

Chapter 5

DEMONSTRATION OF FEDERAL REQUIREMENTS FOR THE 2012 ANNUAL PM_{2.5} STANDARD



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Chapter 5: Demonstration of Federal Requirements for the 2012 Annual PM_{2.5} Standard

5.1 THE VALLEY'S ATTAINMENT CLASSIFICATION FOR THE 2012 PM_{2.5} NAAQS

The U.S. Environmental Protection Agency's (EPA) 2012 PM_{2.5} national ambient air quality standard (NAAQS, or standard) revised the annual average PM_{2.5} standard to 12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), while retaining the 24-hour standard of 35 $\mu\text{g}/\text{m}^3$ set in 2006.¹ In 2015, EPA designated the Valley as Moderate nonattainment for the 2012 PM_{2.5} standard, with an attainment deadline of December 31, 2021. Under the federal Clean Air Act (CAA) Subpart 4, nonattainment areas are initially classified as "Moderate," with six years from its initial nonattainment designation date to reach attainment (though two one-year extensions are available in certain circumstances).² Areas may request reclassification to "Serious," with ten years from its initial attainment designation date to reach attainment.

Modeling and analysis by the San Joaquin Valley Air Pollution Control District (District) and the California Air Resources Board (CARB) demonstrated that the San Joaquin Valley (Valley) could not practicably attain the 2012 annual PM_{2.5} standard by the end of the sixth calendar year following the effective date of designation of the area (2021). Due to the impracticability of achieving the standard by the Moderate area attainment date, the District adopted the *2016 Moderate Area Plan for the 2012 PM_{2.5} Standard (2016 Moderate Plan)*, including an attainment impracticability demonstration and a request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment. Effective December 27, 2021, EPA finalized partial approval of the District's *2016 Moderate Plan* and reclassified the District as a Serious nonattainment area for the 2012 PM_{2.5} NAAQS, with an attainment deadline of December 31, 2025.³

The District and CARB previously addressed the Serious area requirements for the 2012 PM_{2.5} standard earlier than required as part of the integrated *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards (2018 PM_{2.5} Plan)*. The Serious area requirements were included in the *2018 PM_{2.5} Plan* in anticipation of EPA's reclassification of the Valley to Serious for the 2012 PM_{2.5} standard, years earlier than required in order to achieve early emissions reductions. In December 2021, EPA proposed approval of the Serious Plan for the 2012 PM_{2.5} standard, then reversed the decision and proposed disapproval in October 2022. In response to EPA's reversal, CARB withdrew the Serious Plan for the 2012 PM_{2.5} standard with District concurrence, and through revised and updated analysis developed this *2024 PM_{2.5} Plan* to address the Serious area requirements for the 2012 standard.

Despite the significant progress and stringent regulations on stationary and mobile sources, attainment by the current deadline of 2025 is not practicable, and extensive

¹ 78 FR 3086 (January 15, 2013). <https://www.govinfo.gov/content/pkg/FR-2013-01-15/pdf/2012-30946.pdf>

² 80 FR 2206 (January 15, 2015). <https://www.govinfo.gov/content/pkg/FR-2015-01-15/pdf/2015-00021.pdf>

³ 86 FR 67343 (November 26, 2021). <https://www.govinfo.gov/content/pkg/FR-2021-11-26/pdf/2021-25616.pdf>

modeling demonstrates that the Valley will need additional emission reductions to meet the 2012 PM_{2.5} standard (Appendix J). Through this Serious Plan, the District is formally requesting an extension of the attainment deadline from 2025 to 2030 for the 2012 PM_{2.5} standard, pursuant to CAA §188(e).

5.2 FEDERAL REQUIREMENTS

This attainment Plan satisfies statutory requirements for a Serious nonattainment State Implementation Plan (SIP) submission and attainment extension request. Table 5-1 provides a summary of the requirements that are included in this Plan.

Table 5-1 Summary of Serious Nonattainment Area Plan Requirements

| Serious Plan and Extension Request Elements | Source of Requirement | Location of Plan Where Element Satisfied |
|--|--|---|
| Current Attainment Date is Impracticable | 40 CFR §51.1005(b)(1)(i) | Section 5.2.1 Appendix J |
| Compliance with Applicable SIP | 40 CFR §51.1005(b)(1)(ii) | Section 5.2.2 |
| Base Year and Attainment Projected Emissions Inventory | 40 CFR §§51.1003(b), 51.1005(b)(2)(i) and 51.1008(b) | Appendix B |
| Identify Pollutants to be Addressed | CAA §189(e) | Appendices F and J |
| Best Available Control Measures (BACM) and Most Stringent Measures (MSM) | 40 CFR §§51.1003(b), 51.1005(b)(1)(iii), and 51.1005(b)(2)(ii) | Section 5.2.3 Appendices C and D Attachment A |
| Attainment Demonstration and Modeling | 40 CFR §§51.1005(b)(2)(iii) and 51.1011 | Section 5.2.4 Appendices I and J |
| Reasonable Further Progress | 40 CFR §§51.1005(b)(2)(iv) and 51.1012 | Section 5.2.5 Appendix G |
| Quantitative Milestones | 40 CFR §§51.1005(b)(2)(v) and 51.1013 | Section 5.2.6 Appendix G |
| Contingency Measures | 40 CFR §§51.1005(b)(2)(vi) and 51.1014 | Section 5.2.7 Appendix G |
| Nonattainment New Source Review Plan Requirements | 40 CFR §§51.1005(b)(2)(vii) and 51.165 | Section 5.2.8 Appendix H |
| Transportation Conformity | 40 CFR §51.1003(b and d) | Section 5.2.9 Appendix D |

5.2.1 Demonstration of Impracticability

An impracticability demonstration uses modeling to show that the implementation of all best available control measures (BACM) and best available control technologies (BACT) will not bring the area into attainment by the statutory Serious area attainment date.⁴ Modeling for this Plan (see Appendix J) demonstrates that the Valley cannot practicably attain the 2012 PM_{2.5} standard before the statutory deadline of December 31, 2025.

⁴ CAA §189(b)(1)(A)

5.2.2 Compliance with the Applicable SIP

EPA interprets compliance with the applicable SIP to mean that “the state has implemented the control measures in the SIP revisions it has submitted to address the applicable requirements in CAA §§172 and 189.”⁵ The District’s current SIP for the 2012 PM_{2.5} standard is the *2016 PM_{2.5} Plan*, which EPA approved as meeting Moderate area plan requirements (except for contingency measures), effective December 27, 2021.⁶

As a part of the development of the *2016 PM_{2.5} Plan*, the District followed EPA guidance for the control measure evaluation process for reasonably available control measures (RACM) and reasonably available control measures (RACT), and additional reasonable measures. The District did not identify any emission reduction opportunities that would qualify as RACT or additional feasible measures that could be made into commitments for rule amendments or rule adoptions to expedite attainment in the Valley and demonstrate RACM. Thus, the District satisfies the requirement for compliance with the applicable SIP.

5.2.3 Best Available Control Measures (BACM) and Most Stringent Measures (MSM)

As a part of the Serious area attainment demonstration for this standard, in addition to implementing all feasible measures identified as RACM and RACT through the Moderate area analysis, the District is required to identify, adopt, and implement the best available control measures feasible for implementation on sources of direct PM_{2.5} and significant PM_{2.5} precursors. The attainment plan submission must include provisions for the implementation of BACM no later than 4 years after reclassification of the area to Serious. As EPA reclassified the District to Serious nonattainment for the 2012 PM_{2.5} standard effective December 27, 2021, the District is required to implement BACM by 2025.

Additionally, to qualify for any extension of a Serious area attainment date, CAA §188(e) requires a state to “demonstrate to the satisfaction of the Administrator that the Plan for the area includes the most stringent measures that are included in the implementation plan of any state, or are achieved in practice in any state, and can feasibly be implemented in the area.” The process for determining what qualifies as MSM includes the following:

- a) Update emissions inventories (Appendix B);
- b) Identify potential MSM (Appendix C and D);
- c) Compare to control measures already adopted (Appendices C and D); and
- d) Adopt and implement any technologically and economically feasible MSM that are more stringent than measures that are already approved into the SIP (Chapter 4).

⁵ 81 FR 58094 (August 24, 2016). <https://www.govinfo.gov/content/pkg/FR-2016-08-24/pdf/2016-18768.pdf>

⁶ 86 FR 67343 (November 26, 2021). <https://www.govinfo.gov/content/pkg/FR-2021-11-26/pdf/2021-25616.pdf>

EPA requires that implementation of MSM be as expeditious as practicable but no later than 1 year prior to the alternate Serious area attainment date. As the District is requesting an attainment date extension to 2030, MSM must be implemented no later than 2029.

To address initial elements required by the CAA for Serious PM_{2.5} nonattainment areas, the District and CARB developed the *Initial SIP Requirements for the 2012 Annual PM_{2.5} Standard (Initial SIP Requirements)*, adopted by the District's Governing Board on October 19, 2023, and subsequently submitted to EPA through CARB on November 17, 2023, for inclusion in the SIP. The *Initial SIP Requirements* included an updated emissions inventory, precursor demonstration, and the demonstration that BACM requirements continue to be satisfied in the Valley.

Building on the analyses included in the *Initial SIP Requirements*, as part of this Plan, the District and CARB evaluated controls beyond BACM to identify potential MSM and determine the feasibility of implementing such measures in the Valley. Refer to Appendices C and D for these analyses. Additionally, Valley Metropolitan Planning Organizations evaluated local transportation control measures for potential MSM; this analysis is included in Attachment A. As discussed further in Chapter 4, all feasible control measures identified through these analyses will be implemented no later than 2029, satisfying MSM requirements.

5.2.4 Attainment Demonstration and Modeling

The Serious area Plan must demonstrate attainment, using air quality modeling, by the most expeditious date practicable after the statutory Serious area attainment date.⁷ Although the Valley has some of the most stringent regulations in the nation that will continue to bring about significant reductions into the future, the Valley will need enormous additional emission reductions, specifically from sources that are under state and federal jurisdiction, in order to meet this standard. As shown below, and discussed in detail in Appendix J, attainment is not possible by the mandated Serious nonattainment area deadline of 2025 (based on 2017-2019 data). Air quality modeling demonstrates expeditious attainment of the standard in 2030.

5.2.4.1 Summary of Modeling Results

[This section provided by the California Air Resources Board]

Photochemical modeling plays a crucial role in demonstrating attainment of the national ambient air quality standards based on projected future year emissions. Currently, San Joaquin Valley (SVJ or Valley) is designated as a serious nonattainment area for the 2012 annual PM_{2.5} standard (12 µg/m³) with an attainment deadline of 2030. Consistent with U.S. EPA guidance for model attainment demonstrations (U.S. EPA, 2018), photochemical modeling was used to project PM_{2.5} design values (DVs) to the future.

⁷ CAA §189(b)(1)(A)

2030 annual PM_{2.5} DVs at each monitor in the Valley show attainment of the 2012 annual PM_{2.5} standard.

The findings from the model attainment demonstration are summarized below. A detailed description of the model inputs, modeling procedures, and attainment test can be found in the Modeling Protocol and Attainment Demonstration Appendix of this document.

The current modeling approach draws on the products of large-scale, scientific studies as well as past PM_{2.5} SIPs in the region, collaboration among technical staff at state and local regulatory agencies, and from participation in technical and policy groups in the region. In this work, the Weather Research and Forecasting (WRF) model version 4.21 was utilized to generate the annual meteorological fields. The Community Multiscale Air Quality (CMAQ) Model version 5.3.3 with state-of-the-science chemistry and aerosol treatment was used for modeling annual PM_{2.5} in the Valley. Other model inputs and configuration, including the modeling domain definition, chemical mechanism, initial and boundary conditions, and emission processing can be found in the Modeling Protocol and Attainment Demonstration Appendix and Modeling Emissions Inventory Appendix. The U.S. EPA modeling guidance (U.S. EPA, 2018)⁸ recommends using modeling in a “relative” rather than “absolute” sense. Based on analysis of recent years’ ambient PM_{2.5} levels and meteorological conditions leading to elevated PM_{2.5} concentrations, the year 2017 was selected for baseline modeling calculations. In particular, in 2017 SJV experienced one of the worst years for PM_{2.5} pollution in the Valley within the last decade.

Specifying the baseline design value is a key consideration in the model attainment test, because this value is projected forward to the future and used to test for future attainment of the standard at each monitor. To minimize the influence of year-to-year variability in demonstrating attainment, the U.S. EPA modeling guidance recommends using the average of three DVs, where one of the DV years is the same as the baseline emissions inventory and modeling year. This average DV is referred to as the baseline (or reference) DV. Here, the average DVs from 2017, 2018, and 2019 are used to calculate baseline DVs (see Table 5-3 below for the baseline DVs utilized in the attainment demonstration modeling).

In order to use the modeling in a relative sense, three simulations were conducted: 1) base year simulation for 2017, which demonstrated that the model reasonably reproduced the observed PM_{2.5} concentrations in the Valley; 2) reference (or baseline) year simulation for 2017, which was the same as the base year simulation, but excluded exceptional event emissions such as wildfires; and 3) future year simulations for 2030, which was the same as the reference year simulation, except projected anthropogenic emissions for 2030 were used in lieu of the 2017 emissions.

⁸ U.S. EPA. (2018, 11 29). *Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze*. Retrieved from: <https://www.epa.gov/scram/sip-modeling-guidance-documents>

Table 5-2 shows the 2017, 2030 baseline and 2030 attainment scenario SJV annual anthropogenic emissions for the five PM_{2.5} precursors. These emission totals were calculated from the modeling inventory based on CEPAM 2019 version 1.04. Since the modeling inventory includes day-specific adjustments that are not included in the planning inventory, such as weekday/weekend differences in on-road mobile emissions, day-to-day changes in residential wood burning activity, and the effects of meteorology on ammonia emissions, the planning and modeling inventories are expected to be comparable but not identical. From 2017 to the 2030 attainment scenario, anthropogenic emissions in the SJV will drop approximately 64%, 12%, 19%, 2%, and 2% for Nitrogen Oxides (NO_x), Reactive Organic Gases (ROG), primary PM_{2.5}, Sulfur Oxides (SO_x), and NH₃, respectively. Among these five precursors, anthropogenic NO_x emissions show the largest relative reduction, dropping from 216 tons/day in 2017 to 77 tons/day in 2030. Anthropogenic PM_{2.5} emissions will drop from 62 tons/day to 50 tons/day, reflecting a 19% reduction from 2017 to 2030. Compared to the 2030 baseline emissions, additional NO_x and PM_{2.5} emission reductions were implemented in the 2030 attainment inventories. Details about these additional emission reductions can be found in the Modeling Protocol and Attainment Demonstration Appendix, while the actual emission commitments are outlined in the SIP.

Table 5-2 SJV Model-Ready Annual Emissions for 2017, 2030 (baseline), and 2030 (attainment)

| | Source Category | Stationary | Area | On-road Mobile | Other Mobile | Total | Change from 2017 to 2030 |
|----------------------------------|-------------------|------------|-------|----------------|--------------|-------|--------------------------|
| 2017 (ton/day) | NO _x | 22.9 | 12.0 | 95.3 | 86.0 | 216.2 | |
| | ROG | 89.0 | 159.9 | 27.7 | 42.4 | 319 | |
| | PM _{2.5} | 7.9 | 44.9 | 2.6 | 6.1 | 61.5 | |
| | SO _x | 5.1 | 0.3 | 0.6 | 0.2 | 6.2 | |
| | NH ₃ | 13.0 | 292.9 | 4.6 | 0. | 310.5 | |
| 2030 baseline (ton/day) | NO _x | 18.5 | 6.0 | 20.3 | 53.3 | 98.1 | -55% |
| | ROG | 91.6 | 153.3 | 12.9 | 26.9 | 284.7 | -11% |
| | PM _{2.5} | 6.8 | 38.2 | 1.4 | 4.1 | 50.5 | -18% |
| | SO _x | 5.1 | 0.3 | 0.5 | 0.3 | 6.1 | -2% |
| | NH ₃ | 14.2 | 284.3 | 6.7 | 0.1 | 305.2 | -2% |
| 2030 attainment (ton/day) | NO _x | 18.1 | 5.3 | 16.8 | 37.2 | 77.4 | -64% |
| | ROG | 91.6 | 153.1 | 12.7 | 23.6 | 281.0 | -12% |
| | PM _{2.5} | 6.8 | 38.0 | 1.3 | 3.5 | 49.6 | -19% |
| | SO _x | 5.1 | 0.3 | 0.5 | 0.3 | 6.1 | -2% |
| | NH ₃ | 14.2 | 284.3 | 6.3 | 0.1 | 304.8 | -2% |

In the relative modeling approach, the fractional change (or ratio) in PM_{2.5} concentration between the modeled future year (2030) and modeled baseline year (or reference year, 2017) are calculated. These ratios are called relative response factors (RRFs). Since PM_{2.5} is comprised of different chemical species, which respond differently to changes in emissions of various pollutants, separate RRFs were calculated for individual PM_{2.5} species. In addition, because of potential seasonal differences in PM_{2.5} formation mechanisms, RRFs for each species were also calculated separately for each quarter.

The RRF for a specific PM_{2.5} component j for each quarter is calculated using the following expression:

$$RRF_j = \frac{[C]_{j, \text{future}}}{[C]_{j, \text{reference}}} \quad (1)$$

Where for the annual PM_{2.5} standard, [C]_{j, future} is the modeled quarterly mean concentration for component j predicted for the future year averaged over the 3x3 array of grid cells surrounding the monitor, and [C]_{j, reference} is the same, but for the reference year simulation.

The measured FRM/FEM (i.e., Federal Reference Method/Federal Equivalent Method) PM_{2.5} must be separated into its various chemical components. Species concentrations were obtained from the four PM_{2.5} chemical speciation sites in the Valley. These four speciation sites are located at: Bakersfield – California Avenue, Fresno – Garland, Visalia – North Church, and Modesto – 14th Street. Since not all of the 17 FRM/FEM PM_{2.5} sites in the Valley have collocated speciation monitors, the speciated PM_{2.5} measurements at one of the four speciation sites were utilized to represent the speciation profile at each of the FRM/FEM sites based on geographic proximity, analysis of local emission sources, and measurements from previous field studies. Based on completeness of the data, PM_{2.5} speciation data from 2015 – 2019 were utilized. For each quarter, percentage contributions from individual chemical species to FRM/FEM PM_{2.5} mass were calculated as the average of the corresponding quarter from 2015-2019 for the annual standard calculation.⁹

Projected 2030 annual PM_{2.5} DVs for all sites are given in Table 5-3. For the annual standard, the Bakersfield-Planz site has the highest projected DV at 11.98 µg/m³, which is below the 2012 annual PM_{2.5} standard of 12 µg/m³. Since projecting future year PM_{2.5} DVs is performed by projecting individual PM_{2.5} components and then summing those components to get the total PM_{2.5}, it is useful to examine the RRFs associated with individual components to evaluate how the changes in each component contribute to the overall change in PM_{2.5}. From 2017 to 2030, there are substantial reductions projected for ammonium nitrate, Elemental Carbon (EC), and Organic Matter (OM), a slight decrease in sulfate, but a slight increase in crustal material (i.e., other primary PM_{2.5} such as fugitive dust emissions). The reduction in ammonium nitrate is a direct result of NO_x emission reductions in 2030 compared to 2017, while EC and OM reductions are primarily tied to the reduction in primary PM_{2.5} emissions. Detailed RRFs and base/future year concentrations for each individual species can be found in the Modeling Protocol and Attainment Demonstration Appendix.

To evaluate the impact of reducing emissions of different PM_{2.5} precursors to PM_{2.5} DVs, a series of model sensitivity simulations were performed, for which anthropogenic emissions within the SJV were reduced by a certain percentage from the baseline

⁹ Frank, N. H. (2006). Retained Nitrate, Hydrated Sulfates, and Carbonaceous Mass in Federal Reference Method Fine Particulate Matter for Six Eastern U.S. Cities. *Journal of the Air & Waste Management Association*, 56(4), 500-511. doi:10.1080/10473289.2006.10464517

emissions. Following U.S. EPA precursor demonstration guidance (U.S. EPA, 2016)¹⁰ as well as considering SJV's control strategies, sensitivity runs involving 30% emission reductions were performed for NO_x and direct PM_{2.5}. For other precursors (i.e., ammonia, VOCs, and SO_x), both 30% and 70% emission reductions were performed. In addition, sensitivity simulations were performed for years 2017 and 2030. The key conclusion from the sensitivity runs is that in 2030, reductions of direct PM_{2.5} and NO_x emissions will continue to have a significant impact on annual PM_{2.5} DVs, while reductions of ammonia, ROG, and SO_x have a much smaller impact compared to that of direct PM_{2.5} and NO_x.

The U.S. EPA attainment modeling guidance also recommends conducting an unmonitored area analysis to ensure that there are no regions outside of the existing monitoring network that could exceed the standard if a monitor was present at that location. Following the U.S. EPA recommended methodology, this unmonitored area analysis shows that in 2030, every modeling grid cell within the SJV meets the 2012 annual PM_{2.5} standards except for a small area surrounding the Lemoore military facility due to emissions from the operations at that facility.

Table 5-3 2017 baseline and projected 2030 future year annual PM_{2.5} DVs at each monitor

| Site AQS ID | Name | 2017 Baseline DV (µg/m ³) | 2030 Annual DV (µg/m ³) |
|-------------|-------------------------|---------------------------------------|-------------------------------------|
| 60290016 | Bakersfield - Planz | 16.97 | 11.98 |
| 60311004 | Hanford | 15.73 | 11.04 |
| 60290010 | Bakersfield - Golden | 15.52 | 10.82 |
| 61072002 | Visalia | 15.43 | 10.5 |
| 60290014 | Bakersfield - Cal. Ave. | 15.12 | 10.52 |
| 60310004 | Corcoran | 14.95 | 10.9 |
| 60195025 | Fresno - Hamilton | 13.99 | 9.81 |
| 60190011 | Fresno - Garland | 13.69 | 9.49 |
| 60990006 | Turlock | 12.7 | 9.69 |
| 60195001 | Clovis | 12.69 | 8.99 |
| 60470003 | Merced - S. Coffee | 12.28 | 9.31 |
| 60771002 | Stockton | 12.21 | 10.16 |
| 60392010 | Madera | 12.11 | 8.75 |
| 60472510 | Merced - M. Street | 11.73 | 8.73 |
| 60990005 | Modesto | 11.16 | 8.54 |
| 60772010 | Manteca | 10.37 | 8.38 |
| 60192009 | Tranquility | 8.19 | 6.37 |

¹⁰ U.S. EPA. (2016). *PM_{2.5} Precursor Demonstration Guidance*. Retrieved from: https://www.epa.gov/sites/production/files/2016-11/documents/transmittal_memo_and_draft_pm25_precursor_demo_guidance_11_17_16.pdf

5.2.4.2 Attainment Demonstration

Attaining federal health-based air quality standards is an important milestone for improving public health. As detailed in Appendix J, this Plan demonstrates that the Valley will attain the federal 2012 PM_{2.5} standard as expeditiously as practicable, with all feasible measures and strategies being implemented to accomplish this goal.

Modeling performed by CARB and the District demonstrates the Valley will attain the 2012 PM_{2.5} standard by 2030. See above for the summary of modeling results and Appendix J for more detail. This Plan also demonstrates the Valley will attain the standard as expeditiously as practicable, as validated in Appendix G.

The attainment demonstration for this Plan includes the benefits of CARB and District control programs that provide ongoing emission reductions. The PM_{2.5} and NO_x reductions result from implementation of MSM, which includes the ongoing implementation of stringent regulations for stationary and area sources under the District's jurisdiction, in addition to the implementation of stringent requirements for mobile sources under CARB's jurisdiction. Appendices C and D contain the evaluations of BACM and MSM feasible for implementation in the Valley.

5.2.5 Reasonable Further Progress (RFP)

This CAA §189(d) Plan must demonstrate Reasonable Further Progress (RFP) pursuant to 40 CFR §§51.1003(c)(1)(v) and 51.1012.¹¹ RFP is the incremental emission reductions leading to the attainment date of a standard for an area. Refer to Appendix G for a full description and the RFP demonstration.

5.2.6 Quantitative Milestones

CAA Subpart 4 §189(c)(1) requires Plans submitted to EPA to contain quantitative milestones which are to be achieved every three years until the area is re-designated attainment and which demonstrate reasonable further progress as defined in CAA §171.

For a Serious nonattainment area, the quantitative milestones shall be achieved no later than milestone dates of 7.5 and 10.5 years from the date of designation. The Valley was designated Nonattainment for the 2012 PM_{2.5} NAAQS effective on April 15, 2015.¹² Therefore, the quantitative milestones dates for the 2012 PM_{2.5} NAAQS for the San Joaquin Valley are 2019, 2022, 2025, 2028, and 2031.¹³ Please refer to Appendix G for specific quantitative milestones.

5.2.7 Contingency Measures

All PM_{2.5} attainment Plans must contain contingency measures that are consistent with CAA §172(c)(9) and 40 CFR §51.1014. Contingency measures are additional control

¹¹ See also 81 FR 58103-58104

¹² 80 FR 2206 (January 15, 2015). <https://www.govinfo.gov/content/pkg/FR-2015-01-15/pdf/2015-00021.pdf>

¹³ 40 CFR 51.1013(a)

measures to be implemented in the event that EPA issues final rulemaking that the Valley failed to meet a regulatory requirement necessitating implementation of a contingency measure. Due to the difficulty nonattainment areas face in addressing CAA contingency requirements in light of the recent court decisions, described further in Appendix G, the District, CARB, and other agencies have urged EPA to provide updated federal guidance. In response, EPA developed the *Draft Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (Draft Guidance)*¹⁴ on March 17, 2023. The District and CARB have addressed contingency measure requirements for this Plan pursuant to the *Draft Guidance*, as presented in Appendix G.

5.2.8 Fulfillment of Serious Area Permitting Requirements

Pursuant to The District's New and Modified Stationary Source Review Rule (Rule 2201) is designed to meet state and federal NNSR requirements, and applies to new and modified stationary sources that emit NO_x, VOC, PM₁₀, PM_{2.5}, SO_x, CO, and other pollutants subject to District permitting requirements. Subpart 4 §189(b)(3) of the CAA requires areas designated as Serious nonattainment to establish the "major stationary source" threshold at 70 tpy. Rule 2201 sets the major source emission thresholds at 10 tpy for NO_x and 70 tpy for PM_{2.5}, which meets the CAA requirements specified in Subpart 4 §189(b)(3) for areas designated as Serious nonattainment.

The District adopted amendments to Rule 2201 on August 15, 2019, which CARB submitted to EPA for inclusion in California's SIP on November 20, 2019. EPA published findings in the Federal Register on July 29, 2022, of its evaluation of the rule for meeting the applicable CAA requirements for state NSR programs, as well as other CAA general requirements for SIP submittals. From its evaluation, EPA proposed approval of the majority of the District's amendments, and also provided specific comments.¹⁵ The District adopted amendments to Rule 2201 on April 20, 2023, to address EPA's comments, which CARB submitted to EPA for inclusion in California's SIP on October 13, 2023.

5.2.9 Transportation Conformity

This CAA §189(d) Plan must include transportation conformity budgets for the attainment year pursuant to 40 CFR §51.1003(d).¹⁶ Refer to Appendix D for more information.

¹⁴ EPA. *DRAFT: Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter*. March 17, 2023. Retrieved from: <https://www.epa.gov/system/files/documents/2023-03/CMTF%202022%20guidance%203-17-23.pdf>

¹⁵ 87 FR 45730, *Limited Approval and Limited Disapproval of California Air Plan Revisions; San Joaquin Valley Air Pollution Control District; Stationary Source Permits*

¹⁶ See also 81 FR 58103.

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