to January 1, 1997, the size of the area evaluated for a nonattainment-transitional designation of the State ozone standard was an air basin. Assembly Bill 3048, Stats. 1996, changed this by requiring the size of the evaluated area to be a district (H&SC section 40925.5(a)). The changes to the ozone designations in the nonattainment-transitional category reflect this legislation and are discussed further in this report.

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

Designation Value (DV)

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

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

When there are less than three complete years of air quality data, the calculated EPDC may not be considered valid for an attainment determination. In these cases, the EPDC is not compared to the measurements, and the DV is simply the highest measured concentration at the site during the specified three-year period. Further explanation on determining the validity of EPDCs and a tabulation of the DVs and EPDCs for the 1995-1997 period, as used for determining area designations, are given in Attachment F.

B. PROPOSED AREA REDESIGNATIONS FOR OZONE

The State standard for ozone is a 1-hour average concentration of 0.09 parts per million (ppm). This concentration is not to be exceeded (CCR, Title 17, section 70200). Under the designation criteria the geographic area for ozone designation is generally the air basin, unless the Board finds that there are areas within an air basin that are distinctly different (refer to Attachment C). The H&SC, section 40925.5 requires that ozone redesignations to nonattainment-transitional by operation of law be made at the district level under specified conditions.

Based on air quality data for 1995 through 1997, six districts qualify for redesignation by operation of law to nonattainment-transitional for ozone. These districts are:

- Colusa County Air Pollution Control District.
- Monterey Bay Unified Air Pollution Control District.
- Placer County Air Pollution Control District
(Mountain Counties Air Basin portion).
- San Luis Obispo County Air Pollution Control District.
- Tehama County Air Pollution Control District.
- Yolo-Solano Air Quality Management District.

Because designations are normally made by air basin or county portion thereof, the staff proposes that the new area designations for these districts also be specified by air basin or county portion in CCR, Title 17, section 60201.

Section 40925.5(a) of the H&SC provides that a district that is designated as nonattainment for ozone will be redesignated as nonattainment-transitional by operation of law if there are three or fewer exceedances of the State ozone standard at every monitoring site in the district during a single calendar year. In addition, the proposed amendments to CCR, Title 17, section 70303.5 provide for reviewing air quality data from the current year to determine whether three or more exceedances have occurred (refer to discussion in Chapter II, section B.5.). The Air Resources Board reviews the data and identifies those changes in designation that are to be carried out by operation of law. The staff has verified that the data for all six areas mentioned above meet the criteria for representativeness and completeness and the guidelines specified in CCR, Title 17, section 70303.5, as it is proposed to be amended. The specific air quality data for each area are described in the subsections, below.

1. Colusa County Air Pollution Control District

The Colusa County Air Pollution Control District (APCD), located in the Sacramento Valley Air Basin, is currently designated as nonattainment for the State ozone standard.

During the three-year period of 1995 through 1997, the monitoring site with the highest ozone concentrations within the Colusa County APCD is the Colusa-Sunrise Blvd. site, which was in operation during 1996 and 1997. A valid Expected Peak Day Concentration for ozone cannot be calculated for this site because there are less than three years of ozone data. The Designation Value (DV) at the site is 0.11 ppm. Since the DV is higher than the State ozone standard of 0.09 ppm, the area does not qualify for the attainment designation. However, there were no exceedances of the State standard during 1997 at this site, and no other site within the district had more than three exceedances during 1997. Therefore, based on the above ozone data, the Board's staff confirms the redesignation of the Colusa County APCD as nonattainment-transitional for ozone by operation of law, which does not require further action by the Air Resources Board.

2. Monterey Bay Unified Air Pollution Control District

The Monterey Bay Unified Air Pollution Control District (APCD) is located in, and has the same geographical boundaries as, the North Central Coast Air Basin. Currently, the North Central Coast Air Basin is designated as nonattainment for the State ozone standard.

During the three-year period of 1995 through 1997, the monitoring site with the highest ozone concentrations within the North Central Coast Air Basin is the Pinnacles National Monument site. The calculated Expected Peak Day Concentration for ozone at this site is 0.112 parts per million (ppm), based on three complete years of data. The Designation Value (DV) at the site is 0.11 ppm. Since the DV is higher than the State ozone standard of 0.09 ppm, the area does not qualify for the attainment designation. However, there was only one exceedance of the State standard during 1997 at this site, and no other site within the district had more than three exceedances during 1997. Therefore, based on the above ozone data, the Board's staff confirms the redesignation of the Monterey Bay Unified APCD as nonattainment-transitional for ozone by operation of law, which does not require further action by the Air Resources Board.

3. Placer County Air Pollution Control District (Mountain Counties Air Basin Portion)

The Placer County Air Pollution Control District (APCD) is located in three air basins, but only that portion of the District located within the Mountain Counties Air Basin (MCAB) will be redesignated by operation of law this year. Currently, the MCAB portion of Placer County APCD is designated as nonattainment for the State ozone standard.

During the three-year period of 1995 through 1997, the monitoring site with the highest ozone concentrations within the MCAB portion of Placer County APCD is the Colfax-City Hall site. The calculated Expected Peak Day Concentration for ozone at this site is 0.111 ppm, based on three complete years of data. The Designation Value (DV) at the site is 0.11 ppm. Since the DV is higher than the State ozone standard of 0.09 ppm, the area does not qualify for the attainment designation. However, there were only two exceedances of the State standard during 1997 at this site, and no other site within the MCAB portion of the district had more than three exceedances during 1997. Therefore, based on the above ozone data, the Board's staff confirms the redesignation of the MCAB portion of Placer County APCD as nonattainment-transitional for ozone by operation of law, which does not require further action by the Air Resources Board.

4. San Luis Obispo County Air Pollution Control District

The San Luis Obispo County Air Pollution Control District (APCD), located in the South Central Coast Air Basin, is currently designated as nonattainment for the State ozone standard.

During the three-year period of 1995 through 1997, the monitoring site with the highest ozone concentrations within the San Luis Obispo County APCD is the Paso Robles-Santa Fe Avenue site. The calculated Expected Peak Day Concentration for ozone at this site is 0.109 ppm, based on three complete years of data. The Designation Value (DV) at the site is 0.11 ppm. Since the DV is higher than the State ozone standard of 0.09 ppm, the area does not qualify for the attainment designation. However, there were no exceedances of the State standard during 1997 at this site, and no other site within the district had any exceedance during 1997. Therefore, based on the above ozone data, the Board's staff confirms the redesignation of the San Luis Obispo County APCD as nonattainment-transitional for ozone by operation of law, which does not require further action by the Air Resources Board.

5. Tehama County Air Pollution Control District

The Tehama County Air Pollution Control District (APCD), located in the Sacramento Valley Air Basin, is currently designated as nonattainment for the State ozone standard.

During the three-year period of 1995 through 1997, the monitoring site with the highest ozone concentrations within the Tehama County APCD is the Tuscan Butte site. The calculated Expected Peak Day Concentration for ozone at this site is 0.099 ppm, based on three complete years of data. The Designation Value (DV) at the site is 0.10 ppm. Since the DV is higher than the State ozone standard of 0.09 ppm, the area does not qualify for the attainment designation. However, there was only one exceedance of the State standard during 1997 at this site, and no other site within the district had more than three exceedances during 1997. Therefore, based on the above ozone data, the Board's staff confirms the redesignation of the Tehama County APCD as nonattainment-transitional for ozone by operation of law, which does not require further action by the Air Resources Board.

6. Yolo-Solano Air Quality Management District

The Yolo-Solano Air Quality Management District (AQMD), consisting of Yolo County and the Sacramento Valley Air Basin portion of Solano County, is located in the Sacramento Valley Air Basin (SVAB). Currently, both Yolo County and the SVAB portion of Solano County are designated as nonattainment for the State ozone standard.

During the three-year period of 1995 through 1997, the monitoring site with the highest ozone concentrations within the Yolo-Solano AQMD is the Vacaville-Elmira Road site in Solano County. The calculated Expected Peak Day Concentration for ozone at this site is 0.115 ppm, based on three complete years of data. The Designation Value (DV) at the site is 0.12 ppm. Since the DV is higher than the State ozone standard of 0.09 ppm, the area does not qualify for the attainment designation. However, there were only three exceedances of the State standard during

1997 at this site, and no other site within the district had more than three exceedances during 1997. Therefore, based on the above ozone data, the Board's staff confirms the redesignation of the Yolo-Solano Air Quality Management District as nonattainment-transitional for ozone by operation of law, which does not require further action by the Air Resources Board.

C. PROPOSED AREA REDESIGNATIONS FOR CARBON MONOXIDE

The State carbon monoxide (CO) standards are expressed in terms of two averaging times: one-hour and eight-hour. A one-hour CO standard of 20 parts per million (ppm), not to be exceeded, applies statewide. An eight-hour CO standard of 9.0 ppm, not to be exceeded, applies in all areas of the state except the Lake Tahoe Air Basin, where an eight-hour CO standard of 6 ppm, not to be equaled or exceeded, applies. The geographical area evaluated for CO designation is generally the county or the urbanized area.

Based on air quality data for 1995 through 1997, the Fresno Urbanized Area and El Dorado County (Lake Tahoe Air Basin portion) would qualify for redesignation to attainment for CO.

1. Fresno Urbanized Area

The Fresno Urbanized Area, located in the San Joaquin Valley Air Basin, is currently designated as nonattainment for the State CO standards.

The monitoring site currently with the highest CO concentrations in the Fresno Urbanized Area is the Fresno-Fisher Street site. The available monitoring data were not sufficiently complete to provide a valid Expected Peak Day Concentration (EPDC), mainly due to missing data for the first 25 days of November 1996. After a review of the data for the site with the next highest CO concentrations (Fresno-First Street), it was found that CO concentrations for November 1995 were higher than those for November 1996, in terms of both the average and maximum concentrations. Thus, the staff substituted the data from November 1995 at Fresno-Fisher for the corresponding days in November 1996 without CO data, to provide a conservative estimate of the valid EPDC. The staff believes the data substitution is appropriate because, if the November 1996 data were collected, the CO concentrations are unlikely to be any higher than those from November 1995.

As a result of the data substitution, the staff calculates a revised eight-hour EPDC of 8.98 ppm. Because the revised EPDC is now valid due to more complete data, the exceedance of 9.1 ppm at the site is excluded as affected by an extreme concentration event. The resulting Designation Value (DV) is 8.3 ppm, which is lower than the State eight-hour standard of 9.0 ppm. There were also no violations of the State one-hour CO standard in the area during 1995 to 1997.

Therefore, based on the above CO data, the Board's staff proposes that the Fresno Urbanized Area be redesignated from nonattainment to attainment for the State CO standards. As a result, the entire Fresno County would be designated as attainment for CO.

2. El Dorado County (Lake Tahoe Air Basin Portion)

The Lake Tahoe Air Basin portion of El Dorado County is currently designated as nonattainment-transitional for the State CO standards.

The monitoring site currently with the highest CO concentrations in El Dorado County (Lake Tahoe Air Basin portion) is the South Lake Tahoe-Stateline site. In 1995, the site had an eight-hour CO measurement of 6.34 ppm, which was an exceedance of the special State CO standard for the Lake Tahoe Air Basin of 6 ppm. But the site has not had any exceedance since then, and the peak CO concentrations have been declining in the last three years. Because there are three complete years of CO data collected at the site, the calculated EPDC of 5.56 ppm is valid for determining attainment. The one exceedance of 6.34 ppm, which is higher than the EPDC, is thus excluded as an extreme concentration. The resulting Designation Value (DV) of 5.3 ppm is lower than the special State eight-hour CO standard of 6 ppm for the air basin. There were also no violations of the State one-hour CO standard in the area during 1995 through 1977.

Therefore, based on the available CO data, the Board's staff proposes that El Dorado County (Lake Tahoe Air Basin portion) be redesignated from nonattainment-transitional to attainment for the State CO standards. As a result, the entire Lake Tahoe Air Basin would be designated as attainment for CO. This proposal is an addition to those presented at the public consultation meeting on June 26, 1998, when complete CO data were not yet available.

D. PROPOSED AREA REDESIGNATION FOR SUSPENDED PARTICULATE MATTER (PM₁₀)

The State suspended particulate matter (PM₁₀) standards are expressed in terms of two averaging times: 24-hour and annual geometric mean (AGM). The 24-hour PM₁₀ standard is 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), not to be exceeded. The AGM PM₁₀ standard is 30 $\mu\text{g}/\text{m}^3$, not to be exceeded. Based on air quality data for 1995 through 1997, Lassen County would be redesignated to nonattainment for PM₁₀.

1. Lassen County

Lassen County, which is located in the Northeast Plateau Air Basin, is currently designated as unclassified for the State PM₁₀ standards.

Lassen County has historically been designated as unclassified for PM₁₀ because of a lack of PM₁₀ monitoring data in the County. PM₁₀ monitoring commenced at the Susanville-Russel Avenue site in October 1996. Data through 1997 are not complete, as there are only 10 PM₁₀ measurements in 1996 and 38 PM₁₀ measurements in 1997. Since the data are not sufficient for calculating a valid EPDC for excluding PM₁₀ measurements, all exceedances of the 24-hour standard would be considered as violations unless excluded as affected by exceptional events or unusual concentration events.

There were three PM₁₀ exceedances at the site, all occurring in 1997: 84, 65, and 53 $\mu\text{g}/\text{m}^3$. If there were three complete years of data, there would be either an equal or higher number of exceedances. It would also be unlikely that all three exceedances would be excluded as extreme concentrations even if complete data were available. Further, a review of the available data does not show any evidence of an exceptional event or an unusual concentration event for these three exceedances. Thus, there were three violations of the State 24-hour PM₁₀ standard in Lassen County, among 48 measurements during 15 months of monitoring on a once-every-sixth-day sampling schedule.

Therefore, based on the above PM₁₀ data, the Board's staff proposes that Lassen County be redesignated from unclassified to nonattainment for the State PM₁₀ standards. Since Modoc and Siskiyou Counties are already designated as nonattainment for PM₁₀, this proposal for Lassen County would make the entire Northeast Plateau Air Basin designated as nonattainment for PM₁₀.

E. PROPOSED AREA REDESIGNATION FOR SULFATES

The State standard for total sulfates is a 24-hour average concentration of 25 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), not to be equaled or exceeded. The air quality data for the period of 1995 through 1997 support the redesignation of San Diego County to nonattainment for sulfates.

1. San Diego County

San Diego County is located in, and has the same geographical boundaries as, the San Diego Air Basin. Currently, the San Diego Air Basin is designated as attainment for the State standard for sulfates.

During the most recent three-year period (1995-1997), there was one exceedance of the State sulfates standard, specifically $26.71 \mu\text{g}/\text{m}^3$ at the San Diego-12th Avenue site on May 16, 1997. Since the EPDC for the site is $30.5 \mu\text{g}/\text{m}^3$, the exceedance is not excluded as an extreme concentration. The staff has also found no evidence of an exceptional event or unusual concentration event. Thus, the exceedance is considered a violation of the State sulfates standard.

Although this is the only violation of the sulfates standard in the last five years, the violation is significant in terms of health impacts. In contrast to other State standards, the standard for sulfates was set at a “critical harm” level rather than the usual “threshold with a margin of safety” health effects level (CCR, Title 17, section 70200). The threshold health effects level for ambient sulfates is estimated to be in the range of 8 to $10 \mu\text{g}/\text{m}^3$ (reference: “*Review of the 24-Hour Sulfates Ambient Air Quality Standard*,” Staff Report 77-20-3, State of California Air Resources Board, September 29, 1977). Thus, the State standard for sulfates of $25 \mu\text{g}/\text{m}^3$ has a negative margin of safety. And the impact of the sulfates pollution at this location is more than just a one-time event. While this is the only exceedance during 1995-1997, there are other high sulfates concentrations at the site of 24, 22, 21, and $20 \mu\text{g}/\text{m}^3$ from a once-every-sixth-day sampling schedule during the three-year period. Therefore, public health has been put at risk in San Diego County.

The Board’s laboratory staff has re-analyzed the filter for May 16, 1997, and confirmed that the measurement is accurate. Total suspended particulate (TSP) sulfates are collected on glass fiber filters with sulfate artifacts. Artifacts are those particles on the filter that are not collected from ambient air but are formed by the reaction of gases with the substances that are a part of the filter media. The amount of sulfate artifact depends on the ambient SO_2 concentration, meteorology, and the pH of the filter used for sample collection. In adoption of the sulfates standard in 1976, the artifact was found to be up to $8 \mu\text{g}/\text{m}^3$ (see above reference). In comparing the 1995 through 1997 PM_{10} sulfate concentrations to TSP sulfate concentrations in San Diego County, staff found that the artifact was between 1 and $3 \mu\text{g}/\text{m}^3$. It might be argued that the sulfates standard would not have been exceeded if the artifact were subtracted from the measurement in question. However, the State sulfates standard was adopted with full recognition of the artifact problem, i.e., the level of the standard includes the artifact. Any adjustment of the ambient measurement to account for the artifact would require a similar adjustment to the level of the standard. Therefore, staff concludes that artifacts are not the cause of the violation. A revision of the State sulfates standard to remove the effect of artifacts would require a change in the monitoring method. With such a change, the particle size would be based on PM_{10} or $\text{PM}_{2.5}$ (instead of TSP) and would likely have a lower numerical level than the current level of $25 \mu\text{g}/\text{m}^3$.

The San Diego-12th Avenue monitoring site, situated in an industrial and residential area, is located about one mile from the San Diego Bay. The site fully meets the siting criteria in 40 CFR Part 58 (July 1, 1987). Because a knowledge of the possible sources contributing to a violation would help confirm the existence of an air quality problem, the staff conducted backward trajectory analyses using available meteorological data and sulfur dioxide (SO_2) as a surrogate pollutant,

because SO₂ is monitored hourly while sulfates are monitored over a 24-hour period. In the data analyses, the staff found that peak SO₂ concentrations gradually migrated northward site by site from Tijuana, Mexico to San Diego in the hours leading up to the exceedance. The analyses showed that the main origins of the air mass for the exceedance were both an area offshore of northwestern Baja California and the San Diego Harbor. The results indicate as possible emission sources the industrial facilities in the Rosarito area of Mexico, including a power plant and an oil tank farm, and also marine vessels in the offshore shipping lanes along the immediate coast and in the harbor.

Sulfur dioxide (SO₂) is a gaseous precursor to sulfates. The hourly SO₂ concentrations during the high sulfates episodes were generally in the range of 0.02 to 0.04 ppm, which are not high compared to the State one-hour SO₂ standard of 0.25 ppm, but are sufficient to produce sulfate concentrations in excess of the sulfates standard through chemical reactions. Ambient conversion of SO₂ to sulfates is especially intense in the humid or foggy conditions typical in the spring, due to fast conversion of SO₂ to sulfuric acid by dissolved oxidants. The data indicate that the meteorological conditions on May 16, 1997, were conducive to conversion of SO₂ to sulfates.

Total SO₂ emissions for San Diego County, including those from stationary sources, on-road motor vehicles, and other mobile sources, are 12 tons per day. Although the staff was unable to obtain emission data for the entire Tijuana/Rosarito area, the Rosarito power plant alone emits 66 tons per day of SO₂, more than five times the emissions of all of San Diego County (reference: *“Central Termoeléctrica Presidente Juárez,”* Playas de Rosarito B.C., Junio de 1998). The staff believes that, based on the trajectory analyses and emission inventory comparison, the high sulfates concentrations in San Diego County are due to transport from the Rosarito, Mexico area.

According to the above referenced report, the management of the Rosarito power plant indicated it is planning to change the fuel burned at two of the six boilers around the year 2000 from high-sulfur fuel oil to natural gas, which has considerably lower sulfur content. The use of natural gas would help reduce the SO₂ emissions from the plant, and would possibly lower the sulfate concentrations in San Diego County. However, there is no assurance that the fuel change will take place as planned. Because the area designations are based on current air quality data, any planned emission reductions for the future would not affect the area designations.

Area designations are intended to inform the public about the healthfulness of the ambient air in a given area, without regard to the sources of emissions or transport. The sources of the emissions causing the violations and the feasibility of their controls are separate issues to be dealt with during the attainment planning process. However, the above data analyses have provided: (1) a confirmation of a sustained ambient sulfate problem in the San Diego area; and (2) a demonstration that the emission sources are anthropogenic and are not beyond regulatory control, although controlling the sources in Mexico may require cross-border agreements. In conclusion, a violation of the State sulfates standard in San Diego County is ascertained because

staff has found no evidence that the exceedance on May 16, 1997, was affected by a highly irregular or infrequent event.

Therefore, based on the 1995-1997 air quality data and available meteorological and emission data, the Board's staff proposes that San Diego County be redesignated from attainment to nonattainment for the State standard for sulfates.

F. AREAS NOT RECOMMENDED FOR REDESIGNATION

This section describes four areas of the State that are not recommended for redesignation. One area, the Bay Area Air Quality Management District, is currently designated as nonattainment for the State ozone standard. Although the area would qualify for nonattainment-transitional based solely on data from 1995 through 1997, data for 1998 show more than three exceedances at a single monitoring location. The staff's proposed amendments to CCR, Title 17, section 70303.5 specify how the data for the current year, i.e., 1998 data, are used in the nonattainment-transitional evaluation. Based on these data, the staff recommends that the Bay Area Air Quality Management District remain designated as nonattainment for ozone.

The remaining three areas currently are designated as attainment or unclassified. Air quality data collected for these areas during 1995 through 1997 show exceedance(s) of the State ozone standard. However, the staff does not recommend redesignating these areas because the measured exceedances are excluded as affected by highly irregular or infrequent events under the provisions of Appendix 2 to the designation criteria. The three areas are: Inyo County, Plumas County, and Sonoma County (North Coast Air Basin portion).

The State ozone standard is a one-hour average concentration of 0.09 ppm, not to be exceeded (CCR, Title 17, section 70200). The specifics of each case are described below.

1. Bay Area Air Quality Management District

The Bay Area Air Quality Management District is located in, and has the same geographical boundaries as, the San Francisco Bay Area Air Basin. Currently, the San Francisco Bay Area Air Basin is designated as nonattainment for the State ozone standard.

During the three-year period of 1995 through 1997, the monitoring site with the highest ozone concentrations within the San Francisco Bay Area Air Basin is the Livermore-Old First Street site. The calculated Expected Peak Day Concentration for ozone at this site is 0.149 parts per million (ppm), based on three complete years of data. The Designation Value (DV) at the site is 0.15 ppm. During 1997, there were only three exceedances of the State standard at the Livermore-

Old First Street site, and no other site within the district had more than three exceedances.

The number of exceedances during 1997 was lower than during previous years. The staff believes that this could possibly be the result of the cooler than normal weather caused by the El Niño phenomenon. Since El Niño is a temporary weather phenomenon, it is possible that the number of exceedances will return to a higher level in subsequent years. In fact, data collected during 1998 already show more than three exceedances at the Livermore-First Street site. Therefore, based on the proposed amendments to the designation criteria (CCR, Title 17, section 70303.5(b); refer to Chapter II, section B.5.), the staff recommends the San Francisco Bay Area Air Basin retain its nonattainment designation for the State ozone standard.

2. Inyo County

Inyo County in the Great Basin Valleys Air Basin currently is designated as unclassified for the State ozone standard. During the period of 1995 through 1997, the National Park Service collected ozone data at a site in the Death Valley National Park. The ozone data for the Death Valley site show one exceedance of 0.10 ppm during 1996. Because the data for this monitoring site are incomplete, a valid Expected Peak Day Concentration cannot be calculated to exclude the exceedance as an extreme concentration. However, based on last year's review of air quality and emission data, the staff determined that the impact of the exceedance was limited to the local area, the exceedance was not likely to recur, and the data were not sufficient to support a nonattainment designation. Thus, the ozone exceedance was excluded from the designation process as affected by an unusual concentration event.

Because of the exceedance in 1996, Inyo County does not qualify for the attainment designation. The staff is proposing to maintain the unclassified designation because there was no exceedance in the latest year (1997), and the ozone data are complete for 1997. The highest ozone concentration in 1997 was 0.08 ppm. If there had been at least one ozone exceedance in 1997, the staff would have proposed that Inyo County be redesignated as nonattainment.

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

3. Plumas County

Plumas County in the Mountain Counties Air Basin currently is designated as unclassified for the State ozone standard. During 1995 through 1997, there was one ozone exceedance in 1995 of 0.11 ppm at the Quincy-North Church Street site. Because data for this site are incomplete and there are no historical data, a valid Expected Peak Day Concentration cannot be calculated to exclude the exceedance as affected by an extreme concentration event.

Based on a 1996 review of air quality and emission data, the staff determined that the impact of the exceedance was limited to the local area, the exceedance was not likely to recur, and the data were not sufficient to support a nonattainment designation. Thus, the ozone exceedance was excluded from the designation process as affected by an unusual concentration event. Since there have been no further exceedances in 1996 and 1997, the staff maintains that the 1995 exceedance was affected by an unusual concentration event. As a result, the staff does not recommend any change to Plumas County's unclassified designation for the State ozone standard.

4. Sonoma County (North Coast Air Basin Portion)

The portion of Sonoma County located in the North Coast Air Basin currently is designated as attainment for the State ozone standard. During the period of 1995 through 1997, three ozone exceedances of 0.10 ppm each were measured at the Healdsburg-Municipal Airport site. The calculated Expected Peak Day Concentration for this site of 0.091 ppm is valid, based on three years of data that meet the completeness criteria. Because the measured exceedances are higher than the Expected Peak Day Concentration, the exceedances qualify as affected by extreme concentration events and are excluded from the designation process. The ozone Designation Value for the site is 0.09 ppm.

Because all exceedances are excluded as extreme concentrations, the staff does not recommend any change to the ozone attainment designation for the portion of Sonoma County in the North Coast Air Basin.

G. STAFF RECOMMENDATION

The staff recommends the Board adopt the proposed amendments to sections 60201, 60202, 60205, and 60206 of the area designations. The full text of the proposed amendments is shown in Attachment E to this Staff Report.

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CHAPTER IV

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. Section 39607(e) also requires the Board, in developing and revising the designation criteria, to consider instances where there is 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 to 4, thereof. The proposed amendments to the designation criteria are consistent with the legal requirement. Chapter II 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 requirement for annually reviewing the area designations also is specified in State law (H&SC section 39608(c)). The proposed amendments to the area designations are described in Chapter III of this Staff Report. The proposed area redesignations reflect the application of the designation criteria set forth in CCR, Title 17, sections 70300 through 70306, as they are proposed to be amended in Chapter II of this Staff Report. Each proposed area redesignation is accompanied by a discussion of its basis and justification. The staff has considered the potential alternatives to the proposed amendments to the area designations--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.

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CHAPTER V

IMPACTS OF THE PROPOSED AMENDMENTS

A. PUBLIC HEALTH AND WELFARE IMPACTS

1. Proposed Amendments to the Designation Criteria

The adoption of the proposed amendments to the designation criteria are necessary to clarify current practices, correct minor errors, make the regulations easier to interpret and internally consistent, and delete extraneous language and references. Because the proposed revisions do not make any substantive changes to the current application of the regulations, they will not result in any adverse impacts on public health and welfare.

2. Proposed Amendments to the Area Designations

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

The proposed amendments to the area designations would redesignate two areas as attainment for the State CO standards. Redesignating these areas as attainment will have no adverse impacts on public health and welfare because a district is obligated not only to attain, but also maintain, the State standards once they are achieved.

Also, the proposed amendments would redesignate one area as nonattainment for the State PM₁₀ standards and one area as nonattainment for the State sulfates standard. Redesignating these areas as nonattainment may result in the Board and districts adopting plans and control measures. Therefore, adopting the proposed redesignations ultimately may indirectly benefit public health and welfare. Any potentially adverse impacts on public health and welfare that are identified with respect to specific plans and control measures would be included in the development and consideration of such plans and control measures.

In addition, six districts qualify as nonattainment-transitional for the State ozone standard. Designating an area as nonattainment-transitional potentially may have some adverse impacts on public health and welfare because this category allows the district to review and potentially modify some of the control measures identified in its attainment plan. However, prior to modifying control measures, districts designated nonattainment-transitional for ozone must determine that the

measures are no longer necessary to accomplish expeditious attainment or to maintain the state standard or that delaying the measures will not retard achievement of the State standard. Also, any such modifications must be consistent with State and federal regulations and statutes. As with a nonattainment designation, any adverse impacts on public health and welfare that are identified with respect to the modified plan will be included in the development and consideration of such modifications.

B. ECONOMIC IMPACTS

1. Overall Impacts of the Proposed Amendments

The proposed amendments to the designation criteria and the area designations by themselves do not contain requirements for action. Subsequent requirements for action may result after additional steps, such as plan preparation and approval, are taken. The designation criteria provide a set of rules for the Board to follow in determining the appropriate designation status for the various pollutants for each area of the State. The area designations themselves are labels that describe the healthfulness of the air quality in each area. Because these regulations by themselves contain no requirements for action, they have no direct economic impact, and the following general determinations are appropriate:

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

The Executive Officer also has determined, in accordance with Government Code section 11346.5(a)(8), that adoption of the proposed amendments will not have a significant adverse economic impact on businesses, including the ability of California businesses to compete with businesses in other States. Finally, the Executive Officer has determined that there will be no, or an insignificant, potential cost impact, as defined in Government Code section 11346.5(a)(9), on private persons or businesses directly affected as a result of adopting the proposed amendments.

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

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

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

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.

2. Proposed Amendments to the Designation Criteria

The proposed amendments to the designation criteria are intended to clarify current practices, correct minor errors, make the regulations easier to interpret and internally consistent, and delete extraneous language and references. The proposed amendments to the designation criteria do not make any substantive changes to the current application of the regulations. Neither will the proposed amendments require any new or more stringent regulations. Therefore, adoption of the proposed amendments will not result in any adverse economic impacts.

3. Proposed Amendments to the Area Designations

The proposed amendments to the area designations will not have any direct adverse economic impacts because they do not, by themselves, require any regulatory action. The area designations are labels which define the healthfulness of air quality in each area of the State. The proposed amendments would redesignate one area as nonattainment for the State PM₁₀ standards and one area as nonattainment for the State sulfates standard. Districts designated as nonattainment for a State standard are expected to attain the State standard as expeditiously as possible, but there are no planning requirements for districts designated as nonattainment for the State PM₁₀ or sulfates standards.

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CHAPTER VI

DOCUMENTS RELIED UPON

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

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

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