

# **SECTION 1 - INTRODUCTION**

## **PURPOSE**

### **FEDERAL CLEAN AIR ACT**

### **CALIFORNIA'S REQUEST TO REDESIGNATE MONO BASIN NONATTAINMENT ACTION FOR MONO BASIN, CALIFORNIA**

### **SIP REQUIREMENTS**

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

### **ELEMENTS OF SIP**



## 1.1 Purpose

The Mono Basin PM-10 State Implementation Plan has been prepared in response to a federal Clean Air Act (CAA) requirement to develop and implement a PM-10 State Implementation Plan. All areas that violate the National Ambient Air Quality Standard (NAAQS) for PM-10 are required to develop a SIP that demonstrates how the area will attain and maintain the PM-10 Standard. An analysis of PM-10 sources and their impact is presented, and the control measure to improve air quality in the Mono Basin is described. The purpose of this document is to satisfy all SIP requirements of the CAA in a single, consolidated submittal, including:

- Moderate PM-10 SIP [CAA § 189(a)(2)(B)];
- Best Available Control Measures (BACM) SIP [CAA § 189(b)(2)];
- Demonstration of Attainment (DOA) SIP [CAA § 189(b)(2)]; and
- Extension of Attainment Date [CAA § 188(e), 189(d)].

## 1.2 Federal Clean Air Act

On July 1, 1987, the United States Environmental Protection Agency (EPA) promulgated a new National Ambient Air Quality Standard for particulate matter 10 microns in diameter or less (PM-10). The PM-10 Standard was set at 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) for the 24-hour standard and 50  $\mu\text{g}/\text{m}^3$  for the annual average standard. These levels were selected to protect the health of people who are sensitive to exposure to fine particles that can penetrate deep into the respiratory tract, leading to a variety of respiratory problems and illnesses.

In August 1987, the U.S. EPA adopted a PM-10 SIP development policy dividing all areas of the country into three categories based upon their probability of violating the new PM-10 Standard (Group I-High, Group II-Medium, Group III-Low). In November 1990, the federal Clean Air Act Amendments were enacted, setting into motion new statutory requirements for attaining the PM-10 Standards. Pursuant to sections 107(d)(4)(B) and 188(a) of the CAA, in November 1991, all areas of the United States that had monitored violations of the PM-10 Standard prior to January 1, 1989 were designated as moderate PM-10 nonattainment areas. All other areas of the country with no monitored violations of the PM-10 Standard prior to January 1, 1989, including Mono Basin, were designated as unclassifiable for PM-10. Areas designated nonattainment and unclassifiable were announced in the Federal Register, November 6, 1991.

### **1.3 California's Request to Redesignated Mono Basin**

The U.S. EPA is authorized to redesignate areas (or portions thereof) as nonattainment for PM-10 pursuant to section 107(d)(3) of the CAA, on the basis of air quality data, planning and control considerations, or any other air quality-related considerations that the administrator deems appropriate. Consistent with section 107(d)(3)(C) of the CAA, EPA must promulgate all redesignations. In addition, section 107(d)(3)(D) provides that a Governor of a state may, on his or her own initiative, submit to EPA a request to redesignate an area within the state. EPA must either approve or deny the Governor's redesignation request.

In a letter to EPA dated August 1, 1991, the California Air Resources Board (CARB), the Governor's designee, recommended that EPA redesignate the Mono Basin portion of Mono County as "nonattainment" for the 24-hour PM-10 NAAQS. The EPA proposed that the Mono Basin, defined as "California, Mono County, Hydrologic Unit 18090101," be classified as "nonattainment" (Federal Register, July 16, 1993: 58 FR 38331).

### **1.4 Nonattainment Action for Mono Basin, California**

According to 40 Code of Federal Regulations (CFR) Part 50, the 24-hour PM-10 NAAQS is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. In the simplest case, the number of expected exceedances at a site is determined by recording the number of exceedances in each calendar year and then averaging them over the past three calendar years. In general, four exceedances measured in three sampling years cause a site to be in violation of the PM-10 NAAQS. The Warm Springs monitoring site measured four exceedances of the PM-10 NAAQS in 1988, 1990, and 1991. (The monitor did not operate during 1989 for reasons unrelated to air quality). These exceedances monitored in the Mono Basin demonstrated that the area is in violation of the PM-10 Standard and are the basis for the redesignation.

This action is further supported by District information showing several additional exceedances at both the Warm Springs and Simis Ranch sites in the Mono Basin. In a letter dated December 7, 1992, the District informed EPA, Region IX, of two additional exceedances at the Warm Springs site and two exceedances at the Simis Ranch site. The exceedances at the Warm Springs site were measured on June 12, 1992 ( $362 \mu\text{g}/\text{m}^3$ ) and December 2, 1992 ( $265 \mu\text{g}/\text{m}^3$ ). The exceedances at the Simis Ranch were measured on April 12, 1992 ( $493 \mu\text{g}/\text{m}^3$ ) and December 2, 1992 ( $225 \mu\text{g}/\text{m}^3$ ) (Federal Register, July 16, 1993: 58 FR 38331).

On November 29, 1993, the EPA approved the California Air Resources Board's recommendation regarding the redesignation of the Mono Basin as a federal PM-10 nonattainment area. By law, Mono Basin is initially classified as "moderate." The EPA may reclassify Mono Basin to "serious"

if it determines that the area cannot practically attain the PM-10 Standards for moderate areas by the applicable attainment date (December 31, 1999). EPA must complete such reclassifications within 18 months after the submission of this SIP (December 29, 1996).

## 1.5 SIP Requirements

According to EPA guidance, the following describes the normal sequence of compliance actions required under the federal Clean Air Act Amendments of 1990:

Moderate PM-10 SIP. The redesignation of Mono Basin as a moderate PM-10 nonattainment area requires that the District submit a PM-10 SIP to the California Air Resources Board for approval and forwarding to the U.S. EPA by June 29, 1995--18 months after nonattainment redesignation. In addition to meeting the general nonattainment area plan requirements identified in section 172(c) of the CAA--baseline inventory of PM-10 and evaluation of source impacts--the Moderate Area SIP must specifically include:

- A demonstration, including air quality modeling, that the plan will attain the Standard by December 31, 1999, or that attainment by such date is impractical;
- Assurances that reasonably available control measures (RACM) for the control of PM-10 be implemented no later than four years after redesignation (December 29, 1997);
- A New Source Review (NSR) permit program for construction and operation of new and modified major stationary sources of PM-10, if, applicable;
- Quantitative milestones to be achieved every three years until the area is redesignated attainment and which demonstrate "reasonable further progress" towards attainment;
- Control requirements for major stationary sources of PM-10 precursors, unless EPA determines that sources of precursors do not contribute significantly to PM-10 exceedances.

Contingency Measures. At the same time the Moderate PM-10 SIP is due, the District is also required to submit contingency measures, pursuant to section 172(c)(9) of the CAA, which are to take effect without further action by the State or EPA, upon a determination by EPA that an area has failed to make reasonable further progress or attain the PM-10 Standard by December 31, 1999. These contingency measures should include other available control measures not included in the primary control strategy.

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Best Available Control Measures (BACM) SIP. If the Moderate PM-10 SIP does not demonstrate attainment and the Mono Basin is reclassified to "serious," submission of a BACM SIP is required by June 29, 1998. Expanding on the information required in the Moderate PM-10 SIP, BACM SIP submittals include the application of "best available control technology" (BACT) and consist of more extensive evaluation of candidate measures:

- An evaluation of the technological feasibility of each candidate BACM;
- An evaluation of the costs associated with each candidate BACM;
- A rationale for the selection of each BACM from the candidate list of BACMs;
- Provisions to lower the emissions level for sources that are classified as "major sources" to include any point sources that emit 70 tons per year of PM-10 or more; and
- Assurances that implementation of selected BACM (including BACT) are effective by December 29, 2000.

Note: At this time, EPA BACM Guidance Documents, relevant to urban fugitive dust sources, are not readily transferable to the situation at Mono Lake. Therefore, any evaluations will most probably be specific to Mono Lake.<sup>1</sup>

Demonstration of Attainment (DOA) SIP. In the normal compliance sequence, a Demonstration of Attainment (DOA) SIP must be submitted by December 29, 2000. The DOA SIP for the Mono Basin Planning Area must include:

- A control strategy with a list of measures for implementation at Mono Lake;
- An air quality model that will demonstrate that the proposed control measures will bring the area into attainment with the PM-10 Standard; and
- Quantitative milestones that will be evaluated every three years to demonstrate that "reasonable further progress" is being made to attain the Standard.

Extension of Attainment Date. The attainment date will be reset to December 31, 2003 if Mono Basin is reclassified to "serious." Section 188(e) of the CAA provides for extensions of this date.

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Pursuant to the *Mono Lake Basin Water Right Decision 1631* (September 28, 1994) of the State Water Resources Control Board (SWRCB), the future of Mono Lake has been determined. As explained more fully in Section 7, starting in Fall 1994, diversion of tributary streams of Mono Lake will be reduced--resulting in the gradual raising of the water level and submerging of lake shore source areas responsible for monitored PM-10 emissions. The SWRCB--at its evidentiary hearing--considered computer modeling results predicting future air quality conditions at differing lake levels and corroborating testimony of the District, and decided that increasing the water elevation is the only feasible control measure to bring PM-10 emissions into compliance with the Standard.

The control measure has been selected and the SWRCB decision provides enforceable assurances that the measure will be progressively implemented over an approximate 20-year time frame starting in Fall 1994. No contingency measure is proposed for the 20-year period. Air quality models have been prepared which quantitatively demonstrate that full implementation of the control measure will result in attainment. A monitoring program exists to measure change in emissions as the lake level increases and to compare to the modeled predictions. Compliance with the PM-10 Standard by December 31, 2003 is not practical based on the SWRCB decision and an extension of the attainment date will be required. Based on these facts, it is most expedient to consolidate the multiple compliance actions described above into a single submittal.

## 1.6 California Environmental Quality Act (CEQA)

The California Environmental Quality Act of 1970 (CEQA) (Public Resources Code Section 21000, et seq) and the State CEQA Guidelines (Title 14, Division 6, California Code of Regulations) require that the District and its Board document and consider the possible environmental effects of the Mono Basin PM-10 SIP before any decision is made to implement the SIP.

The SWRCB, acting as Lead Agency under CEQA, has caused to be prepared a three-volume Environmental Impact Report (EIR) entitled *Environmental Impact Report for the Review of Mono Basin Water Rights of the City of Los Angeles* (Mono Basin EIR). The Mono Basin EIR presents the environmental setting, impacts, alternatives, and mitigation measures for decisions regarding reduction of water diversions from Mono Basin, which would result in raising of the water level of Mono Lake. The Mono Basin PM-10 SIP calls for this same raising of the water level of Mono Lake. The SWRCB, as CEQA Lead Agency, has certified the Mono Basin EIR as adequate under CEQA, and has issued its *Mono Lake Basin Water Right Decision 1631*, which includes findings as required under CEQA to document the rationale for the decision with respect to those adverse environmental effects which cannot feasibly be reduced or mitigated below a level of significance.

Copies of the Mono Basin EIR and SWRCB Decision are available for public review at the following locations:

- Forest Service Mono Lake Visitor Center  
Lee Vining, CA
- Great Basin Unified Air Pollution Control District  
157 Short Street, Bishop CA
- California State Water Resources Control Board, Division of Water Rights  
901 P Street, 3rd Floor, Sacramento, CA  
2092 Lake Tahoe Blvd., South Lake Tahoe, CA
- City of Los Angeles Department of Water and Power, Aqueduct Division  
111 North Hope Street, Room 1466, Los Angeles, CA

Pursuant to CEQA Guidelines (14 CCR 15096), the District has acted as a Responsible Agency during the preparation of the Mono Basin EIR and, prior to reaching a decision on the Mono Basin PM-10 SIP, the District Board must consider the environmental effects of the implementation of the SIP. The District Board will also consider the adoption of alternatives or mitigation measures which would mitigate or avoid the direct or indirect environmental effects of implementation of the SIP; adopt findings as required under CEQA to document the rationale for its decision with respect to those adverse environmental effects which cannot feasibly be reduced or mitigated below a level of significance; and publish a Notice of Determination.

## **1.7 Elements of the SIP**

The SIP includes detailed analyses of the sources of PM-10, their contributions and impacts, the effects of population growth on future PM-10 levels, and the effectiveness of the control measure to attain and maintain the PM-10 Standard.

The PM-10 air quality data that was used for the analyses is discussed in Section 3. The data summary includes health impacts, episodes of pollution violations, and trends.

The PM-10 emissions inventory is included in Section 4. This section provides a discussion of sources, methods for emission estimation, and calculations of emissions from lake shore windblown dust, unpaved roads, vehicle exhaust, resuspended road cinders, and wood burning.

The use of dispersion modeling to analyze ambient air quality impacts is discussed in Section 5. The Industrial Source Complex (ISC2) Model and an empirically-derived emission factor are applied to predict peak day PM-10 concentrations downwind of source areas and examine change in predictions based on different lake levels.

Section 6 describes the effects of population growth on peak day PM-10 concentrations.

The final control measure and demonstration of attainment with the PM-10 Standard are presented in Section 7. The adopted regulation assuring implementation of the control measure is included.

The Appendices include key documents summarized and referenced in this SIP.

