

Staff Report

CARB Review of the Coso Junction Second 10-Year PM₁₀ Maintenance Plan

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CARB staff has prepared a written report reviewing the District Plan. Copies of the report may be obtained from CARB's website at [2021 Coso Junction PM10 Planning Area Second 10-Year Maintenance Plan | California Air Resources Board](#), on August 13, 2021. However, because of current travel, facility, and staffing restrictions, CARB's office may have limited access. Please contact Chris Hopkins, Regulations Coordinator, at chris.hopkins@arb.ca.gov or (916) 445-9564 if you need physical copies of the documents.

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Executive Summary

This report presents the California Air Resources Board (CARB or Board) staff assessment of the *Coso Junction PM₁₀ Planning Area Second 10-Year Maintenance Plan* (Second PM₁₀ Plan or Plan) developed by the Great Basin Unified Air Pollution Control District (District). The Plan identifies the conditions under which the Coso Junction Planning Area (Coso Junction) has demonstrated attainment of the 150 µg/m³ 24-hour PM₁₀ National Ambient Air Quality Standard (PM₁₀ standard) since 2004, and commits to actions designed to maintain the PM₁₀ standard. The Second PM₁₀ Plan is the maintenance plan required under Clean Air Act (Act) Section 175A(b) for the second 10-year period following attainment of the standard. The contents of the Second PM₁₀ Plan are prescribed in a U.S. Environmental Protection Agency (U.S. EPA) memo dated September 4, 1992.¹

The 2010 PM₁₀ Maintenance Plan and Redesignation Request for the Coso Junction Planning Area (2010 PM₁₀ Plan) was adopted by the District on May 17, 2010 and was approved by U.S. EPA on September 3, 2010.² The 2010 PM₁₀ Plan demonstrated maintenance of the PM₁₀ standard based on an emission inventory that projected emissions of PM₁₀ in 2020 to be no greater than those in 2010, incorporating the effects of emissions growth and control. Subsequent to adoption of the 2010 PM₁₀ Plan, the District recorded sporadic exceedances of the PM₁₀ standard that the District addressed by implementing their contingency plan with the issuance of control orders for emissive portions of Owens Lake, enforcement of its Rule 401 (Fugitive Dust), and pursuit of Exceptional Event determination by U.S. EPA for exceedances resulting from wildfire smoke and windblown dust from flash flood deposits. These actions facilitated continued maintenance of the PM₁₀ standard.

CARB staff has concluded that the Second PM₁₀ Plan satisfies the Act planning requirements for maintenance plans, including an attainment emission inventory, maintenance demonstration, continued air quality monitoring, commitment for verification of continued attainment, transportation conformity budgets, and a contingency plan to promptly correct any violation of the PM₁₀ standard.

Background

Coso Junction is that portion of Inyo County contained within the Searles Valley Planning Area Hydrologic Unit #18090205 (Searles Valley Planning Area). The Searles Valley Planning Area was designated by U.S. EPA as nonattainment for the PM₁₀ standard by operation of law on November 15, 1990. The Searles Valley Planning Area was separated into the Coso Junction, Indian Wells Valley, and Trona Planning Areas by U.S. EPA on August 6, 2002. These planning areas conform to air district and county boundaries.

Subsequent to the original designation of the Searles Valley Planning Area as a PM₁₀ nonattainment area, the District researched control techniques for windblown dust from the

¹ "Procedures for Processing Requests to Redesignate Areas to Attainment", John Calcagni, Director, Air Quality Management Division to U.S. EPA Regional Directors, September 4, 1992.

² Federal Register 75 FR 54031, September 3, 2010.

Owens Lakebed and adopted Board Orders requiring the City of Los Angeles to apply selected dust control on emissive lakebed surfaces. The reductions in emissions from these source areas enabled Coso Junction to report sporadic exceedance of the PM₁₀ standard, after 2004, due primarily to exceptional events. On May 17, 2010, the District adopted the *2010 PM₁₀ Maintenance Plan and Redesignation Request for the Coso Junction Planning Area* (2010 PM₁₀ Plan). On May 19, 2010, U.S. EPA determined that Coso Junction had attained the standard. The 2010 PM₁₀ Plan was approved by CARB on June 24, 2010 and forwarded to U.S. EPA. U.S. EPA approved the 2010 PM₁₀ Plan on September 3, 2010.

The Coso Junction PM₁₀ Planning Area, a map of which is shown in Figure 1, covers approximately 792 square miles and hosts a population of fewer than 100 people. Flanked by the Sierra Nevada mountains to the west and the Coso Range to the east, the area is an arid high desert that receives less than 5 inches of rain per year. The area hosts mineral processing facilities, geothermal power generation facilities, and military operations.

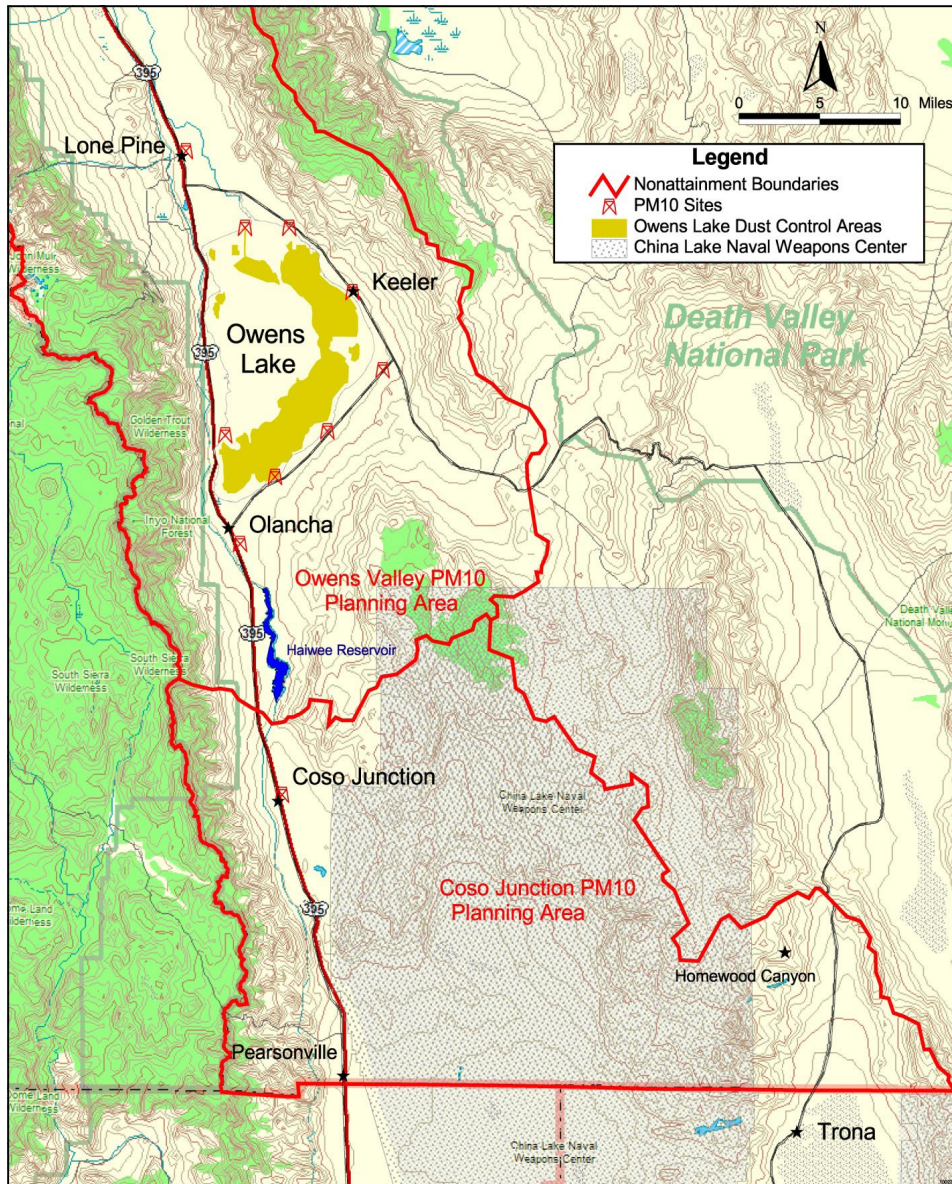
Section 175A(b) of the Act requires the state to submit to U.S. EPA of a second 10-year maintenance plan, succeeding the first 10-year plan as part of the redesignation to attainment process. On July 1, 2021, the District Board adopted the Second PM₁₀ Plan to satisfy this requirement. Analysis of air quality data shows that the number of exceedances per year during the 2018-2020 averaging period to be less than 1.0, the federal threshold for nonattainment of the PM₁₀ standard.

Designation Requirements

The Act authorizes the U.S. EPA to retain the designation of an area as a maintenance area if a number of requirements are satisfied. These requirements, as listed in Section 107(d)(3)(E) of the Act, are:

1. The area continues to attain the standard;
2. The applicable implementation plan for the area is fully approved under Section 110(k) of the Act;
3. The improvements in air quality are due to permanent and enforceable emission reductions resulting from implementation of the applicable implementation plan;
4. The area has a fully approved maintenance plan satisfying the requirements of Section 175A of the Act; and
5. The state in which the area is located has met all applicable requirements under Section 110 and Part D of the Act.

Figure 1 – Coso Junction PM₁₀ Planning Area



U.S. EPA guidance also enumerates the required elements of approvable maintenance plans.³ Each PM₁₀ maintenance plan must provide for continued maintenance of the PM₁₀ standard for twenty years after redesignation from nonattainment to attainment and include the following components:

1. Attainment emission inventory;
2. Maintenance demonstration;
3. Commitment to continued operation of the monitoring network;

³ Calcagni, John, Memorandum, *Procedures for Processing Requests to Redesignate Areas to Attainment*, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, September 4, 1992.

4. Commitment to verification of continued attainment; and
5. Contingency plan to promptly correct any violation of the PM₁₀ standard that occurs after the area has been redesignated.

Evaluation of the Second PM₁₀ Plan

Based on review of the Second PM₁₀ Plan and supporting technical analysis, CARB staff concurs that the Second PM₁₀ Plan meets the Act requirements. The following sections summarize CARB staff findings and conclusions with respect to the required elements of the Second PM₁₀ Plan.

The Second PM₁₀ Plan covers the period from July 2020 to July 2030 and addresses all Section 175(A) of the Act requirements.

Attainment of the Standard

PM₁₀ air quality has remained relatively good since designation of Coso Junction as attainment for the PM₁₀ standard in 2010. In July 2013, a flash flood event occurred in which silts and sands were carried from the alluvium of the Sierra Nevada and Coso Mountain ranges and deposited on the floor of the Rose Valley, where the Coso Junction monitor is located. Subsequent high wind events abraded the surface and entrained these deposits, producing exceedances of the PM₁₀ standard. The District requested exclusion of four exceedances of the standard, August 7, 2013, September 25, 2013, February 16, 2014, and April 25, 2014, under U.S. EPA's Exceptional Event Rule that occurred on due to this natural event. The District also requested exclusion of an exceedance recorded on September 7, 2020 due to wildfire smoke impacts from the Creek Fire.

Table 1 lists PM₁₀ monitoring data using several metrics for tracking yearly PM₁₀ air quality. These metrics include the highest 24-hour average PM₁₀ concentration recorded during each year, the estimated number of exceedance days per year for the PM₁₀ standard, and the number of expected exceedance days, excluding exceptional events. The PM₁₀ standard is met when the number of exceedance days recorded over a three-year period average one or less per year.

Table 1. Peak 24-Hour Average PM₁₀ Levels Per Year, Expected PM₁₀ Exceedance Days Per Year, and Expected Exceedance Days Excluding Exceptional Events

Year	Peak 24-Hour PM ₁₀ Concentration (µg/m ³)	Expected Exceedance Days Per Year*	Expected Exceedance Days Excluding Exceptional Events
2001	100	0	0
2002	175	3	3
2003	484	3	3
2004	66	0	0
2005	97	0	0
2006	296	1	1
2007	283	2	2
2008	137	0	0
2009	168	1	1
2010	58	0	0
2011	219	3	3**
2012	173	1	1
2013	162	2	0
2014	673	3	1
2015	121	0	0
2016	266	1	1
2017	229	2	1
2018	275	1	1
2019	156	1	1
2020	553	2	1

*Sampling schedule was 1:3 from 1999-2006, and continuous sampling from 2006 – present.

**Two of these exceedances were regional events for which the District did not seek exceptional event determination, one of the exceedances was due to an Owens Lake source for which the District ordered controls.

Fully Approved SIP

The 2010 PM₁₀ Plan is a approved portion of the California SIP. The 2010 PM₁₀ Plan was submitted to U.S. EPA by CARB on July 14, 2010. In a Final Rule Notice published in the September 3, 2010 Federal Register, U.S. EPA approved the 2010 PM₁₀ Plan.

Attainment Results from Permanent and Enforceable Emission Reductions

Nonattainment of the PM₁₀ standard in Coso Junction was demonstrated to be due to windblown dust emissions from Owens Lake and from flash flood deposits in the Rose Valley. Emissions from Owens Lake were reduced through a 2011 Stipulated Order of Abatement and a series of Supplemental Control Requirement Determinations issued by the District in

2010, 2011, and 2012 to the City of Los Angeles requiring the application of dust controls to 6.6 square miles of dry lakebed. In addition, the District enforced Rule 401 (Fugitive Dust) to reduce emissions from use of an unpaved parking area near the Coso Junction monitor that ultimately led to the paving of the area.

Maintenance Plan Provides for Continuing Attainment

Section 175(A) of the Act establishes the required elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment. Using an attainment year inventory and future inventory projections, plans must demonstrate continued attainment through the first and second 10-year maintenance periods. Few PM₁₀ sources exist within the Coso Junction Planning Area, and emissions from these sources are expected to remain fairly constant over the duration of the Second PM₁₀ Plan. The Second PM₁₀ Plan contains detailed information on the construction of the inventories for the representative attainment year (2010) through the end of the second 10-year maintenance period (2030).

Attainment Year Emission Inventory

As the standard being addressed in the Second PM₁₀ Plan is the 24-hour PM₁₀ standard, and as all historical exceedances of this standard occurred on days throughout the year, the emission inventories contained in this Plan report annual average day PM₁₀ emissions. The starting point for inventory tracking in the plan is 2008, the base year for which the 2010 PM₁₀ Plan was developed, and the horizon year is 2030, the end of the second 10-year maintenance period.

The 2008 base year inventory did not include emissions from windblown dust sources. This choice was made on the basis that windblown dust in the Coso Junction is almost exclusively emitted by natural sources (open shrublands) and the inventory was designed to include only emissions from anthropogenic sources. Because of the magnitude of the natural source windblown dust contribution to current inventories (98.2%), the District chose to include this source in the inventories for the Second PM₁₀ Plan.

The Coso Junction PM₁₀ emission inventory shows small declines in emissions from anthropogenic sources, from 0.74 to 0.55 tons per day, between 2008 and 2030. These declines are due to the incorporation of the latest stationary source permitting information and the addition of a standard precipitation adjustment for facility-related unpaved road emissions. Emissions of windblown dust during this time interval are assumed to remain constant at 37.00 tons of PM₁₀ per day.

The attainment demonstration for Coso Junction is based entirely on emissions of directly-emitted PM₁₀ pollution and does not include an analysis of the possible contributions from precursor emissions. This choice is based on the magnitude of directly-emitted PM₁₀ emissions to those of precursors such as oxides of nitrogen (NO_x), oxides of sulfur (SO_x), reactive organic gases (ROG), and ammonia. Within Inyo County, which contains the Coso

Junction Planning Area, emissions of these precursors are forecasted to decline between 2008 and 2030 from 37% to 67% by pollutant as shown in Table 2.⁴

Table 1. Inyo County Annual Average Day PM₁₀ and Precursor Emissions (ton/day)

Pollutant	2008	2030
PM ₁₀	0.74*	0.55*
NO _x	4.82	1.29
SO _x	0.94	0.60
ROG	12.55	4.20
Ammonia	1.73	0.58

*Does not include windblown emissions of 37.00 tons per annual average day.

Maintenance Demonstration

Maintenance of the PM₁₀ standard is demonstrated through the decline in emission inventories between 2008, the attainment year, and 2030, the horizon year of the Second PM₁₀ Plan, for directly emitted PM₁₀ and all precursor emissions.

PM₁₀ Monitoring Network

The PM₁₀ monitoring network in Coso Junction consists of the single station located in Coso Junction at the intersection of California Highway 395 and Gill Station Coso Road. The District commits in the Second PM₁₀ Plan to maintain continuous PM₁₀ monitoring for the ten-year term required of a second 10-year maintenance plan.

Verification of Continued Attainment

The District commits in the Second PM₁₀ Plan to update its calculated three-year design value for Coso Junction and include this information in the annual network monitoring plan submitted to U.S. EPA to confirm that the area continues to meet the standard. The District also commits to annually review emission inventory inputs and provide input updates to CARB upon significant change for inclusion in the emission inventories submitted by CARB to U.S. EPA.

Contingency Plan

The Act requires a maintenance plan to include contingency provisions for prompt correction of any PM₁₀ standard violation that might occur after the area has been redesignated to attainment. If a violation of the PM₁₀ standard occurs, the District will evaluate the cause of the exceedance within 60 days following the end of the calendar quarter during which the event occurred. Exceedances determined to have been caused by emissions from Owens Lake would follow the contingency provisions outlined in District Rule 433, which provides for clearly identified control measures, a schedule and procedure for adoption and implementation of the measures, a time limit in which to take action, and an established

⁴ 2019 CEPAM: External Adjustment Reporting Tool, California Air Resources Board internal webpage, accessed on June 28, 2021

threshold that triggers the contingency measures.

If the exceedance is caused by emissions from within Coso Junction, the District will evaluate whether the source can be dealt with through existing District rules or whether alternative measures are necessary. If an exceedance cannot be addressed through existing District rules and is not covered by the U.S. EPA Exceptional Events Policy, the District will determine within three months whether the contingency threshold has been met in consultation with CARB and U.S. EPA. The District will then address the issue by adopting and implementing additional control measures necessary to meet and maintain the standard in Coso Junction. This action will take place within 18 months of the determination that the contingency trigger has been met. Control measures could include expanding existing rules or utilizing measures from outside existing rule to achieve the necessary emissions reductions within 18 months.

Motor Vehicle Emission Budgets

The Act requires that transportation plans, programs, and projects receiving federal funding or requiring federal approval, must be fully consistent with the applicable SIP. The District has concluded that transportation sources were not found to cause, or significantly contribute to, the PM₁₀ exceedances in Coso Junction.

The District estimates that paved road emissions comprise less than 1 percent (0.07 ton per day vs. 37.0 tons per day) of the daily PM₁₀ emissions in Coso Junction. The District also does not project any appreciable changes in on-road mobile PM₁₀ emissions over the duration of the Second PM₁₀ Plan. As a result, the District has concluded that transportation-related projects such as road construction have been, and will continue to be, exempt from Transportation Conformity determination requirements under District Regulation XII, and that there is no need to adopt motor vehicle emission budgets for the Second PM₁₀ Plan.

General Conformity

General conformity requirements contained in District Regulation XIII require that federal actions and federally funded non-transportation projects conform to SIP rules and they not interfere with efforts to attain federal air quality standards. To conform with U.S. EPA regulations, the District adopted a *de minimis* PM₁₀ emissions threshold of 100 tons per year for triggering a conformity determination under District Regulation XIII for PM₁₀ areas such as Coso Junction. The District has committed to retain the 100 ton per year of PM₁₀ *de minimis* emissions threshold for Coso Junction over the duration of the Second PM₁₀ Plan.

Environmental Impacts

The District filed a Notice of Exemption under the California Environmental Quality Act (CEQA) for the Second PM₁₀ Plan. The Notice of Exemption reports that the adoption of the Second PM₁₀ Plan is exempt from the requirements of CEQA as this action qualifies for a Categorical Exemption as a Class 8 action taken by a regulatory agency for the protection of

the environment.⁵ The District filed the Notice of Exemption with Inyo County on July 14, 2021.

CARB has determined that its review and approval of the Second PM₁₀ Plan submitted by the District for inclusion in the SIP is a ministerial activity by CARB for purposes of CEQA (14 CCR § 15268). A “ministerial” decision is one that involves fixed standards or objective measurements, and the agency has no discretion to shape the activity in response to environmental concerns. (14 CCR § 15369; *San Diego Navy Broadway Complex Coalition v. City of San Diego* (2010) 185 Cal.App.4th 924, 934.)

CARB’s review of the Second PM₁₀ Plan is limited to determining if it meets all the requirements of the Act. CARB is prohibited from not approving it or changing it unless CARB finds that it does not comply with the Act (HSC § 41650 and 41652). Since CARB’s review concludes that the Plan meets the requirements of the Act, CARB lacks authority to not adopt the plan, or modify it, in response to environmental concerns raised through the CEQA process. Therefore, CARB’s action on the plan is ministerial for purposes of CEQA.

Staff Recommendation

CARB staff has reviewed the Second PM₁₀ Plan and consulted with District staff during this review. CARB staff finds that the Second PM₁₀ Plan meets all applicable Act requirements. The monitoring data shows that the area attained the PM₁₀ standard in 2010, and the maintenance demonstration shows that the standard will be maintained through 2030, the horizon year for the Second PM₁₀ Plan.

Therefore, staff recommends that the Board adopt the *Coso Junction PM₁₀ Planning Area Second 10-Year Maintenance Plan* and submit the Second PM₁₀ Plan to U.S. EPA for approval as a revision to the California State Implementation Plan (SIP) and direct the Executive Officer to work with the District and U.S. EPA and take appropriate action to resolve any completeness or approvability issues that may arise regarding the SIP submission.

Additionally, staff recommends that the Board authorize the Executive Officer to include in the SIP submittal any technical corrections, clarifications, or additions that may be necessary to secure U.S. EPA approval.

⁵ California Code of Regulations, Title 14, Division 6, Chapter 3, Article 19, Section 15308