

# CHAPTER 1

## Introduction

1.1	Federal Clean Air Act and Owens Valley SIP History .....	1-1
1.2	Elements of the 2008 SIP .....	1-2
1.3	References .....	1-3

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# Introduction

This 2008 State Implementation Plan (2008 SIP) has been prepared by the Great Basin Unified Air Pollution Control District (District) in response to a finding by the United States Environmental Protection Agency (USEPA) that the Owens Valley Planning Area did not attain the 24-hour National Ambient Air Quality Standard (NAAQS) for particulate matter of 10 microns or less (PM<sub>10</sub>) by December 31, 2006, as mandated by the Clean Air Act Amendments of 1990 (CAAA) (USEPA, 2007a). This document includes an analysis of the particulate matter air pollution problem in the Owens Valley and provides a revised control strategy to bring the area into attainment with the federal air quality standard for particulate matter, as soon as practicable by achieving at least a 5 percent reduction in PM<sub>10</sub> emissions per year. The 2008 SIP must demonstrate that the NAAQS can be attained by March 23, 2012, unless the USEPA grants an extension which could make the deadline March 23, 2017 (CAAA §179(d)(3)). The 2008 SIP also incorporates provisions of the 2006 Settlement Agreement between the District and the City of Los Angeles Department of Water & Power (City) to expand dust control measures to additional areas at Owens Lake in order to attain the NAAQS as soon as practicable (GBUAPCD, 2006b).

## 1.1 FEDERAL CLEAN AIR ACT AND THE OWENS VALLEY SIP HISTORY

On July 1, 1987, the USEPA revised the NAAQS, replacing total suspended particulates (TSP) with PM<sub>10</sub>, a new indicator for particulate matter. PM<sub>10</sub> is the term given to airborne particulate matter 10 microns in diameter and smaller. The intent of this health-based standard for particulate matter is to prevent airborne concentrations of suspended particles that are injurious to human health. PM<sub>10</sub> can penetrate deep into the respiratory tract, and lead to a variety of respiratory problems and illnesses.

On August 7, 1987, the USEPA designated the southern Owens Valley (known as the Owens Valley Planning Area or OVPA) as one of the areas in the nation that violated the new PM<sub>10</sub> NAAQS. Subsequent air quality monitoring by the District has shown that the bed of Owens Lake—most of which is owned by the State of California and managed by the California State Lands Commission (CSLC)—is the major source of PM<sub>10</sub> emissions contributing to air quality violations in the Owens Valley Planning Area. The Owens Lake bed is considered an anthropogenic (human caused) source of PM<sub>10</sub> because the City of Los Angeles' Aqueduct diverts water sources that historically supplied the lake. In January 1993, the southern Owens Valley was reclassified as “serious non-attainment” for PM<sub>10</sub>.

The USEPA required the State of California to prepare a state implementation plan (SIP) for the Owens Valley Planning Area that demonstrated how PM<sub>10</sub> emissions would be decreased to prevent violations of the NAAQS. The District is the agency delegated by the State to fulfill this requirement. In accordance with Section 189(b) of the CAAA, an Attainment SIP that demonstrates conformance with the federal air quality standards through the implementation of a program of control measures was required to be submitted to the USEPA by February 8, 1997. In November of 1998, the District adopted a SIP, which was approved by USEPA on August 17,

1999. The 1998 SIP provided for a five-year extension of the deadline for attainment, and for a SIP Revision in 2003 that would determine the final control strategy to attain the NAAQS by December 31, 2006.

On November 13, 2003, the District approved the 2003 Revised State Implementation Plan for the Owens Valley Planning Area (2003 SIP), which was later approved by the California Air Resources Board. The 2003 SIP is currently implemented under Board Order #03111301, which primarily addresses the PM<sub>10</sub> control requirements to reduce wind-blown PM<sub>10</sub> emissions from the exposed playa at Owens Lake. The 2003 SIP control strategy requires using shallow flooding, managed vegetation, and/or gravel coverings to accomplish PM<sub>10</sub> emission reductions on 29.8 square miles of the Owens Lake bed. The 2003 SIP was intended to demonstrate attainment with the PM<sub>10</sub> NAAQS by December 31, 2006 by implementing control measures over the three years prior to that date. A USEPA policy decision made after the adoption of the 2003 SIP, however, changed the interpretation of the attainment demonstration deadline. USEPA's new policy on attainment demonstrations now requires three years of ambient air monitoring prior to the attainment date (December 31, 2006 for the OVPA) to show that there have been no violations of the NAAQS (USEPA, 2007a). Because many of the dust control measures were not completed until the end of 2006, numerous NAAQS violations occurred during the three-year attainment demonstration period. Consequently, the USEPA did not take action on the approval or disapproval of the 2003 SIP, but it is currently enforced by the District. By December 31, 2006, the City met their deadline and had implemented dust control measures on all 29.8 square miles of the lake bed as anticipated in the 2003 SIP.

In 2006, a dispute arose between the District and the City regarding requirements to control dust from additional areas at Owens Lake beyond the 29.8 square miles identified in the 2003 SIP. On December 4, 2006 a Settlement Agreement was approved by both parties to resolve this dispute. Under the major provisions of this agreement, the City agreed to implement dust control measures on a total of 43 square miles of the lake bed by April 1, 2010 and the District agreed to revise the 2003 SIP before March 1, 2008 to incorporate the provisions of the Settlement Agreement (GBUAPCD, 2006b).

## **1.2 ELEMENTS OF THE 2008 SIP**

The 2008 SIP includes an analysis of the air quality impacts caused by the wind-blown PM<sub>10</sub> from Owens Lake, estimates of the quantity of PM<sub>10</sub> emitted, a discussion of control measures, an analysis of the emission reductions achieved through 2006 and an air quality modeling analysis that demonstrates it is possible to attain the PM<sub>10</sub> standard with the proposed additional control measures. The following is a brief description of the contents of the 2008 SIP:

- Chapter 2 describes the Owens Valley Planning Area and provides a history of Owens Lake and the air pollution problem.
- Chapter 3 includes a summary of PM<sub>10</sub> air pollution measurements taken in the Owens Lake area, a description of sensitive airsheds in the area, and an assessment of how air quality in the Planning Area compares to the federal standards.

- Chapter 4 contains the PM<sub>10</sub> emissions inventory summary from wind erosion and other sources in the southern Owens Valley.
- Chapter 5 describes the three PM<sub>10</sub> control measures that the District, in cooperation with the City, has developed and that have been found to be feasible and effective on Owens Lake: Shallow Flooding, Managed Vegetation, and Gravel Cover. It also describes the “Moat & Row” alternative PM<sub>10</sub> control measure proposed by the City for implementation on limited areas of the lake bed.
- Chapter 6 describes the air quality modeling method that the District used to show that the proposed control strategy would bring the Owens Valley into attainment with the PM<sub>10</sub> NAAQS.
- Chapter 7 sets forth the control strategy and describes how the control measures will be placed on the lake bed to accomplish the overall level of control that is needed upon completion.
- Chapter 8 contains the Board Order that will be issued to the City of Los Angeles to implement the 2008 SIP control strategy.
- References are listed at the end of each chapter, and are summarized in a composite list in Chapter 9.
- Definitions, terms, acronyms and measurement units are defined in a glossary in Chapter 10.
- The declaration of the Board Clerk and associated resolutions are contained in Chapter 11.
- Appendices to the 2008 SIP include daily PM<sub>10</sub> data summaries, air quality dispersion modeling results, and additional 2008 SIP support documents including public comments on the draft document and the District’s responses for the final (see List of Appendices in the Table of Contents).
- An Environmental Impact Report (EIR) has also been prepared for the project. In conjunction with previous environmental analyses performed by both the District and the City of Los Angeles, the EIR for the 2008 SIP analyzes the proposed project’s impacts on the environment and requires mitigation measures to reduce or eliminate those impacts.

### **1.3 REFERENCES**

GBUAPCD, 2006b. Great Basin Unified Air Pollution Control District, Settlement Agreement between the District and the City to resolve the City’s challenge to the District’s Supplemental Control Requirement determination issued on December 21, 2005 and modified on April 4, 2006, GBUAPCD, Bishop, California, December 4, 2006.

USEPA, 2007a. United States Environmental Protection Agency, Proposed Finding of Failure to Attain; State of California, Owens Valley Nonattainment Area; Particulate Matter of 10 Microns or Less, EPA-R09-OAR-2007-0091, FRL-8291-1, Federal Register, Volume 72, No. 56, March 23, 2007, pp 13723-13726.