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Date of Release: August 17, 2012
Board Consideration: September 27, 2012

To: Butte County Air Quality Management District Board of Directors
From: W. James Wagoner, Air Pollution Control Officer
Staff Contact: Armen Kamian, Associate Air Quality Planner
Re: **Public Hearing to Consider Adoption of the 2012 PM_{2.5} Emission Inventory Submittal to the State Implementation Plan for the Chico, CA/Butte County (partial) Planning Area**

ISSUE:

Adoption and submittal to the U.S. EPA of the PM_{2.5} emission inventory for the Chico, CA/Butte County (partial) nonattainment area.

RECOMMENDATION:

After holding a public hearing, consider comments and approve the proposed resolution adopting the PM_{2.5} emission inventory and directing staff to forward the emissions inventory, public comments and responses to the California Air Resources Board requesting submittal to the U.S. Environmental Protection Agency (EPA).

DISCUSSION:

In December 2009, most of Butte County was designated by the EPA as nonattainment for the 2006 federal 24-hour fine particle standard, referred to as PM_{2.5}. The nonattainment area now meets the 2006 24-hour PM_{2.5} standard using the most current quality-assured three year period of monitoring data, 2008-2010, and continues to meet the standard in 2011. EPA's Clean Data Policy suspends many of the planning elements including the development of a formal planning State Implementation Plan (SIP) for areas meeting a standard prior to the attainment date.

The attached report demonstrates that the non-attainment area now meets the standards and provides the emissions inventory for the area. Submittal of the emissions inventory to EPA is one of the requirements remaining under EPA's Clean Data Policy and requires your Board's action as requested.

The remaining requirements include submittal of Rule 432 *Federal New Source Review (FNSR)* and continued implementation of the transportation conformity program by the Butte County Association of Governments. No further Board action is needed for these elements.

The California Environmental Quality Act (CEQA) requires an environmental evaluation to consider and analyze potentially significant environmental impacts associated with the adoption of the PM_{2.5} emissions inventory. The proposed action is required by the federal Clean Air Act and EPA for the maintenance, restoration, enhancement, or protection of the environment and proposes no new measures. Therefore, it is exempt from CEQA because it is an action by a regulatory agency for the protection of the environment and because it can be seen with certainty that there is no possibility that the activity in question may have a significant adverse effect on the environment.

Attachments:

Attachment A: PM_{2.5} Emission Inventory Submittal released August 17, 2012

Attachment B: Proposed resolution of adoption

Attachment C: Public notice

Attachment A: PM_{2.5} Emission Inventory Submittal released August 17, 2012

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**2012 PM_{2.5} Emission Inventory Submittal
to the State Implementation Plan
for the Chico, CA/Butte County (partial)
Planning Area**

**Prepared by the
Butte County Air Quality Management District**

Proposed for Adoption September 27, 2012

Date of Release August 17, 2012

629 Entler Avenue, Suite 15
Chico, CA 95928

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Appendix A: Chico, CA/Butte County (partial) Nonattainment Area Description

Appendix B: California Air Resources Board letter from K. Magliano to M. Lakin, U.S. EPA dated August 28, 2009

Appendix C: California Air Resources Board letter from J. Goldstene to J. Blumenfeld, U.S. EPA dated June 2, 2011

Appendix D: Butte County Air Quality Management District Daily Winter-time PM_{2.5} Nonattainment Area Emissions Inventory

1. Executive Summary

In December 2009, most of Butte County was designated by the United States Environmental Protection Agency (U.S. EPA or EPA) as nonattainment for the 2006 federal 24-hour fine particle standard, referred to as PM_{2.5} (Reference 1). Under State and federal law, the Butte County Air Quality Management District (District) is the local air quality agency responsible for meeting and maintaining compliance with federal air quality standards.

The nonattainment area now meets the 2006 24-hour PM_{2.5} standard using the most current quality-assured three year period of monitoring data, 2008-2010, and continues to meet the standard in 2011. U.S. EPA's Clean Data Policy (Reference 8) suspends many of the planning elements including the development of a formal planning State Implementation Plan (SIP) for areas meeting a standard prior to the attainment date. This document demonstrates that the non-attainment area now meets the standards and provides the emissions inventory for the area.

2. Introduction and Background

a. Planning Area

The Chico, CA/Butte County (partial) PM_{2.5} Planning Area (Planning Area) is located in the northeastern portion of the Sacramento Valley Air Basin (Figure 2-1). Figure 2-2 shows the geographic location of the Planning Area within the Sacramento Valley. The EPA has designated a portion of Butte County as the Planning Area, as described in Appendix A. The PM_{2.5} monitor site is located in the Planning Area at the eastern edge of the valley floor, on Manzanita Avenue, Chico.

The Sacramento Valley is bound on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada Mountains. These mountain ranges reach heights in excess of 6000 feet above mean sea level (MSL), with individual peaks rising much higher. This provides a substantial physical barrier to both locally created pollution and the pollution that has been transported northward on prevailing winds from the metropolitan areas to the south. As discussed later, local stagnant conditions contribute most to the highest PM_{2.5} levels, occurring during the winter months.

Although a significant portion of the Planning Area is at elevations higher than 1,000 feet above MSL, the vast majority of its populace lives and works below that elevation. The valley is often subjected to inversion layers that, coupled with geographic barriers, create a high potential for air pollution problems.

b. Background on Particulate Matter Air Pollution and Health Impacts

Fine particulate matter, referred to as PM_{2.5}, is that portion of particulate matter that is 2.5 micrometers and smaller in diameter. PM_{2.5} pollution can be small particles or liquid aerosols. PM_{2.5} composition is classified in terms of primary and secondary particles. Primary particles are directly emitted into the atmosphere and retain the same chemical composition as when they were released. Examples include fine soot particles from combustion sources, wood smoke, dust, and salts from sea spray. Secondary particles are those formed through chemical reactions involving atmospheric oxygen, water vapor, hydroxyl radicals, nitrates, sulfates, sulfur dioxide (SO₂), oxides of nitrogen (NO_x), ammonia (NH₃), and organic gases from natural and anthropogenic sources. Particulate matter may be produced by natural causes (e.g., pollen, ocean salt spray, wind-blown dust, and soil erosion) and by human activity (e.g., road dust, agricultural operations, fuel combustion products, wood burning, rock crushing, cement production, and motor vehicles).

In 2006, EPA established a health-based ambient standard not to exceed 35 micrograms per cubic meter averaged over a 24 hour period (Reference 2). Exposure to PM_{2.5} pollution is linked to increased frequency and severity of asthma attacks and bronchitis, and even premature death in people with existing cardiac or respiratory disease. When particle levels in the air increase, so do reports of adverse health

outcomes. Those most sensitive to particle pollution include people with existing respiratory and cardiac problems, children, and the elderly. Prolonged and repeated exposure can also have adverse impacts. Life expectancy is somewhat lower in areas with high particulate levels.

Analysis by the California Air Resources Board (References 3 and 6) indicates the key components of PM_{2.5} in the Planning Area are ammonium nitrate and organic carbon. While the ammonium nitrate is regional, organic carbon is the significant PM_{2.5} species and is more localized. Historically, PM_{2.5} pollution is dominated during the winter months by smoke from wood burning stoves and fireplaces, and that is when the exceedances of the standard occur. Agricultural and residential open burning are also contributing factors. Due to meteorological conditions, smoke collects in localized, concentrated pockets. This means that the smoke from just one fireplace or wood-burning stove can cause a significant problem for an entire neighborhood. Because airborne particles take time to settle, the problem intensifies quickly. Additionally, smoke particles are so tiny that they may seep into homes despite closed doors and windows. Up to 70 percent of the outdoor wood smoke can re-enter the home (Reference 4). Neighbors of wood burners may be breathing unhealthy particles, even if they are not using their own wood-burning stoves or fireplaces.

Figure 2-1

Northern Sacramento Valley Air Basin

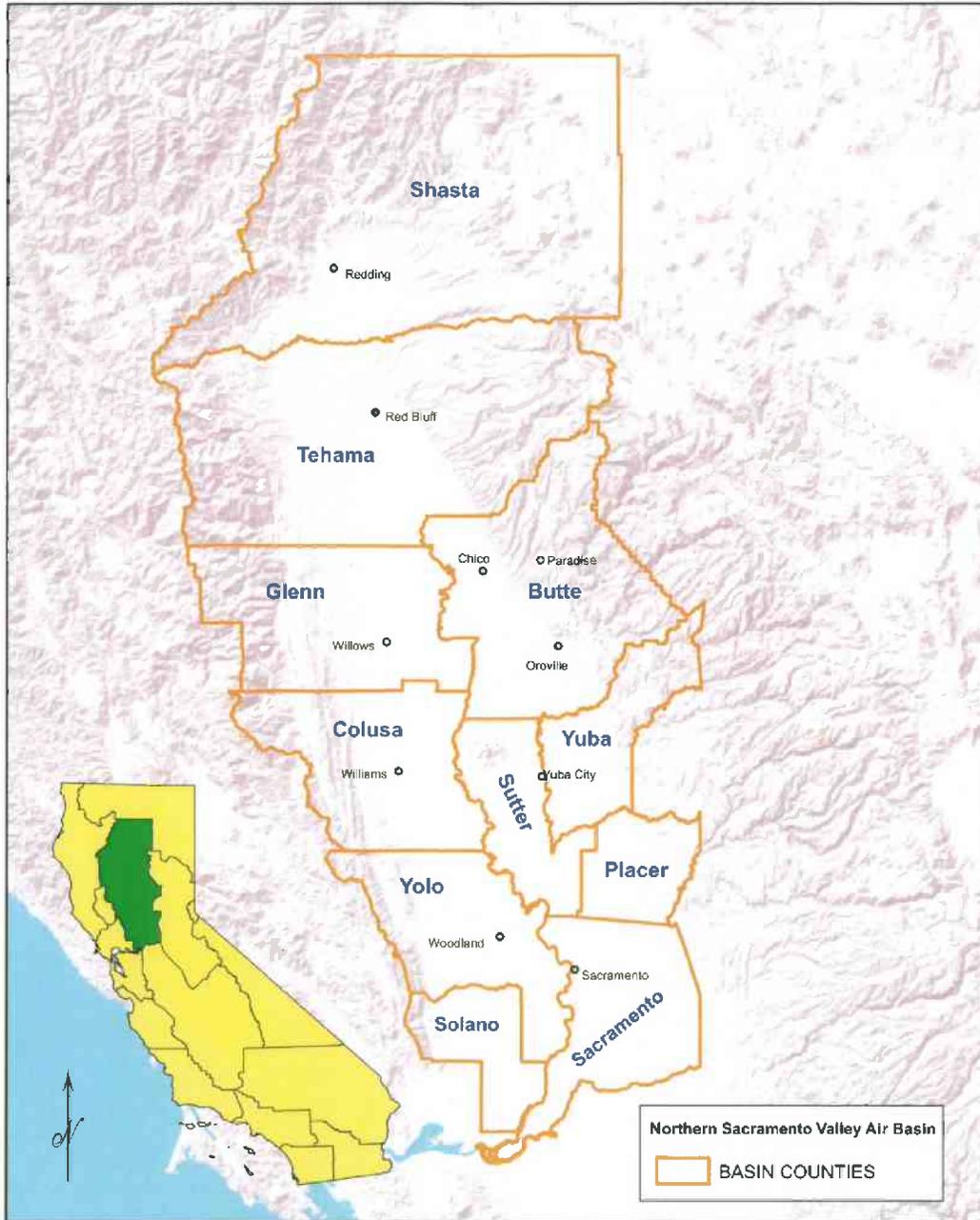
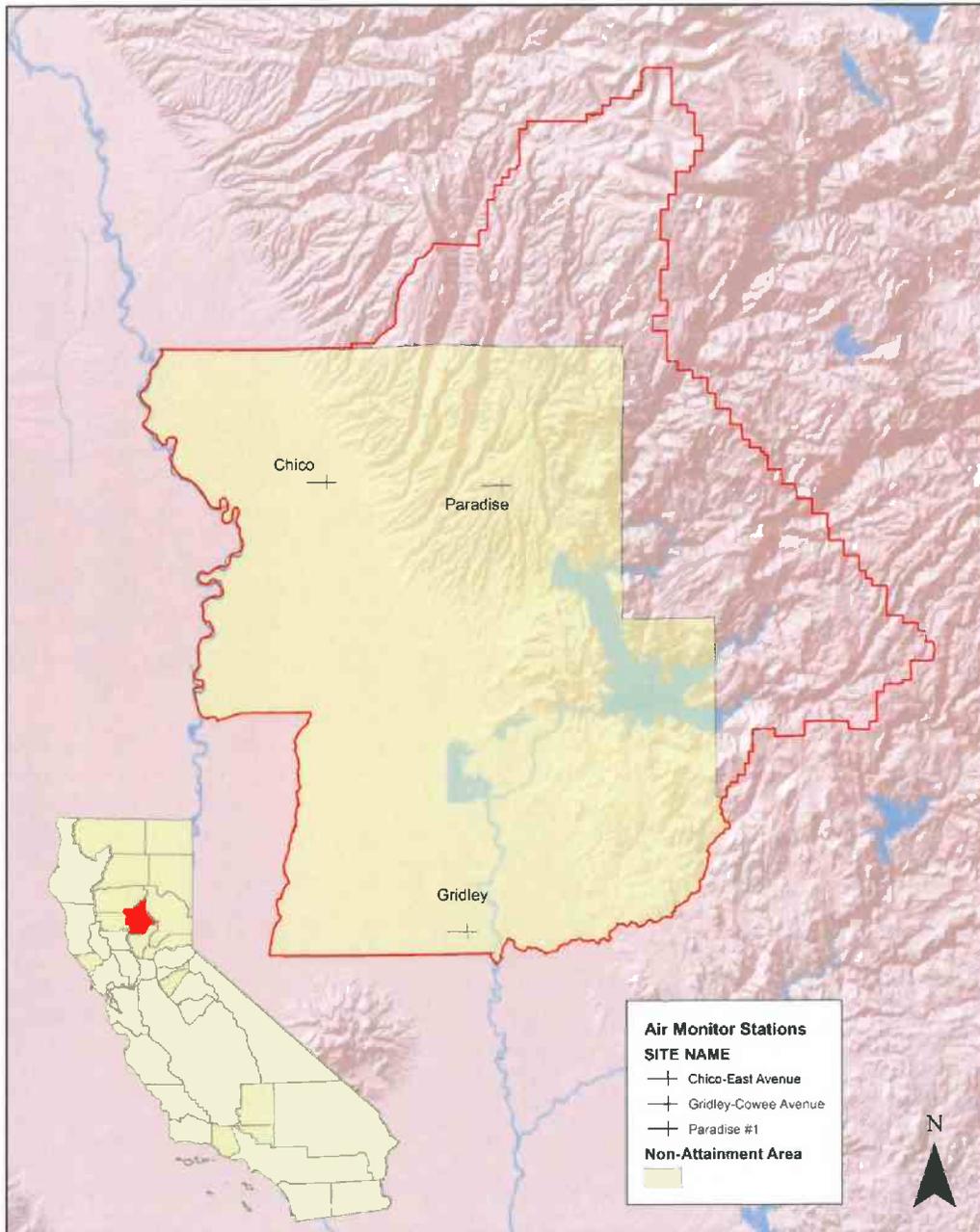


Figure 2-2

**Butte County Air Quality Management District
Federal PM2.5 Non-Attainment Area (2009)**



3. Regulatory History and Requirements

Pursuant to the federal Clean Air Act, the U.S. EPA sets primary air quality standards to protect public health, including protection of sensitive populations such as asthmatics, children, and the elderly, and secondary standards to protect public welfare, including the protection against decreased visibility and damage to crops, animals, vegetation, and buildings. Achieving the federal standards protects public health, reduces the region's health care costs, and improves the quality of life for residents. This chapter describes EPA's process for setting health-based standards and designating areas based on those standards, the history of the PM_{2.5} standard and the area designations, and the Clean Air Act requirements for areas based on those designations.

a. National Ambient Air Quality Standards

The Clean Air Act (CAA) was adopted in 1970. The legislation authorized the development of comprehensive federal and state regulations to limit emissions from stationary and mobile sources. The CAA was amended in 1977 and again in 1990. The CAA and amendments require the EPA adopt National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. EPA formally designates areas as "nonattainment" (not meeting the standard), "unclassifiable/attainment" (meeting the standard or expected to be meeting the standard despite a lack of monitoring data), or "unclassifiable" (insufficient data to classify).

Once nonattainment designations take effect, the state and local governments have three years to develop implementation plans outlining how areas will attain and maintain the standards by reducing air pollutant emissions contributing to fine particle concentrations. The CAA requires EPA to conduct a periodic review of the standards and the science upon which the standards are based.

b. Overview of Particulate Matter NAAQS

Particulate matter is one of the six criteria pollutants. EPA first issued standards for particulate matter in 1971 and subsequently revised the standards in 1987, 1997, and 2006. The 2006 revision addressed two categories of particle pollution: *fine particles* (PM_{2.5}), which are 2.5 micrometers in diameter and smaller, and *inhalable coarse particles* (PM₁₀) which are smaller than 10 micrometers.

The EPA established the separate annual and 24-hour standards for PM_{2.5} in 1997 (62 FR 38652). The annual standard was set at 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The 24-hour standard was set at 65 $\mu\text{g}/\text{m}^3$, based on a 3-year average of the 98th percentile of 24-hour PM_{2.5} concentrations.

In 2006, EPA lowered the 24-hour PM_{2.5} standard from 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$, and retained the current annual PM_{2.5} standard at 15 $\mu\text{g}/\text{m}^3$ (Reference 2). The revised 24-hour PM_{2.5} standards were published on October 17, 2006 (71 FR 61144) and became effective on December 18, 2006.

c. Designations

On November 13, 2009 (74 FR 58688, Reference 1), EPA promulgated air quality designations for all areas in the U.S. for the 2006 PM_{2.5} NAAQS, effective on December 14, 2009. The Chico/Butte County Planning Area was designated nonattainment for the 24-hour PM_{2.5} NAAQS based on 2005-2007 monitoring data. The State Implementation Plan (SIP) is due to EPA by December 14, 2012.

d. Clean Air Act Requirements for PM_{2.5} Nonattainment Areas

The PM_{2.5} NAAQS does not use a nonattainment area classification system like the 8-hour ozone standard. While CAA Subpart 1, section 172(a)(1) allows for a classification system, it is not required. Not using a classification system simplifies the attainment year as well as other planning requirements. The 1990 CAA Amendments do not include any subpart for PM_{2.5} because the PM_{2.5} standards were not yet established at that time. Therefore, the nonattainment area plan provisions in CAA Subpart 1, section 172 apply. CAA 172(c) requires Reasonably Available Control Technology (RACT), Reasonably Available Control Measures (RACM), Reasonable Further Progress (RFP), contingency measures, emission inventory, and New Source Review (NSR), as discussed in the *Clean Air Fine Particle Implementation Rule, Final Rule* (Reference 7).

e. Clean Data Policy

Areas designated as nonattainment that attain the standard prior to the SIP submittal deadline, or prior to an area's approved attainment date, are eligible for reduced regulatory requirements as described in EPA's *Clean Data Policy for the Fine Particle National Ambient Air Quality Standards* (Reference 8). The Chico/Butte County Planning Area attained the PM_{2.5} NAAQS in 2010 (based on 2008-2010 data). Preliminary analysis shows that the area continues to meet the standard in 2011. A Clean Data Request was submitted by the State of California for the area on June 2, 2011. Table 3-1 summarized the CAA requirements for PM_{2.5} Nonattainment Areas, the Clean Data Policy exemptions for areas that attain the standards.

This document includes the air quality monitoring data and analysis to demonstrate the area has attained the PM_{2.5} standard and provides the emissions inventory for the nonattainment area.

Table 3-1 CAA Requirements for PM_{2.5} Nonattainment Areas and Areas with Clean Data

General Requirements	Federal CAA	PM _{2.5} Implementation Rule	Description	Required for area with clean data?
Attainment Date	172(b)(2)	72 FR 20601	Nonattainment areas should reach attainment as expeditiously as practicable, but no later than 5 years from designation.	No - areas with clean data have already met standard.
RACT/RACM	172(c)(1)	72 FR 20609-20633	SIP provisions should provide for the implementation of reasonably available control measures and reasonably available control technologies.	No - suspended (72 FR 20665 section 51.1004(c))
RFP	172(c)(2)	72 FR 20633-20645	SIP provisions must provide for reasonable further progress.	No - suspended (72 FR 20665 section 51.1004(c))
Contingency Provisions	172(c)(1)	72 FR 20642-20645	The SIP must provide for the implementation of specific measures that would take effect without further action by the State and that would be undertaken if the area fails to make RFP or attainment on time.	No - suspended (72 FR 20665 section 51.1004(c))
Emissions Inventory	172(c)(3)	72 FR 20647-20651	The District must include a comprehensive, current inventory of actual emissions from all sources of the relevant pollutants in the area.	Yes – See Chapter 5.
Conformity	176(c))	72FR20645-20646	The District must have procedures are in place to require that federal actions and federally funded transportation projects conform to the SIP and that they do not interfere with efforts to attain federal air quality standards.	Yes – District Rules 1102 and 1103 govern federal transportation and general conformity, respectively.
NSR	172(c)(4-5)	73FR28321	The District must identify and quantify the emissions of pollutants that will be allowed (in accordance with section 173(a)(1)(B), from the construction and operation of major new or modified stationary sources in the area. The District must require permits for new or modified stationary sources.	Yes - District Rule 432 implements the new source review (NSR) requirements and will be submitted separately to the SIP.

4. Air Quality

a. Monitoring Sites

Butte County currently has three (3) monitoring sites operated by the California Air Resources Board (CARB) that measure $PM_{2.5}$, located in Chico, Gridley, and Paradise. However, only the Chico site has a federal reference monitor (FRM) that can be used for attainment demonstration purposes. $PM_{2.5}$ FRM data from the Chico site has been collected since 1998. The Chico site also has a $PM_{2.5}$ speciation monitor that identifies the chemical composition of the $PM_{2.5}$. The monitoring site locations are indicated on Figures 2-1 and 2-2.

b. $PM_{2.5}$ Monitoring Data and Design Values

Table 4-1 summarizes the 98th percentiles of the 24-hour $PM_{2.5}$ concentrations for each year during the period 2008-2011, as measured from the Chico FRM monitor. 2008 does not include the days impacted by the wildfire exceptional event (see Section 4.d below). Table 4-1 also includes 3-year averages, representing the design value for the 3-year periods of 2008-2010 and 2009-2011.

Table 4-1 Summary of 98th Percentiles of the 24-hour Concentrations (micrograms per cubic meter)

98 th Percentile				3-year Average	
2008	2009	2010	2011	2008-2010 Design Value	2009-2011 Design Value
35.7	30.0	29.0	46.2	32	35

All of the $PM_{2.5}$ monitoring data collected during the period were in accordance with 40CFR58.

c. Source Apportionment

$PM_{2.5}$ in Chico is primarily composed of organic carbon, with ammonium nitrate a distant second. Figure 4-1 illustrates both the seasonal pattern and the chemical composition of $PM_{2.5}$ at the Chico site with highest concentrations occurring during the winter months. Figure 4-2 shows the average composition of 14 exceedance days in Chico, with organic carbon accounting for approximately 75 percent of the $PM_{2.5}$ on these days. Both Figures 4-1 and 4-2 are from the *California Air Resources Board Nonattainment Area Designation for the Revised Federal $PM_{2.5}$ 24-hour Standard*, released December 17, 2007 (Reference 3), and reflect data from 2004-2006.

Figure 4-1 Monthly Chemical Composition of PM2.5, Chico (2004-2006)

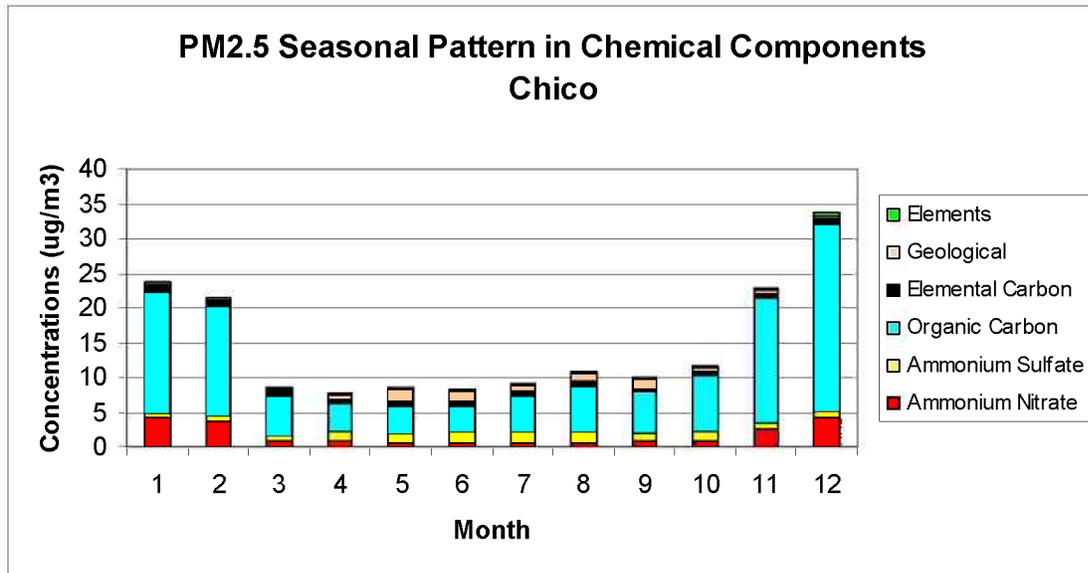
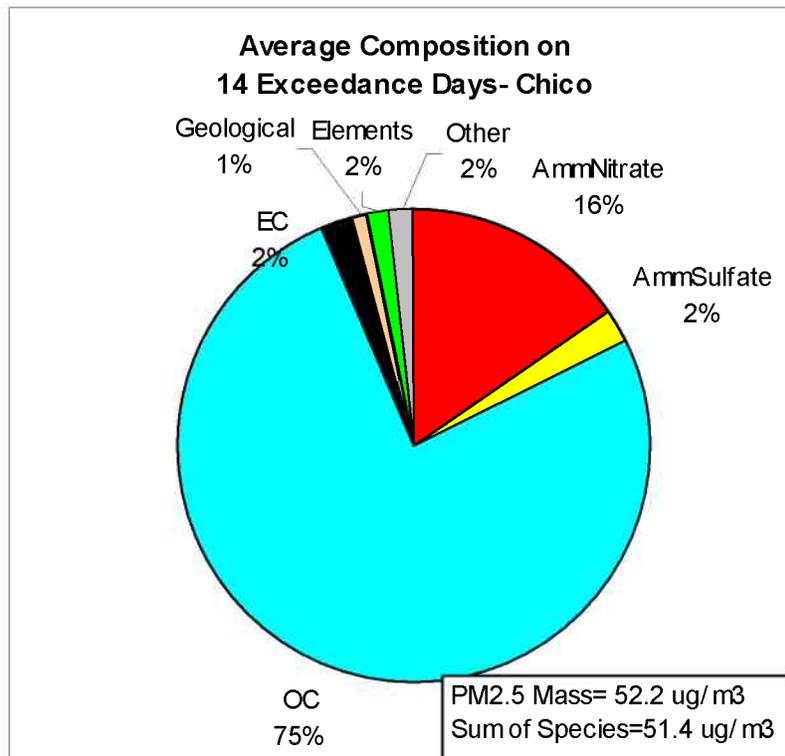


Figure 4-2 Exceedance Day Chemical Composition, Chico (2004-2006)



Based on the emissions inventory (Chapter 5) and Figures 4-1 and 4-2, the majority of the organic carbon is attributable to directly emitted carbon from combustion sources (References 3, 5, and 6). Concentrations of organic carbon are highest in the late fall and winter months of November through February, when residential wood combustion occurs for home heating. Residential wood combustion is the largest single source in the winter PM_{2.5} emissions inventory, making it the primary source of PM_{2.5} concentrations.

Ammonium nitrate is the next highest contributor, at 16 percent, to the total PM_{2.5} inventory on exceedance days. The ammonium nitrate fraction is highest during the fall and winter. Ammonium sulfate and dust contribute slightly more to the PM_{2.5} inventory during the spring and summer. Colder temperatures, low wind speeds, shallow mixing layers, and higher humidity during the late fall and winter favor the formation of ammonium nitrate. Sunny, warmer conditions during the spring and summer months favor the formation of ammonium sulfate and secondary organic aerosols (Reference 3). The nitrate and sulfate fractions are attributable primarily to motor vehicle emissions.

d. Exceptional Events

Four of the five highest FRM PM_{2.5} days occurred during the summer of 2008. During a period of approximately six weeks the area was blanketed with smoke from a number of wildfires. CARB, on behalf of the District, flagged four days as affected by exceptional events in the Air Quality System database and submitted documentation to EPA on August 28, 2009 (Reference 9, cover letter included in Appendix B). The flagged days were not considered in the determination of the design value for the period 2008-2010. EPA action on the exceptional events is pending.

e. Clean Data Request

On June 2, 2011, CARB, on behalf of the District, requested that the U.S. EPA find the Chico PM_{2.5} nonattainment area in attainment for the 2006 24-hour PM_{2.5} standard (Reference 10, included in Appendix C). This request was made based on the quality assured and certified FRM PM_{2.5} data showing attainment for the period 2008-2010. In addition, CARB requested EPA suspend the attainment plan and progress plan requirements. The District has prepared this document consistent with and pursuant to this Clean Data Request, under EPA's Clean Data Policy (Reference 8). At the time of this Plan's preparation, EPA had not acted on the Clean Data Request.

f. Attainment Demonstrated

Compliance with the 24-hour PM_{2.5} standard is met if the 98th percentile of the 24-hour PM_{2.5} concentrations in a year, averaged over three (3) years, is less than or equal to the standard of 35 micrograms per cubic meter. The resulting 3-year average concentration represents the design value. As indicated in Section 4.b above, the design value for the period 2008 – 2010 is 32 micrograms per cubic meter, which is less

than the standard, demonstrating the Chico/Butte County nonattainment area attains the 24-hour PM_{2.5} standard.

5. Attainment Emission Inventory

The attainment emissions inventory for the Chico/Butte County nonattainment area is based on the daily winter season PM_{2.5} emissions for 2011 and is typical for the 3-year periods of 2008-2010 and 2009-2011 when attainment was demonstrated. A seasonal emissions inventory is allowed by EPA when seasonal emissions have significantly led to the nonattainment status (reference 11).

Table 5-1 has been developed to highlight the primary daily winter-time PM_{2.5} emissions from stationary, area, and mobile sources for the nonattainment area as provided by CARB. Further breakdown of the emissions inventory is included as Appendix D. Direct PM_{2.5}, oxides of sulfur (SO_x), reactive organic gases (ROG), ammonia (NH₃), and oxides of nitrogen (NO_x) are reported.

In the attached inventory (Appendix D), Miscellaneous Processes includes major PM_{2.5} sources identified below as Residential Wood Heating (as compared to All other Residential Heating), Agricultural or Managed Burning, and Construction, Road and Agricultural Fugitives. Stationary, or point source emissions, were developed from information the District has on file from permitted facilities. Stationary Sources emissions comprise most of the Fuel Combustion, Waste Disposal, Cleaning and Surface Coatings, Petroleum Marketing and Production, and Industrial Processes inventory categories. Stationary Sources includes permitted facilities subject to the federal Title V program, such as Neal Road Recycling and Waste Facility, Kinder Morgan, and Pacific Oroville Power, Inc. For this report, auto body shops, dry cleaners, and gasoline stations are included in the Stationary Source category. General Area Sources are sources for which a methodology is typically used to estimate emissions and include Solvent Evaporations sources such as Consumer Products and Architectural Coatings. Mobile sources include on- and off-road vehicular emissions as reported by CARB.

Table 5-1 2011 Daily Winter-time PM_{2.5} (tons per day)¹

Highlighted Inventory Category	PM2.5	ROG	NOx	SOX	NH3
Residential Wood Heating	2.36	3.40	0.28	0.05	0.15
All other Residential heating	0.04	0.03	0.59	0.02	0.00
Agricultural (Managed) Burning	1.16	0.93	0.68	0.11	0.12
Construction Fugitives	0.10	0.00	0.00	0.00	0.00
Agricultural Fugitives	0.19	0.32	0.00	0.00	0.58
Road Fugitives	0.33	0.00	0.00	0.00	0.00
Stationary Source	0.81	1.69	2.13	0.07	0.07
General Area Sources	0.08	4.34	0.00	0.00	3.61
Mobile Sources	0.50	5.57	13.53	0.09	0.23
Total Daily Winter-time PM2.5	5.57	16.28	17.22	0.33	4.77

¹ California Emissions Inventory Development and Reporting System (CEIDARS)—Chico Nonattainment Area 2012 PM_{2.5} SIP Version 1.01 Base Year 2005 Grown and Controlled

Summary of PM_{2.5} inventory from particulate matter banked in the District's Emission Reduction Credit (ERC) register and Community Bank reserve for essential public services is included in Table 5-2. These PM_{2.5} emissions are not actual emission from 2011 but the District recognizes the potential to be emitted in the future.

Table 5-2 Daily Winter-time PM_{2.5} ERCs (tons per day)

2011 ERC Registry (Oct.-Apr.)	0.30
Community Bank (Oct.-Apr.)	0.06
Total Avg. Winter ERC PM 2.5 Inventory	0.36

6. References

1. 2006 24-hour PM_{2.5} standard nonattainment area designations, Federal Register 74 FR 58688, dated November 13, 2009, effective December 14, 2009.
2. 2006 24-hour PM_{2.5} standard, Federal Register 71 FR 61144, dated October 17, 2006, effective December 18, 2006.
3. State recommendations on nonattainment area designations for the revised federal PM_{2.5} 24-Hour standard, California Air Resources Board letter, J. Goldstene to W. Nastri, U.S. EPA, dated December 17, 2007.
4. Potential Adverse Health Effects of Wood Smoke, W.E. Pierson, et.al., West J. Med 1989 Sep; 151: 339-342.
5. EPA Technical Analysis for Butte County, U.S. EPA letter, W. Nastri to Governor Schwarzenegger, dated August 18, 2008.
6. State PM_{2.5} designation recommendations, California Air Resources Board letter, J. Goldstene to W. Nastri, U.S. EPA, dated October 15, 2008.
7. Clean Air Fine Particle Implementation Rule, Federal Register 72 FR 20586-20667, dated April 25, 2007.
8. Clean Data Policy for the Fine Particle National Ambient Air Quality Standards, U.S. EPA Memorandum from S. Page, dated December 14, 2004.
9. 2008 Exceptional Events, California Air Resources Board letter, K. Magliano to M. Lakin, U.S. EPA, dated August 28, 2009.
10. Clean Data Request, California Air Resources Board letter, J. Goldstene to J. Blumenfeld, U.S. EPA, dated June 2, 2011.
11. Implementation Guidance for the 2006 24-Hour Fine Particle (PM_{2.5}) National Ambient Air Quality Standards (NAAQS), U.S. EPA Memorandum from S. Page, dated March 2, 2012.

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Appendix A

Designated PM_{2.5} non-attainment area (24-hour NAAQS)
Chico, CA: Butte County (partial) (Reference 1)

That portion of Butte County which lies west of the line described as follows: (Mount Diablo Base and Meridian) Beginning at the intersection of the Butte-Yuba county line and the township line common to T18N R6E and T19N R6E, west to the township line common to T18N R6E and T19N R6E, then north along the range line common to R5E and R6E, then west along the township line common to T21N and T20N, then north along the range line common to R4E and R5E, then west along the township line common to T24N and T23N to the Butte-Tehama County boundary.

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Appendix B

California Air Resources Board letter from K. Magliano to M. Lakin, U.S. EPA dated August 28, 2009



Linda S. Adams
Secretary for
Environmental Protection

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov



Arnold Schwarzenegger
Governor

August 28, 2009

Mr. Matthew Lakin, Ph.D.
Air Quality Analysis Office Manager
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street, AIR-7
San Francisco, California 94105

Dear Dr. Lakin:

During the summer of 2008, an unusually intensive outbreak of lightning strikes from a series of dry thunderstorms ignited an unprecedented summer fire season. Extensive impacts occurred across Northern and Central California, with smoke and haze lingering over the region for much of the summer. Numerous monitoring sites, comprising both Federal Reference Method and Federal Equivalent Method monitors, recorded elevated particulate matter (PM) concentration levels, with many days above the National Ambient Air Quality Standards for both PM_{2.5} and PM₁₀. The California Air Resources Board is requesting exclusion of data from 33 monitoring sites in 15 Air Districts where smoke caused levels to exceed those historically seen during the summer particulate season. Documentation on these wildfire smoke events and their impact on air quality are enclosed.

On March 22, 2007, the United States Environmental Protection Agency (U.S. EPA) adopted the Treatment of Data Influenced by Exceptional Events rule that allows data to be flagged and thus excluded from consideration by U.S. EPA when making decisions related to the attainment status of an area. This rule, which became effective on May 22, 2007, requires that States submit documentation to support flagging to the appropriate U.S. EPA Regional Office.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

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We are therefore formally requesting you concur that these exceedances are PM2.5 and PM10 natural events and send us confirmation by letter. If you have any questions regarding the enclosed documentation please contact Ms. Sylvia Zulawnick, Manager, Particulate Matter Analysis Section, at (916) 324-7163 or via email at szulawni@arb.ca.gov.

Sincerely,

/s/

Karen Magliano, Chief
Air Quality Data Branch
Planning and Technical Support Division

Enclosures (3)

cc: (With (1) enclosure)

Mr. Jack Broadbent
Air Pollution Control Officer
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Mr. Lakhmir Grewal
Air Pollution Control Officer
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Mr. Harry Krug
Air Pollution Control Officer
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Mr. Dave Valler
Air Pollution Control Officer
Feather River Air Quality Management District
1007 Live Oak Boulevard, Suite B-3
Yuba City, California 95991

Mr. Mark Black
Air Pollution Control Officer
Glenn County Air Pollution Control District
P.O. Box 351 (720 North Colusa Street)
Willows, California 95988-0351

Mr. Doug Gearhart
Air Pollution Control Officer
Lake County Air Quality Management District
885 Lakeport Boulevard
Lakeport, California 95453-5405

Mr. Christopher D. Brown
Air Pollution Control Officer
Mendocino County Air Quality Management District
306 East Gobbi Street
Ukiah, California 95482-5511

Mr. Rick Martin, Jr.
Air Pollution Control Officer
North Coast Unified Air Quality Management District
2300 Myrtle Avenue
Eureka, California 95501-3327

Ms. Gretchen Bennitt
Air Pollution Control Officer
Northern Sierra Air Quality Management District
200 Litton Drive, Suite 320
P.O. Box 2509
Grass Valley, California 95945-2509

Mr. Matthew Lakin, Ph.D.
August 28, 2009
Page 4

Mr. Tom Christofk
Air Pollution Control Officer
Placer County Air Pollution Control District
3091 County Center Drive, Suite 240
Auburn, California 95603

Mr. Larry Greene
Air Pollution Control Officer
Sacramento Metropolitan Air Quality Management District
777 12th Street, Third Floor
Sacramento, California 95814-1908

Mr. Seyed Sadredin
Air Pollution Control Officer
San Joaquin Valley Air Pollution Control District
1990 East Gettysburg
Fresno, California 93726

Mr. Russ Mull
Air Pollution Control Officer
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, California 96001-1759

Mr. Patrick Griffin
Air Pollution Control Officer
Siskiyou County Air Pollution Control District
525 South Foothill Drive
Yreka, California 96097-3036

Mr. Mat Ehrhardt
Air Pollution Control Officer
Yolo-Solano Air Quality Management District
1947 Galileo Court, Suite 103
Davis, California 95616-4882

Ms. Sylvia Zulawnick, Manager
Particulate Matter Analysis Section
Planning and Technical Support Division

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Appendix C

California Air Resources Board letter from J. Goldstene to J. Blumenfeld, U.S. EPA dated June 2, 2011

cc: Deborah Jordan



Air Resources Board



Linda S. Adams
Acting Secretary for
Environmental Protection

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Edmund G. Brown Jr.
Governor

June 2, 2011



Mr. Jared Blumenfeld
Regional Administrator
United States Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, California 94105

Dear Mr. Blumenfeld:

The Air Resources Board (ARB) requests that the United States Environmental Protection Agency (U.S. EPA) find the Chico PM_{2.5} nonattainment area in attainment for the 2006 24-hour fine particulate PM_{2.5} National Ambient Air Quality Standard (NAAQS). This request is based upon review of quality assured and certified PM_{2.5} data that show attainment of the NAAQS during the 2008-2010 period. In addition to making a finding of attainment, we also request that the U.S. EPA suspend the attainment plan and progress plan requirements. ARB recognizes that a finding of attainment under the Clean Air Act does not constitute a redesignation to attainment.

On October 8, 2009, the Chico area was designated nonattainment for the 2006 24-hour PM_{2.5} NAAQS. An area is considered to be in attainment of the 24-hour PM_{2.5} standard when the design value is less than or equal to 35 $\mu\text{g}/\text{m}^3$. The 24-hour design value for the Chico area is 32 $\mu\text{g}/\text{m}^3$ for 2008-2010, as illustrated in Table 1 in the enclosure. This design value is valid for a comparison to the NAAQS because it meets completeness criteria for each quarter within the designated three-year period. However, the 2008 design value excludes data affected by exceptional events, as shown in Table 2 in the enclosure. These data have been flagged in U.S. EPA's Air Quality System database and the documentation was submitted to U.S. EPA on August 28, 2009.

Under U.S. EPA's Clean Data Policy, a finding of attainment supports suspension of certain State Implementation Plan requirements, such as attainment and progress plans so long as the area remains in attainment or until the area completes the requirements to be redesignated to attainment. Since the Chico area now meets the standard, ARB requests a finding of attainment from U.S. EPA for the Chico PM_{2.5} nonattainment area.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Mr. Jared Blumenfeld
June 2, 2011
Page 2

If you have any questions, please contact Lynn Terry, Deputy Executive Officer, at (916) 322-2739, or have your staff contact Karen Magliano, Chief, Air Quality Data Branch, at (916) 322-7137.

Sincerely,



James N. Goldstene
Executive Officer

Enclosure

cc: Deborah Jordan, Director
United States Environmental Protection Agency
Air Division, Region 9
75 Hawthorne Street
San Francisco, California 94105

W. James Wagoner
Air Pollution Control Officer
Butte County Air Quality Management District
629 Entler Avenue, Suite 15
Chico, California 95928

Lynn Terry
Deputy Executive Officer

Karen Magliano, Chief
Air Quality Data Branch
Planning and Technical Support Division

Enclosure

Table 1. PM_{2.5} Summary Statistics for Chico (Butte County) Area, 2008-2010

Yearly 98 th Percentile ($\mu\text{g}/\text{m}^3$)			24-hr Design Value ($\mu\text{g}/\text{m}^3$)		
2008	2009	2010	2008	2009	2010
35.7	30.0	29.0	49	40	32

Table 2. 2008 98th Percentile Determination

Rank*	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	Date	Exceptional Event
	107.6	11-Jul-08	Summer 2008 Northern California Wildfires
	93.8	23-Jun-08	Summer 2008 Northern California Wildfires
1	68.8	19-Jan-08	
	49.5	29-Jun-08	Summer 2008 Northern California Wildfires
	47	23-Jul-08	Summer 2008 Northern California Wildfires
2	35.7	01-Jan-08	
3	33.5	05-Jul-08	
4	33.3	17-Jul-08	
5	32.7	26-Nov-08	

*Exceptional Events Excluded

Appendix D

Butte County Air Quality Management District Daily Winter PM2.5 Nonattainment Area Emissions Inventory, California Air Resources Board, California Emissions Inventory Development and Reporting System (CEIDARS): NorCal 2012 PM2.5 SIP version 1.02

Appendix D

CHICO NONATTAINMENT AREA (PARTIAL BUTTE COUNTY)
 2011 DAILY WINTER-TIME EMISSIONS INVENTORY
 (BASE YEAR 2005-GROWN AND CONTROLLED IN TONS PER DAY)

SUMMARY CATEGORY NAME	PM2.5	ROG	NOX	SOX	NH3
FUEL COMBUSTION:					
ELECTRIC UTILITIES	0.1931	0.0488	0.7164	0.0458	0
COGENERATION	0.0001	0.0009	0.0018	0.0001	0
MANUFACTURING AND INDUSTRIAL	0.0046	0.0044	0.1298	0.0067	0
FOOD AND AGRICULTURAL PROCESSING	0.0288	0.052	0.6462	0.0037	0
SERVICE AND COMMERCIAL	0.0129	0.0294	0.5384	0.0016	0
OTHER (FUEL COMBUSTION)	0.0028	0.024	0.0544	0.0002	0
WASTE DISPOSAL:					
SEWAGE TREATMENT	0	0.0001	0	0.0017	0.0011
LANDFILLS	0	0	0	0	0.0236
INCINERATORS	0.0048	0.0002	0.015	0	0
OTHER (WASTE DISPOSAL)	0	0	0.0003	0	0.0469
CLEANING AND SURFACE COATINGS:					
LAUNDERING	0	0.0036	0	0	0
DEGREASING	0	0.4605	0	0	0
COATINGS AND RELATED PROCESS SOLVENTS	0.0004	0.328	0.0025	0.0003	0
PRINTING	0	0.0409	0	0	0
ADHESIVES AND SEALANTS	0	0.0933	0	0	0
PETROLEUM PRODUCTION AND MARKETING:					
OIL AND GAS PRODUCTION	0.0043	0.0994	0.0166	0	0.0007
PETROLEUM MARKETING	0	0.3635	0	0	0
OTHER (PETROLEUM PRODUCTION AND MARKETIN	0	0.1077	0.0024	0	0
INDUSTRIAL PROCESSES:					
CHEMICAL	0	0.0031	0	0	0
FOOD AND AGRICULTURE	0.4582	0.0015	0.0087	0	0
MINERAL PROCESSES	0.0699	0.0056	0.002	0.0063	0
METAL PROCESSES	0.0021	0	0	0	0
WOOD AND PAPER	0.0329	0.1053	0.006	0	0
OTHER (INDUSTRIAL PROCESSES)	0.0012	0.0002	0	0	0
SOLVENT EVAPORATION:					
CONSUMER PRODUCTS	0	1.2537	0	0	0
ARCHITECTURAL COATINGS AND RELATED PROCESSES	0	0.5933	0	0	0
PESTICIDES/FERTILIZERS	0	0.2943	0	0	3.2315
ASPHALT PAVING / ROOFING	0	2.0526	0	0	0

(continued)

Appendix D

**CHICO NONATTAINMENT AREA (PARTIAL BUTTE COUNTY)
2011 DAILY WINTER-TIME EMISSIONS INVENTORY
(BASE YEAR 2005-GROWN AND CONTROLLED IN TONS PER DAY)**

SUMMARY CATEGORY NAME	PM2.5	ROG	NOX	SOX	NH3
MISCELLANEOUS PROCESSES:					
RESIDENTIAL FUEL COMBUSTION	2.4048	3.4296	0.8771	0.0686	0.1545
FARMING OPERATIONS	0.1656	0.3178	0	0	0.5791
CONSTRUCTION AND DEMOLITION	0.0956	0	0	0	0
PAVED ROAD DUST	0.1561	0	0	0	0
UNPAVED ROAD DUST	0.1725	0	0	0	0
FUGITIVE WINDBLOWN DUST	0.0234	0	0	0	0
FIRES	0.0132	0.0084	0.0028	0	0
MANAGED BURNING AND DISPOSAL	1.1564	0.9333	0.6789	0.108	0.1221
COOKING	0.0657	0.0365	0	0	0
OTHER (MISCELLANEOUS PROCESSES)	0	0	0	0	0.3762
ON-ROAD MOTOR VEHICLES:					
LIGHT DUTY PASSENGER (LDA)	0.0482	0.9417	0.8961	0.0076	0.0718
LIGHT DUTY TRUCKS - 1 (LDT1)	0.0079	0.3351	0.2725	0.0013	0.0113
LIGHT DUTY TRUCKS - 2 (LDT2)	0.0259	0.6774	1.0063	0.0055	0.0558
MEDIUM DUTY TRUCKS (MDV)	0.0198	0.5311	0.953	0.0053	0.0608
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.0047	0.2534	0.3276	0.0019	0.0199
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.0003	0.0168	0.0151	0.0001	0.0011
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.0003	0.0704	0.0517	0.0001	0.0005
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0	0.0119	0.0171	0	0.0001
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.0213	0.0602	1.2687	0.0011	0.0007
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.003	0.0078	0.1732	0.0002	0.0001
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	0.0186	0.0262	0.4816	0.0006	0.0013
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	0.1052	0.1709	2.9241	0.0041	0.0055
MOTORCYCLES (MCY)	0.0007	0.1895	0.0603	0.0001	0.0003
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.0025	0.0024	0.0538	0.0001	0.0001
HEAVY DUTY GAS URBAN BUSES (UB)	0	0.0018	0.0093	0	0.0001
SCHOOL BUSES - GAS (SBG)	0	0.0052	0.0078	0	0.0001
SCHOOL BUSES - DIESEL (SBD)	0.0026	0.0028	0.0425	0	0.0001
OTHER BUSES - GAS (OBG)	0.0001	0.0143	0.0344	0.0001	0.0003
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.0008	0.0013	0.0234	0	0
ALL OTHER BUSES - DIESEL (OBD)	0.0008	0.0011	0.0164	0	0
MOTOR HOMES (MH)	0.0014	0.0138	0.0723	0.0002	0.0009
OTHER MOBILE SOURCES:					
AIRCRAFT	0.0192	0.5257	0.2653	0.0554	0
TRAINS	0.0406	0.0993	1.5742	0.0014	0
RECREATIONAL BOATS	0.0076	0.2002	0.038	0	0
OFF-ROAD RECREATIONAL VEHICLES	0.0029	0.2046	0.0059	0.0001	0
OFF-ROAD EQUIPMENT	0.0726	0.853	1.2783	0.0004	0.0003
FARM EQUIPMENT	0.0911	0.3543	1.6619	0.0018	0.0012
FUEL STORAGE AND HANDLING	0	0.103	0	0	0
GRAND TOTAL FOR CHICO NONATTAINMENT AREA	5.5675	16.367	17.230	0.330	4.768

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Attachment B: Proposed Resolution of Adoption

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**REVISED RESOLUTION 2012-12
BEFORE THE BOARD OF DIRECTORS OF
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA**

Resolution 2012-12.....)
Adopt PM_{2.5} Emissions Inventory)
Direct Staff to Submit to CARB and EPA.....)

WHEREAS, the U.S. Environmental Protection Agency (EPA) promulgated the 2006 National Ambient Air Quality Standard (NAAQS) for particulate matter 2.5 micrometers and smaller (PM_{2.5}) determining a standard of 35 micrometers per cubic meter of ambient air is necessary in order to protect public health (71 FR 61144 published October 17, 2006, effective December 18, 2006);

AND WHEREAS, on November 13, 2009 EPA promulgated air quality designations for all areas in the U.S. for the 2006 PM_{2.5} NAAQS, designating the Chico/Butte County Planning Area as nonattainment based on 2005-2007 monitoring data (74 FR 58688);

AND WHEREAS, the Chico/Butte County Planning Area attained the PM_{2.5} NAAQS in 2010, and continues to meet the NAAQS in 2011 based on a preliminary analysis;

AND WHEREAS, a Clean Data Request was submitted by the California Air Resources Board (CARB) to EPA for the area on June 2, 2011;

AND WHEREAS, EPA's Clean Data Policy suspends most of the planning requirements for a nonattainment area subsequently meeting the standard after designation;

AND WHEREAS, submittal of an emissions inventory is required for an area meeting EPA's Clean Data Policy;

AND WHEREAS, California Health and Safety Code Section 40000 declares that local and regional authorities have the primary responsibility for control of air pollution from all sources, other than motor vehicles;

AND WHEREAS, the Butte County Air Quality Management District published a notice of availability of the emissions inventory on August 17, 2012 to request public comments for consideration at the September 27, 2012 public hearing;

AND WHEREAS, the Butte County Air Quality Management District Staff conducted a public workshop on September 6, 2012 to receive comments, and the Governing Board conducted a public hearing on September 27, 2012 to receive comments and to consider adoption of the emissions inventory;

THEREFORE, BE IT RESOLVED, that the Butte County Air Quality Management District Governing Board hereby adopts the 2011 PM_{2.5} Emissions Inventory as provided in the report *2012 PM_{2.5} Emission Inventory Submittal to the State Implementation Plan for the Chico, CA/Butte County (partial) Planning Area* released on August 17, 2012;

BE IT FURTHER RESOLVED, that the Butte County Air Quality Management District Governing Board directs staff to request CARB forward Table 5-1 and Appendix D of the report *2012 PM_{2.5} Emission Inventory Submittal to the State Implementation Plan for the Chico, CA/Butte County (partial) Planning Area* released on August 17, 2012 to EPA for inclusion in the California State Implementation Plan;

BE IT FURTHER RESOLVED, that the Butte County Air Quality Management District Governing Board directs staff to forward all public comments received related to the emissions inventory and responses to CARB for submittal to EPA.

On Motion of _____, Seconded by _____, the foregoing resolution is hereby PASSED AND ADOPTED BY THE Air Quality Management District Governing Board of Directors on this 27th day of September, 2012 by the following:

AYES:
NOES:
ABSTAIN:
ABSENT:

W. James Wagoner, Air Pollution Control Officer
Butte County Air Quality Management District

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on September 27, 2012.

ATTEST: _____
Robyn Sousa, Clerk of the Governing Board

Attachment C: Public Notice

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NOTICE OF PUBLIC HEARING

The Governing Board of the Butte County Air Quality Management District (District) will hold a Public Hearing on September 27, 2012 at 10:00 a.m. at the City of Gridley Council Chambers, 685 Kentucky St., Gridley, California, to consider the *2012 PM2.5 Emission Inventory Submittal to the State Implementation Plan for the Chico, CA/Butte County (partial) Planning Area*. Monitoring data demonstrates the area has attained the PM2.5 standard; however, in accordance with the federal Clean Air Act requirements, the District must adopt and submit the emissions inventory for the nonattainment area.

District staff will hold a public workshop on September 6, 2012 at 3:00 p.m. at the District office (address below) to review the *2012 PM2.5 Emission Inventory Submittal* document and address question regarding the emissions inventory and the air quality planning process.

The *2012 PM2.5 Emission Inventory Submittal* may be reviewed at the District office at the address below or on the District website: www.bcaqmd.org. For additional information please contact Jim Wagoner at (530) 332-9400, ext. 112. Written comments on the annual report should be submitted by September 20, 2012 to: Board Clerk, Butte County Air Quality Management District, 629 Entler Avenue, Suite 15, Chico, CA 95928.

Dated: August 17, 2012
W. JAMES WAGONER
AIR POLLUTION CONTROL OFFICER