

STATE OF CALIFORNIA
 CALIFORNIA AIR RESOURCES BOARD
 STAFF REPORT

**ANALYSIS OF THE
 2012 PM_{2.5} EMISSION INVENTORY SUBMITTAL
 TO THE STATE IMPLEMENTATION PLAN FOR
 THE CHICO PLANNING AREA**

I. BACKGROUND

The federal Clean Air Act establishes planning requirements for those areas that exceed the health-based National Ambient Air Quality Standards (NAAQS). Areas are designated as nonattainment based on monitored exceedances of the NAAQS. These nonattainment areas must develop and implement a State Implementation Plan (SIP) that demonstrates how they will attain the NAAQS by specified dates.

In December 2006, the United States Environmental Protection Agency (U.S. EPA) lowered the 24-hour NAAQS for fine particulate matter (PM_{2.5}) from 65 µg/m³ to 35 µg/m³. Effective December 14, 2009, U.S. EPA designated the Chico, CA/Butte County (partial) Planning Area (Chico Planning Area) in the Butte County Air Quality Management District (Butte District) as nonattainment for this more stringent 24-hour PM_{2.5} NAAQS. The subsequent SIP submittal deadline is December 14, 2012.

II. CLEAN DATA POLICY REQUIREMENTS

Under the U.S. EPA's *Clean Data Policy for the Fine Particulate National Ambient Air Quality Standards* (Clean Data Policy), areas designated nonattainment that subsequently attain the NAAQS prior to the SIP submittal deadline are eligible for reduced regulatory requirements. Based on quality-assured federal reference method monitoring data for 2008-2010, the Chico Planning Area has demonstrated attainment of the 24-hour PM_{2.5} NAAQS (Table 1). The Chico Planning Area also continues to attain based on the most recent air quality data for 2009-2011.

Table 1

98 th Percentile (µg/m ³)				3-year Average (µg/m ³)	
2008	2009	2010	2011	2008-2010 Design Value	2009-2011 Design Value
35.7	30.0	29.0	46.2	32	35

On June 2, 2011, ARB submitted a request to U.S. EPA to find the Chico Planning Area in attainment of the 35 $\mu\text{g}/\text{m}^3$ 24-hour $\text{PM}_{2.5}$ NAAQS. This clean data finding under the Clean Data Policy, suspends the majority of the planning elements under the Clean Air Act, including the attainment demonstration, reasonably available control measures, and contingency elements of a SIP. The only planning element required under the Clean Data Policy is an emission inventory. Other requirements under the Clean Air Act, specifically transportation conformity and new source review, are still applicable and are discussed in Section IV of this document.

III. EVALUATION OF THE BUTTE COUNTY AQMD EMISSION INVENTORY

The Butte District developed the *2012 $\text{PM}_{2.5}$ Emission Inventory Submittal to the State Implementation Plan for the Chico, CA/Butte County (partial) Planning Area* (Emission Inventory SIP Submittal) to address the emission inventory requirements under the Clean Data Policy. The Governing Board of the Butte District adopted the Emission Inventory SIP Submittal at a public hearing on September 27, 2012.

An essential tool to support the evaluation, control, and mitigation of air pollutants, an emission inventory is a systematic listing of air pollutant sources, along with an accounting of the amount of pollutants emitted by each source or category over a given period of time. This accounting is an estimate of emissions, not direct ambient concentration measurements. U.S. EPA requires states to submit an attainment year inventory that includes directly emitted $\text{PM}_{2.5}$ emissions, as well as emissions of precursors that contribute to the formation of particles formed through chemical reactions in the atmosphere, in particular, oxides of nitrogen (NO_x), oxides of sulfur (SO_x), reactive organic gases (ROG), and ammonia (NH_3).

In addition, U.S. EPA allows the use of a seasonal inventory, rather than an annual inventory, when it has been demonstrated that the seasonal emissions have significantly led to the original nonattainment status. Analysis of daily air quality data, as well as source apportionment analysis detailed in the Emission Inventory SIP Submittal, has demonstrated that high $\text{PM}_{2.5}$ concentrations occur primarily during the winter season. Exceedances during other seasons have been demonstrated to have been influenced by exceptional events, such as wildfires, but are outside of regulatory control.

The Butte District's Emission Inventory SIP Submittal is the most up-to-date emission inventory for the Chico Planning Area. Based on the daily winter season $\text{PM}_{2.5}$ emissions for 2011, it is typical of both the 2008-2010 and 2009-2011 attainment demonstration years. The winter-time 2011 baseline inventory includes $\text{PM}_{2.5}$, NO_x , SO_x , ROG, and NH_3 emissions. Residential wood heating comprises almost half of

winter directly emitted PM_{2.5} emissions, while mobile sources are the largest contributors to NOx and ROG emissions.

IV. OTHER CLEAN AIR ACT REQUIREMENTS

a. Conformity

The Clean Air Act requires that procedures be in place to ensure that there is conformity of federal actions and federally funded transportation projects efforts to attain the NAAQS. The Butte District has two rules in place to ensure both general conformity (Rule 1103) and federal transportation conformity (Rule 1102). Under the Clean Data Policy, the Butte District had a choice to either set transportation conformity budgets or allow the existing transportation conformity process to continue. The Butte District chose to allow the existing process to continue. Under this process, the Butte District works closely with the Butte County Association of Governments to ensure that emissions from new transportation projects are less than the baseline (or attainment year) emissions.

b. New Source Review

U.S. EPA's New Source Review (NSR) requirements specify that there must be a method to identify and quantify allowable emissions of pollutants from construction and operation of major new or modified stationary sources in the Butte District. Permits for new or modified stationary sources are required. This requirement is met with a new Butte District rule (Rule 432) implementing NSR requirements; it will be submitted separately to ARB and U.S. EPA as a revision to the California SIP.

V. STAFF RECOMMENDATION

ARB staff has reviewed the *Emission Inventory SIP Submittal to the State Implementation Plan for the Chico, CA/Butte County (partial) Planning Area* and consulted with Butte District staff during this review. ARB staff finds that the Emission Inventory SIP Submittal meets all applicable Clean Air Act and Clean Data Policy requirements. Therefore, staff recommends that the Board adopt the Emission Inventory SIP Submittal as a revision to the California SIP for submittal to U.S. EPA.