## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Parts 52 and Part 81

**[EPA–R09–OAR–2014–0636; FRL–9921–48–Region 9]**

# Approval and Promulgation of Implementation Plans; Designation of Areas for Air Quality Planning Purposes; California; San Joaquin Valley Moderate Area Plan and Reclassification as Serious Nonattainment for the 2006 $PM_{2.5}$ NAAQS

**AGENCY:** U.S. Environmental Protection Agency.

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve state implementation plan (SIP) revisions submitted by California to address Clean Air Act (CAA or Act) requirements for the 2006 24-hour fine particulate matter ($PM_{2.5}$) national ambient air quality standard (NAAQS) in the San Joaquin Valley (SJV) Moderate $PM_{2.5}$ nonattainment area. These SIP revisions are the 2012 $PM_{2.5}$ Plan, submitted March 4, 2013, and the Supplement, submitted November 6, 2014. The EPA is also proposing to disapprove interpollutant trading ratios identified in these SIP submittals for nonattainment new source review permitting purposes. Finally, the EPA is proposing to reclassify the SJV area, including Indian country within it, as a Serious nonattainment area for the 2006 $PM_{2.5}$ NAAQS based on EPA's determination that the area cannot practicably attain this standard by the applicable Moderate area attainment date of December 31, 2015. Upon final reclassification as a Serious area, California will be required to submit a Serious area plan including a demonstration that the plan provides for attainment of the 2006 $PM_{2.5}$ NAAQS in the SJV area by the applicable Serious area attainment date, which is no later than December 31, 2019, or by the most expeditious alternative date practicable, in accordance with the requirements of part D of title I of the CAA.

**DATES:** Any comments must arrive by February 27, 2015.

**ADDRESSES:** Submit comments, identified by docket number EPA–R09–OAR–2014–0636, by one of the following methods:

- Federal eRulemaking Portal: *www.regulations.gov.* Follow the on-line instructions.
- Email: *tax.wienke@epa.gov.*
- Mail or deliver: Wienke Tax, Office of Air Planning (AIR–2), U.S. Environmental Protection Agency Region 9, 75 Hawthorne Street, San Francisco, CA 94105.

*Instructions:* All comments will be included in the public docket without change and may be made available online at *www.regulations.gov,* including any personal information provided, unless the comment includes Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Information that you consider CBI or otherwise protected should be clearly identified as such and should not be submitted through *www.regulations.gov* or email. The *www.regulations.gov* Web site is an ''anonymous access'' system, and the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send email directly to the EPA, your email address will be automatically captured and included as part of the public comment. If the EPA cannot read your comments due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment.

*Docket:* The index to the docket (docket number EPA–R09–OAR–2014–0636) for this proposed rule is available electronically on the *www.regulations.gov* Web site and in hard copy at EPA Region 9, 75 Hawthorne Street, San Francisco, California, 94105. While all documents in the docket are listed in the index, some information may be publicly available only at the hard copy location (*e.g.,* copyrighted material), and some may not be publicly available at either location (*e.g.,* CBI). To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed in the **FOR FURTHER INFORMATION CONTACT** section below.

**FOR FURTHER INFORMATION CONTACT:** Wienke Tax, Air Planning Office (AIR–2), U.S. Environmental Protection Agency, Region 9, (415) 947–4192, *tax.wienke@epa.gov*.

**SUPPLEMENTARY INFORMATION:** Throughout this document, ''we,'' ''us'' and ''our'' refer to the EPA.

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## I. Background for Proposed Actions

On October 17, 2006, the EPA revised the 24-hour national ambient air quality standard (NAAQS or standard) for $PM_{2.5}$, particulate matter with a diameter of 2.5 microns or less, to provide increased protection of public health by lowering its level from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$ (40 CFR 50.13).[1] Epidemiological studies have shown statistically significant correlations between elevated $PM_{2.5}$ levels and premature mortality. Other important health effects associated with $PM_{2.5}$ exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), changes in lung function and increased respiratory symptoms. Individuals particularly sensitive to $PM_{2.5}$ exposure include older adults, people with heart and lung disease, and children (78 FR 3086 at 3088, January 15, 2013). $PM_{2.5}$ can be emitted directly into the atmosphere as a solid or liquid particle (''primary $PM_{2.5}$'' or ''direct $PM_{2.5}$'') or can be formed in the atmosphere as a result of

[1] *See* 71 FR 61224 (October 17, 2006). The EPA set the first NAAQS for $PM_{2.5}$ on July 18, 1997 (62 FR 36852), including annual standards of 15.0 $\mu g/m^3$ based on a 3-year average of annual mean $PM_{2.5}$ concentrations and 24-hour (daily) standards of 65 $\mu g/m^3$ based on a 3-year average of 98th percentile 24-hour concentrations (40 CFR 50.7). In 2012, the EPA revised the annual standard to lower its level to 12 $\mu g/m^3$ (78 FR 3086, January 15, 2013, codified at 40 CFR 50.18). Unless otherwise noted, all references to the $PM_{2.5}$ standard in this notice are to the 2006 24-hour standard of 35 $\mu g/m^3$ codified at 40 CFR 50.13.

various chemical reactions among precursor pollutants such as nitrogen oxides, sulfur oxides, volatile organic compounds, and ammonia (''secondary $PM_{2.5}$'').[2]

Following promulgation of a new or revised NAAQS, the EPA is required by CAA section 107(d) to designate areas throughout the nation as attaining or not attaining the NAAQS. On November 13, 2009, the EPA designated the SJV as nonattainment for the 2006 $PM_{2.5}$ standard of 35 μg/m[3] (74 FR 58688, November 13, 2009). This designation became effective on December 14, 2009 (40 CFR 81.305). The SJV area is also designated nonattainment for the 1997 annual and 24-hour $PM_{2.5}$ standards.[3]

The SJV $PM_{2.5}$ nonattainment area is home to 4 million people and is the nation's leading agricultural region. Stretching over 250 miles from north to south, it is partially enclosed by the Coast Mountain range to the west, the Tehachapi Mountains to the south, and the Sierra Nevada range to the east. It encompasses over 23,000 square miles and includes all or part of eight counties: San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, Kings, and the valley portion of Kern. For a precise description of the geographic boundaries of the San Joaquin Valley $PM_{2.5}$ nonattainment area, see 40 CFR 81.305.

The local air district with primary responsibility for developing plans to attain the NAAQS in the area is the San Joaquin Valley Air Pollution Control District (SJVAPCD or District). The District works cooperatively with the California Air Resources Board (CARB) in preparing these plans. Authority for regulating sources under state jurisdiction in the SJV is split between the District, which has responsibility for regulating stationary and most area sources, and CARB, which has responsibility for regulating most mobile sources.

Ambient 24-hour $PM_{2.5}$ NAAQS design value levels in the San Joaquin Valley are among the highest recorded in the United States for the 2011–2013 period.[4] Exceedances of the 24-hour $PM_{2.5}$ standard occur almost exclusively during the late fall and winter months from October to March, when ambient $PM_{2.5}$ is dominated by ammonium nitrate (a secondary particulate formed from nitrogen oxides ($NO_X$) and ammonia emissions) and directly-emitted particulates, such as wood smoke. During the winter, the SJV experiences extended periods of stagnant weather with cold foggy conditions which encourage wood burning and are conducive to the formation of ammonium nitrate (2012 $PM_{2.5}$, Appendix G, pp. 7 to 9).

## II. Clean Air Act Requirements for $PM_{2.5}$ Moderate Nonattainment Area Plans

In April 2007, the EPA issued the Clean Air Fine Particle Implementation Rule (''2007 $PM_{2.5}$ Implementation Rule'') to assist states with the development of SIPs to meet the Act's attainment planning requirements for the 1997 $PM_{2.5}$ standards (72 FR 20583, April 25, 2007, codified at 40 CFR part 51, subpart Z). This rule was premised on the EPA's prior interpretation of the Act as allowing for implementation of the $PM_{2.5}$ NAAQS solely pursuant to the general nonattainment area provisions in subpart 1 of part D, title I of the CAA (''subpart 1'') and not the more specific provisions for particulate matter nonattainment areas in subpart 4 of part D, title I of the Act (''subpart 4''). Among other things, the 2007 $PM_{2.5}$ Implementation Rule included nationally applicable presumptions regarding the need to evaluate and potentially control emissions of certain $PM_{2.5}$ precursors.[5]

In March 2012, the EPA issued a guidance document to aid states in preparing SIPs to meet the Act's attainment planning requirements for the 2006 24-hour $PM_{2.5}$ standard.[6] The 2012 guidance was based, in large part, on the requirements in the 2007 $PM_{2.5}$ Implementation Rule, which the EPA based solely upon the statutory requirements of subpart 1.

California had three years from the effective date of SJV's designation as nonattainment for the 2006 $PM_{2.5}$ standard to submit a SIP for the SJV that addressed the applicable requirements of the Act.[7] On December 20, 2012, the District adopted the 2012 $PM_{2.5}$ Plan to provide for attainment of the 2006 $PM_{2.5}$ standard. On January 24, 2013, CARB adopted the Plan as an element of the California SIP and submitted it to the EPA on March 4, 2013.

On January 4, 2013, several weeks after the District's adoption of the Plan, the U.S. Court of Appeals for the DC Circuit issued its decision in a challenge to the EPA's 2007 m$PM_{2.5}$ Implementation Rule (*NRDC* v. *EPA,* 706 F.3d 428 (D.C. Cir. 2013)). In *NRDC,* the court held that the EPA erred in implementing the 1997 $PM_{2.5}$ standards solely pursuant to the general implementation requirements of subpart 1, without also considering the requirements specific to particulate matter nonattainment areas in subpart 4.[8] The court reasoned that the plain meaning of the CAA requires implementation of the 1997 $PM_{2.5}$ standards under subpart 4 because $PM_{2.5}$ particles fall within the statutory definition of $PM_{10}$ and are thus subject to the same statutory requirements as $PM_{10}$. The court remanded the 2007 $PM_{2.5}$ Implementation Rule in its entirety, including the presumptions concerning VOC and ammonia in 40 CFR 51.1002, and instructed the EPA ''to repromulgate these rules pursuant to Subpart 4 consistent with this opinion.''

Consistent with the *NRDC* decision, on June 2, 2014 (79 FR 31566), the EPA published a final rule classifying all areas currently designated nonattainment for the 1997 and/or 2006 $PM_{2.5}$ standards as ''Moderate'' under subpart 4 and establishing a deadline of December 31, 2014 for states to submit

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[2] *See* EPA, Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter (EPA–452/R–12–005, December 2012), p. 2–1.

[3] *See* 70 FR 944 (January 5, 2005) and 40 CFR 81.305. In June 2008, California submitted the 2008 $PM_{2.5}$ Plan to provide for attainment of the 1997 $PM_{2.5}$ standards in the SJV. In November 2011, the EPA approved all but the contingency measures in the 2008 $PM_{2.5}$ Plan (76 FR 69896, November 9, 2011). In July 2013, the State submitted a revised contingency measure plan, which the EPA approved in May 2014 (79 FR 29327, May 22, 2014).

[4] *See* U.S. EPA, 2013 Design Value Reports, $PM_{2.5}$ Detailed Information Updated 8/24/14, available at *http://www.epa.gov/airtrends/values.html* (''$PM_{2.5}$_DesignValues_20112013_FINAL_08_28_14'') (hereafter ''2013 $PM_{2.5}$ Design Value Reports''). ''Design values'' are the 3-year average NAAQS metrics that are compared to the NAAQS levels to determine when a monitoring site meets or does not meet the NAAQS. *See* 40 CFR part 50 Appendix N, Section 1.0(c).

[5] Specifically, in 40 CFR 51.1002(c), the EPA provided, among other things, that a state was ''not required to address VOC [and ammonia] as . . . $PM_{2.5}$ attainment plan precursor[s] and to evaluate sources of VOC [and ammonia] emissions in the State for control measures,'' unless the State or the EPA provided an appropriate technical demonstration showing that emissions from sources of these pollutants ''significantly contribute'' to $PM_{2.5}$ concentrations in the nonattainment area (40 CFR 51.1002(c)(3), (4) and 72 FR 20586 at 20589–97 (April 25, 2007)).

[6] *See* Memorandum, dated March 2, 2012 (withdrawn June 6, 2013), from Stephen D. Page, Director, Office of Air Quality Planning and Standards, to EPA Regional Air Directors, Regions I–X re: ''Implementation Guidance for the 2006 24-Hour Fine Particle ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS)'' (''2012 Guidance'') Available at: *http://epa.gov/ttn/naaqs/pm/pm25_guide.html.*

[7] *See* CAA section 172(b) and 40 CFR 51.1002(a).

[8] The *NRDC* decision also remanded the EPA's 2008 final rule to implement the nonattainment New Source Review (NNSR) permitting requirements for $PM_{2.5}$ (73 FR 28231, May 16, 2008) which, like the 2007 $PM_{2.5}$ Implementation Rule, was premised on the requirements of subpart 1. Today's proposal does not address requirements for NNSR programs other than the requirements concerning $PM_{2.5}$ precursors in CAA section 189(e), which we discuss in Section IV.C below, and $PM_{2.5}$ interpollutant trading ratios, which we discuss in Section IV.J below.

any attainment-related and nonattainment new source review (NNSR) SIP elements required for these areas pursuant to subpart 4. The EPA provided its rationale for these actions in both the proposed and final classification/deadline rule.[9]

On September 18, 2014, the District adopted the ''Supplemental Document, Clean Air Act Subpart 4: The 2012 $PM_{2.5}$ Plan for the 2006 $PM_{2.5}$ Standard and District Rule 2201 (New and Modified Stationary Source Review)'' (''Supplement'') as a revision to the 2012 $PM_{2.5}$ Plan. The District adopted the Supplement to address subpart 4 requirements for the 2006 $PM_{2.5}$ standard to the extent that these requirements were not adequately addressed in the 2012 $PM_{2.5}$ Plan. CARB submitted the Supplement to the EPA on November 6, 2014. The Supplement includes information on the implementation of reasonably available controls for ammonia sources in the SJV and the District's demonstration that attainment by the Moderate area attainment date of December 31, 2015 is impracticable (''impracticability demonstration''). As a consequence of the *NRDC* decision, we are reviewing the 2012 $PM_{2.5}$ Plan and Supplement for compliance with the applicable requirements of both subpart 1 and subpart 4.

The EPA has longstanding guidance interpreting the subpart 4 requirements for particulate matter nonattainment areas (*see* ''State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990'' (57 FR 13498, April 16, 1992) (''General Preamble'') and ''State Implementation Plans for Serious PM–10 Nonattainment Areas, and Attainment Date Waivers for PM–10 Nonattainment Areas Generally; Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990'' (59 FR 41998, August 16, 1994) (''Addendum'')). The General Preamble at 13538 discusses the relationship of subpart 1 and subpart 4 SIP requirements, and notes that SIPs for moderate nonattainment areas must meet the general provisions in subpart 1 to the extent that these provisions are not otherwise ''subsumed by, or integrally related to, the more specific [subpart 4] requirements.'' Some subpart 1 provisions have no subpart 4 equivalent (*e.g.,* the emission inventories (CAA section 172(c)(3)) and contingency measures (CAA section 172(c)(9)) and for these provisions, subpart 1 continues to govern. Other provisions of subpart 1 are subsumed or superseded by more specific requirements in subpart 4 (*e.g.,* certain provisions concerning attainment dates).

Because the 2012 $PM_{2.5}$ Plan was initially developed and submitted to meet the requirements of subpart 1 and the 2007 $PM_{2.5}$ Implementation Rule, certain elements of the Plan address provisions of subpart 1 rather than the applicable provisions of subpart 4. Specifically, these elements are the State's request for an attainment date extension from 2014 to 2019 under CAA section 172(a)(2)(A); the demonstration of attainment by 2019; those portions of the reasonably available control measure (RACM) demonstration that show there are no section 172(c)(1) RACM that would expedite attainment from 2019 to 2018; the transportation conformity motor vehicle emission budgets for 2019; and the contingency measures for failure to attain. We are not proposing any action on these specific SIP elements at this time.

As part of this proposal, the EPA is proposing to determine that the SJV cannot practicably attain the 2006 $PM_{2.5}$ standard by the Moderate area attainment date of December 31, 2015 and to reclassify the area from Moderate to Serious nonattainment under subpart 4. Should the EPA finalize this proposal to reclassify the SJV area as a Serious area, the State will be required to adopt and submit a new plan addressing the Serious area requirements in subpart 4. We discuss these Serious area requirements in more detail in section V. below.

## III. Clean Air Act Procedural Requirements for SIP Submittals

We are proposing action on two California SIP submittals. The first is the ''2012 $PM_{2.5}$ Plan,'' which the State submitted to EPA on March 4, 2013 (hereafter ''2012 $PM_{2.5}$ Plan'' or ''the Plan'') [10] and the second is the ''Supplemental Document, Clean Air Act Subpart 4: The 2012 $PM_{2.5}$ Plan for the 2006 $PM_{2.5}$ Standard and District Rule 2201 (New and Modified Stationary Sources),'' which the State submitted to EPA on November 6, 2014 (hereafter ''the Supplement'').[11]

CAA sections 110(a)(1) and (2) and 110(l) require each state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submittal of a SIP or SIP revision. To meet this requirement, every SIP submittal should include evidence that adequate public notice was given and an opportunity for a public hearing was provided consistent with the EPA's implementing regulations in 40 CFR 51.102.

Both the District and CARB satisfied applicable statutory and regulatory requirements for reasonable public notice and hearing prior to adoption and submittal of the 2012 $PM_{2.5}$ Plan. The District conducted public workshops, provided public comment periods, and held a public hearing prior to the adoption of the Plan on December 20, 2012.[12] CARB provided the required public notice and opportunity for public comment prior to its January 24, 2013 public hearing on the Plan.[13] The SIP submittal includes proof of publication of notices for these public hearings. We find, therefore, that the 2012 $PM_{2.5}$ Plan meets the procedural requirements for public notice and hearing in CAA sections 110(a) and 110(l).

The District adopted the Supplement after reasonable public notice and hearing.[14] CARB adopted the Supplement for submittal as a SIP revision at its October 24, 2014 Board meeting after reasonable public notice.[15]

CAA section 110(k)(1)(B) requires the EPA to determine whether a SIP submittal is complete within 60 days of receipt. This section also provides that any plan that the EPA has not affirmatively determined to be complete or incomplete will become complete by operation of law six months after the date of submittal. The EPA's SIP completeness criteria are found in 40 CFR part 51, Appendix V.

The March 4, 2013 submittal of the 2012 $PM_{2.5}$ Plan became complete by operation of law on September 4, 2014. We find that the Supplement satisfies the completeness criteria in 40 CFR part

[9] *See* 79 FR 69806, 69809 (November 21, 2013) and 79 FR 31566, 31568 (June 2, 2014).

[10] *See* Letter dated March 4, 2013, from James N. Goldstene, Executive Officer, California Air Resources Board, to Jared Blumenfeld, Regional Administrator, EPA Region 9, with enclosures.

[11] *See* Letter dated November 6, 2014, from James N. Goldstene, Executive Officer, California Air Resources Board, to Jared Blumenfeld, Regional Administrator, EPA Region 9, with enclosures.

[12] *See* 2012 $PM_{2.5}$ Plan, p. ES–6 and SJVAPCD Governing Board Resolution 2012–12–19, ''In the Matter of Adopting the San Joaquin Valley Unified Air Pollution Control District 2012 $PM_{2.5}$ Plan,'' December 20, 2012.

[13] *See* CARB Resolution 13–2, ''San Joaquin Valley $PM_{2.5}$ State Implementation Plan,'' January 24, 2013.

[14] *See* Notice of Public Hearing to Adopt Supplemental Document to the *2012 $PM_{2.5}$ Plan for the 2006 $PM_{2.5}$ Standard* and New Source Review Rule to address Clean Air Act Subpart 4 requirements, available at *http://www.valleyair.org/Air_Quality_Plans/docs/NPH_SD_PM25Plan_09_2014.pdf.*

[15] *See* CARB, Notice of Public Meeting to Consider the Supplemental Document for the San Joaquin Valley 24-Hour $PM_{2.5}$ SIP, September 23, 2014, and CARB Board Resolution 14–37, October 24, 2014.

51, appendix V (*see* our Technical Support Document at section I.B).

## IV. Review of the San Joaquin Valley 2012 $PM_{2.5}$ Plan and Supplement

We summarize our evaluation of the 2012 $PM_{2.5}$ Plan and Supplement below. Our detailed evaluation can be found in the Technical Support Document (TSD) for this proposal which is available online at *www.regulations.gov* in docket number EPA–R09–OAR–2014–0636, on EPA Region 9's Web site at *www.epa.gov/region9/air/sjv-pm25/index.html,* or from the EPA contact listed at the beginning of this notice.

### *A. Emissions Inventory*

#### 1. Requirements for Emissions Inventories

CAA section 172(c)(3) requires that each SIP include a ''comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in [the] area. . . .'' By requiring an accounting of actual emissions from all sources of the relevant pollutants in the area, this section provides for the base year inventory to include all emissions that contribute to the formation of a particular NAAQS pollutant. For the 2006 24-hour $PM_{2.5}$ standard, this includes direct $PM_{2.5}$ as well as the main chemical precursors to the formation of secondary $PM_{2.5}$: $NO_X$, $SO_2$, VOC, and ammonia ($NH_3$). Primary $PM_{2.5}$ includes condensable and filterable particulate matter.

A state should include in its SIP submittal documentation explaining how the emissions data were calculated. In estimating mobile source emissions, a state should use the latest emissions models and planning assumptions available at the time the SIP is developed. California is required to use EMFAC2011 to estimate tailpipe and brake and tire wear emissions of $PM_{2.5}$, $NO_X$, $SO_2$, and VOC from on-road mobile sources (78 FR 14533, March 6, 2013). States are required to use the EPA's AP–42 road dust method for calculating re-entrained road dust emissions from paved roads (76 FR 6328, February 4, 2011).

In addition to the base year inventory submitted to meet the requirements of CAA section 172(c)(3), the state must also submit future ''baseline inventories'' for the projected attainment year and each reasonable further progress (RFP) milestone year, and any other year of significance for meeting applicable CAA requirements. By ''baseline inventories'' (also referred to as ''projected baseline inventories''), we mean projected emissions inventories for future years that account for, among other things, the ongoing effects of economic growth and adopted emissions control requirements. The SIP should include documentation explaining how the emissions projections were calculated.

#### 2. Emissions Inventories in the 2012 $PM_{2.5}$ Plan

The planning inventories for direct $PM_{2.5}$ and all $PM_{2.5}$ precursors ($NO_X$, $SO_2$, VOC, and ammonia) for the SJV $PM_{2.5}$ nonattainment area together with documentation for the inventories are found in Appendix B of the 2012 $PM_{2.5}$ Plan. Winter daily average inventories, representing conditions in the period November through April, are provided for the base year 2007 and the baseline year of 2012 and each baseline year from 2014 to 2019. A winter inventory is used because exceedances of the 35 $\mu g/m^3$ $PM_{2.5}$ standard in the SJV occur mostly during the winter months (p. 3–4 and Appendix G, p. G–6). Baseline inventories reflect all control measures adopted prior to January 2012. Growth factors used to project these baseline inventories are derived from data obtained from a number of sources such as the California Energy Commission and Department of Finance as well as studies commissioned by the SJV's metropolitan planning organizations (pp. B–21 to B–30).

Each inventory includes emissions from point, area, on-road, and non-road sources. The inventories use EMFAC2011 for estimating on-road motor vehicle emissions (p. B–26). After EMFAC2011 was released in 2011, new information on statewide diesel fuel usage and economic forecasts became available to the State. For the 2012 $PM_{2.5}$ Plan, CARB adjusted EMFAC2011 emissions estimates for heavy-duty trucks to reflect this new information (p. B–26). The EPA allowed the use of these adjustment factors in transportation conformity determinations in the SJV.[16] Re-entrained paved road dust emissions were calculated using the EPA's AP–42 road dust methodology (Appendix B, p. B–25).

Table 1 provides a summary of the winter daily average inventories of direct $PM_{2.5}$ and $PM_{2.5}$ precursors for the base year of 2007. These inventories provide the basis for the control measure analysis and the RFP and attainment demonstrations in the 2012 $PM_{2.5}$ Plan.

TABLE 1—SAN JOAQUIN VALLEY EMISSIONS INVENTORY SUMMARY FOR DIRECT $PM_{2.5}$ AND $PM_{2.5}$ PRECURSORS FOR THE 2007 BASE YEAR

[Winter daily average in tons]

| | Direct $PM_{2.5}$ | $NO_X$ | $SO_2$ | VOC | Ammonia |
|---|---|---|---|---|---|
| Stationary Sources | 9.4 | 45.6 | 10.4 | 96.2 | 19.8 |
| Area Sources | 62.5 | 19.0 | 0.8 | 213.2 | 342.2 |
| On-Road Mobile Sources | 9.1 | 296.5 | 0.6 | 67.3 | 5.3 |
| Off-Road Mobile Sources | 6.1 | 103.9 | 1.0 | 38.0 | 0.0 |
| Total | 87.1 | 465.1 | 12.8 | 414.8 | 367.3 |

Source: 2012 $PM_{2.5}$ Plan, Appendix B, Tables B–1 to B–5.

#### 3. Evaluation and Proposed Action

The inventories in the 2012 $PM_{2.5}$ Plan are based on the most current and accurate information available to the State and District at the time the Plan and its inventories were being developed in 2011 and 2012, including the latest EPA-approved version of California's mobile source emissions model, EMFAC2011. The inventories comprehensively address all source categories in the SJV and were developed consistent with the EPA's inventory guidance. For these reasons, we are proposing to approve the 2007 base year emissions inventory in the 2012 $PM_{2.5}$ Plan as meeting the requirements of CAA section 172(c)(3).

[16] Letter dated January 14, 2014, Matthew Lakin, Chief, Air Planning Office, EPA-Region 9 to John Taylor, Branch Chief, Transportation Planning Branch, CARB; Subject: Use of San Joaquin Valley Heavy Duty Diesel Vehicle Recession Adjustment Methodology.

We are also proposing to find that the baseline inventories in the Plan provide an adequate basis for the RACM, RFP, and impracticability demonstrations.

*B. Air Quality Modeling*

1. Requirements for Air Quality Modeling

CAA section 189(a)(1)(B) requires each state in which a Moderate area is located to submit a plan that includes a demonstration either (i) that the plan will provide for attainment by the applicable attainment date, or (ii) that attainment by that date is impracticable. The 2012 $PM_{2.5}$ Plan and Supplement include a demonstration that attainment by the Moderate area attainment date is impracticable.

Air quality modeling is used to establish emissions attainment targets, the combination of emissions of $PM_{2.5}$ and $PM_{2.5}$ precursors that the area can accommodate and still attain the standard, and to assess whether the proposed control strategy will result in attainment of the standard. Air quality modeling is performed for a base year and compared to air quality monitoring data collected during that year in order to determine model performance. Once the model performance is determined to be acceptable, future year changes to the emissions inventory are simulated with the model to determine the relationship between emissions reductions and changes in ambient air quality. To project future design values, the model response to emission reductions, in the form of Relative Response Factors (RRFs), is applied to monitored design values from the base year.

For demonstrating attainment, the EPA's recommendations for model input preparation, model performance evaluation, use of the model output for the attainment demonstration, and modeling documentation are described in *Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze*, EPA–454/B–07–002, April 2007 (''Modeling Guidance''), as amended by ''Update to the 24 Hour $PM_{2.5}$ NAAQS Modeled Attainment Test,'' Memorandum dated June 28, 2011, from Tyler Fox, Air Quality Modeling Group, OAQPS, EPA to Regional Air Program Managers, EPA (''Modeling Guidance Update'').[17] The EPA has not issued modeling guidance specific to impracticability demonstrations but believes that a state seeking to make such a demonstration generally should provide air quality modeling similar to that required for an attainment demonstration. The main difference is that for an impracticability demonstration, the model's projected design value on the required attainment date would be above the NAAQS, despite full implementation of the SIP control strategy including all reasonably available control measures (RACM). Alternatively, a model projection could show that the implementation of the SIP control strategy (including RACM) results in attainment of the standard, but that this is achieved only after the applicable attainment date. We are using the latter alternative in evaluating the 2012 $PM_{2.5}$ Plan, since its modeling focuses on an attainment year of 2019, instead of 2015, which is the Moderate area attainment year for this area under subpart 4 (CAA section188(c)(1)).[18]

The EPA recommends that states prepare modeling protocols as part of their modeled attainment demonstrations (Guidance, p. 133). The Guidance (at pp. 133–134) describes the topics to be addressed in this modeling protocol. A modeling protocol should detail and formalize the procedures for conducting all phases of the modeling analysis, such as describing the background and objectives, creating a schedule and organizational structure, developing the input data, conducting model performance evaluations, interpreting modeling results, describing procedures for using the model to demonstrate whether proposed strategies are sufficient to attain the applicable standard, and producing documentation to be submitted for EPA Regional Office review and approval prior to actual modeling.

In addition to a modeled attainment demonstration, which focuses on locations with an air quality monitor, EPA's Guidance describes an Unmonitored Area Analysis (UAA). This analysis is intended to ensure that a control strategy leads to reductions in $PM_{2.5}$ at other locations that have no monitor but that might have base year and future baseline (projection year) ambient $PM_{2.5}$ levels exceeding the standard.

Finally, as discussed below, the Modeling Guidance recommends supplemental air quality analyses. These may be used as part of a Weight of Evidence analysis (WOEA), which assesses attainment by considering evidence other than the main air quality modeling attainment test. While supplemental analyses can increase confidence in the reliability of the modeling, they are less important for evaluating the impracticability demonstration *per se*. That is, the level of rigor in the modeling analyses supporting the Plan's conclusion that attainment will occur by 2019 is less important when the object is to demonstrate that attainment is not practicable by 2015. Supplemental analyses to support a demonstration of attainment by the end of 2019 will be necessary in a new Serious area plan.

2. Air Quality Modeling in the 2012 $PM_{2.5}$ Plan

A brief description of the modeling in 2012 $PM_{2.5}$ Plan and our evaluation of it follows. More detailed information about the modeling is available in section II.B. of the TSD.

CARB and the District jointly performed the air quality modeling for the 2012 $PM_{2.5}$ Plan. The modeling analysis uses the Community Multiscale Air Quality (CMAQ) photochemical model, developed by the EPA.[19] It incorporates routinely available meteorological and air quality data collected during 2007. The MM5 (Mesoscale Model version 5) was used to prepare meteorological input for CMAQ. Air Quality modeling was performed only for the first and fourth quarters (Q1 and Q4) of 2007 which is sufficient for modeling the 2006 24-hour $PM_{2.5}$ standard in the SJV because the high 24-hour $PM_{2.5}$ concentrations occur only during the colder part of the year. Only the top 10 percent of modeled days is required for projecting the 98th percentile-based design values into the future. (Modeling Guidance Update, p. B–1) The 2012 $PM_{2.5}$ Plan's modeling protocol is contained in Appendix F and includes descriptions of the photochemical modeling. Additional

[17] The EPA Modeling Guidance and Modeling Guidance Update are available on EPA's SCRAM Web site, Web page: *http://www.epa.gov/scram001/guidance_sip.htm;* direct links: *http://www.epa.gov/scram001/guidance/guide/final-03-pm-rh-guidance.pdf* and *http://www.epa.gov/ttn/scram/guidance/guide/Update_to_the_24-hour_PM25_Modeled_Attainment_Test.pdf.*

[18] The District developed the Plan to address the requirements of subpart 1 as interpreted in the 2007 p.m.2.5 Implementation Rule (prior to the D.C. Circuit's remand of this rule in *NRDC*) which authorized the EPA to extend the attainment date as appropriate for a period no greater than 10 years from the date of designation, considering the severity of nonattainment and the availability and feasibility of pollution control measures (*see* CAA section 172(a)(2)(A) and 40 CFR 51.1004). Because the SJV areas was designated nonattainment effective December 14, 2009 (74 FR 58688 (November 13, 2009), the date ''10 years from the date of designation'' would be December 14, 2019.

[19] The 2012 $PM_{2.5}$ Plan also included receptor modeling source apportionment analyses, using both the Chemical Mass Balance (CMB) model and the Positive Matrix Factorization (PMF) model. These models distinguish the ambient $PM_{2.5}$ contributions of several broad emissions source categories based on how they match the chemical species components of $PM_{2.5}$ measurements. These results generally corroborated results from the photochemical modeling, but were not themselves part of the attainment demonstration.

description of the photochemical modeling is also covered in the Weight of Evidence Analysis (''WOEA'').[20] The protocol was reviewed by the EPA and a number of academic experts, and covers all of the topics recommended in the Guidance, including thorough discussions of past modeling results and emission inventory preparation procedures.

The air quality modeling and results are summarized in Chapter 4 of the Plan (section 4.5, p. 4–22) and in the WOEA (section 10, p. 62). The Plan's meteorological model and air quality model performance statistics and graphics are available from the CARB Web site (''Meteorology and Air Quality Modeling for the 2012 24-Hour $PM_{2.5}$ Plan for the San Joaquin Valley'', *http://arb.ca.gov/eos/SIP_Modeling_PM25/24hr_PM25_ModelingPage.htm*). The air quality model performance appears to be quite good, with bias within the criteria for acceptance, and usually within the original performance goals; performance is very good for total $PM_{2.5}$ and for nitrate, the largest component of $PM_{2.5}$; however, time series plots show that some high $PM_{2.5}$ periods were underestimated.

The 2012 $PM_{2.5}$ Plan included a UAA in Appendix 6 of the Weight of Evidence Analysis in Appendix G of the Plan (p. G–175). (ARB Staff Report Appendix B is identical to Plan Appendix G, except that it does not include the latter's Appendices 5 and 6).

3. Evaluation of the Air Quality Modeling in the 2012 $PM_{2.5}$ Plan

The modeling showed that existing State and District control measures are not sufficient to attain the 2006 $PM_{2.5}$ standard by 2019 at all monitoring sites in the SJV. Modeling of the additional measures in the Plan (additional direct $PM_{2.5}$ reductions from residential wood burning and from commercial charbroiling) showed attainment at all sites by 2019. *Id.*

Given the extensive discussion of modeling procedures, tests, and performance analyses called for in the Modeling Protocol and the good model performance, the EPA finds that the modeling is adequate for purposes of supporting the RACM demonstration, the RFP demonstration, and the demonstration of impracticability in the 2012 $PM_{2.5}$ Plan and Supplement. To satisfy the statutory requirements for a serious area attainment demonstration, however, the State will need to address documentation gaps outlined in the TSD (section II.B. of the TSD).

While the State included a UAA in the Plan, it makes no difference for the impracticability demonstration we are concerned with here. Any unmonitored peaks with concentrations higher than at the monitors would merely strengthen the case for attainment being impracticable by the required date. A demonstration that attainment is impracticable at monitor locations is sufficient to meet the requirements of section 189(a)(1)(B)(ii). The EPA finds that the supplemental analyses presented in the WOEA are useful in a weight of evidence analysis, and support the demonstration of the impracticability of attainment by 2015.

We note finally that existing ambient air quality monitoring data also support the modeled demonstration that attainment of the 2006 $PM_{2.5}$ standard by December 31, 2015 is impracticable. Compliance with the 2006 24-hour $PM_{2.5}$ standard is assessed using the three-year average of the yearly 98th percentile concentrations. The most recent monitored $PM_{2.5}$ concentrations show that compliance with the 2006 standard is not possible by the end of 2015. *See* discussion in section II.F.3 of the TSD and section V.A. of this proposal.

*C. $PM_{2.5}$ Precursors*

1. Requirements for the Control of $PM_{2.5}$ Precursors

The composition of $PM_{2.5}$ is complex and highly variable due in part to the large contribution of secondary $PM_{2.5}$ to total fine particle mass in most locations, and to the complexity of secondary particle formation processes. A large number of possible chemical reactions, often non-linear in nature, can convert gaseous $SO_2$, $NO_X$, VOC and ammonia to $PM_{2.5}$, making them precursors to $PM_{2.5}$.[21] Formation of secondary $PM_{2.5}$ may also depend on atmospheric conditions, including solar radiation, temperature, and relative humidity, and the interactions of precursors with preexisting particles and with cloud or fog droplets.[22]

The 2007 $PM_{2.5}$ Implementation Rule contained rebuttable presumptions concerning the four $PM_{2.5}$ precursors applicable to attainment plans and control measures related to those plans. *See* 40 CFR 51.1002(c). Although the rule included presumptions that states should address $SO_2$ and NOx emissions in their attainment plans, it also included presumptions that regulation of VOCs and ammonia was not necessary. Specifically, in 40 CFR 51.1002(c), the EPA provided, among other things, that a state was ''not required to address VOC [and ammonia] as . . . $PM_{2.5}$ attainment plan precursor[s] and to evaluate sources of VOC [and ammonia] emissions in the state for control measures,'' unless the state or the EPA provided an appropriate technical demonstration showing that emissions from sources of these pollutants ''significantly contribute'' to $PM_{2.5}$ concentrations in the nonattainment area. 40 CFR 51.1002(c)(3), (4); see also 2007 p.m.2.5 Implementation Rule, 72 FR 20586 at 20589–97 (April 25, 2007).

In *NRDC,* however, the D.C. Circuit remanded the EPA's 2007 $PM_{2.5}$ Implementation Rule in its entirety, including the presumptions concerning VOC and ammonia in 40 CFR 51.1002. *See NRDC* v. *EPA,* 706 F.3d 428 (D.C. Cir. 2013). Although the court expressly declined to decide the specific challenge to these presumptions (*see* 706 F.3d at 437, n. 10 (D.C. Cir. 2013)), the court cited CAA section 189(e)[23] to support its observation that ''[a]mmonia is a precursor to fine particulate matter, making it a precursor to both $PM_{2.5}$ and $PM_{10}$'' and that ''[f]or a $PM_{10}$ nonattainment area governed by subpart 4, a precursor is presumptively regulated.'' 706 F.3d at 436, n. 7 (*citing* CAA section 189(e)). Consistent with the *NRDC* decision, EPA now interprets the Act to require that under subpart 4, a state must evaluate all $PM_{2.5}$ precursors for regulation unless it provides a demonstration adequate to rebut the presumption for a particular precursor in a particular nonattainment area.

The provisions of subpart 4 do not define the term ''precursor'' for purposes of $PM_{2.5}$, nor do they explicitly require the control of any specifically identified particulate matter (PM) precursor. The statutory definition of ''air pollutant,'' however, provides that the term ''includes any precursors to the formation of any air pollutant, to the

[20] The WOEA is Appendix B to the ''[CARB] Staff Report, Proposed Revision to the $PM_{2.5}$ State Implementation Plan (SIP) for the San Joaquin Valley,'' Release Date: January 11, 2013 (''Staff Report''), which can be found in the docket for this proposed rule. Appendix G to the 2012 $PM_{2.5}$ Plan also contains a weight of evidence analysis which is identical to the one in the CARB Staff Report except for the two additional appendices 5 and 6.

[21] EPA, Air Quality Criteria for Particulate Matter (EPA/600/P–99/002aF, October 2004), Chapter 3.

[22] EPA, Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter (EPA–452/R–12–005, December 2012), p. 2–1.

[23] Section 189(e) of the CAA states that ''[t]he control requirements applicable under plans in effect under this part for major stationary sources of $PM_{10}$ shall also apply to major stationary sources of $PM_{10}$ precursors, except where the Administrator determines that such sources do not contribute significantly to $PM_{10}$ levels which exceed the standard in the area.''

extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used.'' CAA section 302(g). The EPA has identified $SO_2$, $NO_X$, VOC, and ammonia as precursors to the formation of $PM_{2.5}$. Accordingly, the attainment plan requirements of subpart 4 presumptively apply to emissions of all four precursor pollutants and direct $PM_{2.5}$ from all types of stationary, area, and mobile sources, except as otherwise provided in the Act (*e.g.* CAA section 189(e)).

Section 189(e) of the Act requires that the control requirements for major stationary sources of direct $PM_{10}$ also apply to major stationary sources of $PM_{10}$ precursors, except where the Administrator determines that such sources do not contribute significantly to $PM_{10}$ levels that exceed the standard in the area. Section 189(e) contains the only express exception to the control requirements under subpart 4 (*e.g.,* requirements for RACM and RACT, best available control measures (BACM) and best available control technology (BACT), most stringent measures, and NSR) for sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursor emissions. Although section 189(e) explicitly addresses only major stationary sources, the EPA interprets the Act as authorizing it also to determine, under appropriate circumstances, that regulation of specific $PM_{2.5}$ precursors from other source categories in a given nonattainment area is not necessary. For example, under the EPA's longstanding interpretation of the control requirements that apply to stationary, area, and mobile sources of $PM_{10}$ precursors area-wide under CAA section 172(c)(1) and subpart 4 (*see* General Preamble, 57 FR 13498 at 13539–42), a state may demonstrate in a SIP submittal that control of a certain precursor pollutant is not necessary in light of its insignificant contribution to ambient $PM_{10}$ levels in the nonattainment area.[24]

We are evaluating the SJV $PM_{2.5}$ Plan in accordance with the presumption embodied within subpart 4 that all $PM_{2.5}$ precursors must be addressed in the state's evaluation of potential control measures, unless the state adequately demonstrates that emissions of a particular precursor do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the $PM_{2.5}$ NAAQs in the nonattainment area. In reviewing any determination by the state to exclude a $PM_{2.5}$ precursor from the required evaluation of potential control measures, we consider both the magnitude of the precursor's contribution to ambient $PM_{2.5}$ concentrations in the nonattainment area and the sensitivity of ambient $PM_{2.5}$ concentrations in the area to reductions in emissions of that precursor.

2. Evaluation of Precursors in SJV $PM_{2.5}$ Plan and Supplement

In the 2012 $PM_{2.5}$ Plan, the State and District identify $NO_X$, and $SO_X$ as the precursors that it must control in order to attain the 2006 $PM_{2.5}$ standard in the San Joaquin Valley within 10 years of the area's designation as nonattainment for the $PM_{2.5}$ NAAQS (*i.e.,* by 2019).[25] Although no technical demonstration is necessary to support a conclusion consistent with the regulatory presumptions under subpart 4, the Plan nevertheless provides supporting evidence describing the need for $NO_X$ and $SO_X$ controls. The Plan states that further reductions in VOC and ammonia emissions would not contribute to attainment of the $PM_{2.5}$ standard in the area and provides analyses to support this position. In the following, we discuss the technical basis that the District provided in the Plan to support its positions with respect to $SO_2$, $NO_X$, VOC, and ammonia.

a. $SO_2$

The 2012 $PM_{2.5}$ Plan recognizes that emissions of $SO_2$ contribute significantly to ambient $PM_{2.5}$ levels in the San Joaquin Valley, and that ambient $PM_{2.5}$ concentrations are sensitive to reductions in $SO_2$.

The 2012 $PM_{2.5}$ Plan shows the measured contribution of $SO_2$ emissions to ambient $PM_{2.5}$ concentrations in pie charts portraying the contribution of various pollutant species. Depending on time period and location, the ammonium sulfate contribution is 6 to 9 percent,[26] and the corresponding contribution of just the sulfate part of the ammonium sulfate molecules is 4 to 7 percent of ambient $PM_{2.5}$. The Plan's ''Weight of Evidence Analysis'' (''WOEA'') also gives the ammonium sulfate portion of the 2007 design value concentration, 4.7 $\mu g/m^3$ at Bakersfield.[27] The corresponding sulfate-only portion is 3.4 $\mu g/m^3$. These contribution levels are substantial, although smaller than the contributions of some other components.

Ambient $PM_{2.5}$ sensitivity to reductions of $SO_2$ emissions is also presented in the Plan in the form of modeling results. The results from the sensitivity modeling is cited and discussed below in the $NO_X$ subsection. The $SO_2$-specific results are that a 25% reduction in Valley-wide $SO_2$ emissions would result in a 0.18 $\mu g/m^3$ decrease in ambient $PM_{2.5}$ concentrations at the design value monitoring site, Bakersfield-California. It can also be inferred from the modeling that there is an ambient $PM_{2.5}$ decrease of 0.08 $\mu g/m^3$ per ton of $SO_2$ reduction (WOEA, Tables 6 and 7, p. 65). The 0.18 $\mu g/m^3$ $PM_{2.5}$ decrease for a 25% $SO_2$ reduction is considerably lower than the 3.75 $\mu g/m^3$ decrease that would result from a 25% $NO_X$ reduction, but the 0.08 $\mu g/m^3$ $PM_{2.5}$ decrease per ton of emissions reduction is the same for $SO_2$ as it is for $NO_X$. The reason the 25% $NO_X$ reduction provides a larger reduction in ambient $PM_{2.5}$ levels than a 25% $SO_2$ reduction is simply that the $NO_X$ emission inventory for the area is much larger than the $SO_2$ inventory. The 2007 winter planning inventory for $SO_2$ is just 12.8 tpd, whereas for $NO_X$ it is 465.1 tpd, more than 35 times larger (*see* 2012 $PM_{2.5}$ Plan at Appendix B, Emission Inventory, grand totals in tables B–3 for $SO_2$ and B–2 for $NO_X$.) Even though the relatively small $SO_2$ contribution to ambient $PM_{2.5}$ concentrations leaves little scope for reductions, the sensitivity of ambient $PM_{2.5}$ to $SO_2$ emission reductions indicates that $SO_2$ emissions contribute significantly to $PM_{2.5}$ levels above the standards.

Based on the technical analyses provided in the Plan, the EPA agrees with the State's and District's conclusion that $SO_2$ controls must be included in the evaluation of potential control measures for the 2006 $PM_{2.5}$ standard in the SJV, consistent with the requirements of subpart 4.

b. $NO_X$

The 2012 $PM_{2.5}$ Plan recognizes that emissions of $NO_X$ contribute significantly to ambient $PM_{2.5}$ levels in the San Joaquin Valley, and that ambient $PM_{2.5}$ concentrations are sensitive to reductions in $NO_X$. The Plan discusses $NO_X$ in conjunction with ammonia, because these precursors react together to create ammonium

[24] Courts have upheld this approach to the requirements of subpart 4 for $PM_{10}$. *See, e.g., Assoc. of Irritated Residents* v. *EPA, et al.,* 423 F.3d 989 (9th Cir. 2005).

[25] This identification is made in the 2012 $PM_{2.5}$ Plan, Appendix G, ''$PM_{2.5}$ Weight of Evidence Analysis'' (''WOEA'') at pp. iv and 66, and in the CARB, ''Staff Report, Proposed Revision to the $PM_{2.5}$ State Implementation Plan (SIP) for the San Joaquin Valley,'' Release Date: January 11, 2013 (''Staff Report'') at p. 9, which can be found in the docket for this proposed rule. The WOEA is also included as Appendix B to the Staff Report.

[26] 2009–2010 peak day average in 2012 $PM_{2.5}$ Plan Appendix A, Figures A–29 and A–30, p. A–52; 2009–2011 peak day average in WOEA Figure 7, p. 10.

[27] WOEA at Table 5, p. 63.

nitrate, the largest component of ambient $PM_{2.5}$ particles by species in the SJV.[28] The chemical products of ammonia and $NO_X$ (ammonium and nitrate) combine in a 1:1 molecular ratio, but as discussed below, this ratio does not mean that emissions controls for the two precursor pollutants would be equally effective at reducing ambient $PM_{2.5}$. The Plan provides several lines of evidence to indicate that reductions in $NO_X$ emissions are effective in reducing $PM_{2.5}$ concentrations exceeding the standard, and also that they are more effective than reductions in ammonia emissions. The evidence includes ambient contributions, model simulations of $NO_X$ emission reductions, historical trends, and the relative amounts of $NO_X$ and ammonia.

The Plan indicates that the ambient contribution of $NO_X$ to $PM_{2.5}$ levels in the SJV is substantial. Ammonium nitrate is the largest chemical component of ambient $PM_{2.5}$ in the SJV, comprising 65 percent of the 2009–2011 average peak 24-hour $PM_{2.5}$ concentration at Bakersfield (WOEA, p. 10). Using the 2009–2011 24-hour $PM_{2.5}$ design value of 61.8 $\mu g/m^3$,[29] the ammonium nitrate concentration on peak $PM_{2.5}$ days is approximately 40.2 $\mu g/m^3$. If only nitrate itself is considered (*i.e.,* the nitrate part of the ammonium nitrate molecules), the contribution of $NO_X$ represents approximately 50.3 percent of the 2009–2011 average peak 24-hour $PM_{2.5}$ concentration at Bakersfield, which is an ambient contribution of 31.1 $\mu g/m^3$.[30] Whether considered as ammonium nitrate or simply as nitrate, $NO_X$ is clearly a significant contributor to ambient $PM_{2.5}$ levels above the standard in the SJV.

In addition to this evidence on the contribution of $NO_X$ to $PM_{2.5}$ concentrations, the Plan provides evidence that ambient $PM_{2.5}$ concentrations are sensitive to $NO_X$ reductions (*i.e.,* nitrate $PM_{2.5}$ concentrations go down when $NO_X$ emissions are reduced). The evidence is from modeling, historical trends, and relative proportions of $NO_X$ and ammonia. The 2012 $PM_{2.5}$ Plan provides evidence from past and current photochemical modeling simulations that ambient ammonium nitrate is sensitive to $NO_X$ reductions. The Plan describes past modeling studies that were documented in academic journals.[31] In the various studies, when $NO_X$ emissions were reduced by 50 percent, ambient ammonium nitrate decreased by 25 to 50 percent, depending on the episode modeled and the geographic location.[32] Modeling for the 2012 $PM_{2.5}$ Plan also shows substantial sensitivity of ambient $PM_{2.5}$ concentrations to reductions in $NO_X$ emissions. In the Plan, the State modeled a 25 percent reduction in $NO_X$ emissions and showed a decrease in Bakersfield $PM_{2.5}$ concentrations of 3.75 $\mu g/m^3$, a 6 percent decrease in the 2009–2011 design value of 61.8 $\mu g/m^3$ and similar levels of ambient decreases at other monitors (WOEA, Table 6, p. 65).

The 2012 $PM_{2.5}$ Plan provides additional (non-modeling) evidence on the effectiveness of $NO_X$ reductions. The historical downward trends of $NO_X$ emissions and of ambient nitrate concentrations are discussed in Chapter 4 and the WOEA of the Plan.[33] Daily $NO_X$ emissions levels and winter nitrate concentrations appear correlated over time on an annual basis. Both have decreased by about a third during the period 2004 to 2011. This is evidence that existing $NO_X$ controls are effective at reducing ammonium nitrate. The evidence is strengthened by the fact that this reduction in ambient nitrate occurred despite an increase in emissions of ammonia, the other precursor to ammonium nitrate, during the same period (Plan p. 4–8).

The Plan further describes the effectiveness of $NO_X$ controls by characterizing it as the ''limiting precursor'' in ammonium nitrate formation, based on the relative amounts of $NO_X$ and ammonia. Based on monitored concentrations and the emissions inventory, the Plan concludes that $NO_X$ is the limiting precursor. The limiting precursor concept is illustrated briefly in Chapter 4 and described more fully in the WOEA.[34] One molecule of each of $NO_X$ and ammonia is required to form each molecule of ammonium nitrate. If $NO_X$ is in short supply relative to ammonia, then $NO_X$ is the limiting factor in ammonium nitrate formation.[35]

The WOEA includes plots (Figures 16 and 17, p. 19) of ammonia and nitric acid (which contains nitrate) concentrations at two monitoring sites in the SJV (Angiola and Fresno) that were measured during the winter 2000–2001 CRPAQS [36] study and reported in Lurmann *et al.* (2006).[37] The Plan notes that ammonia concentrations are at least an order of magnitude larger than those of nitrate and notes Lurmann *et al.*'s conclusion that $NO_X$ is the limiting precursor.

The WOEA also considers emissions inventories to support the argument that $NO_X$ is the limiting precursor. The WOEA normalized $NO_X$ emissions using the relative molecular weights of $NO_X$ and ammonia, in order to reflect the number of molecules of each available to react with each other (p. 18, Table 1). In 2000, the amount of $NO_X$ available was only about two-thirds the amount of ammonia; in 2011 $NO_X$ was only one-third of ammonia. This shows the scarcity of $NO_X$ relative to ammonia and implies that $NO_X$ is the limiting precursor in the formation of ammonium nitrate.

Based on the range of technical analyses provided in the Plan and other information available to EPA, the EPA agrees with the State's and District's conclusion that $NO_X$ controls must be included in the evaluation of potential control measures for the 2006 $PM_{2.5}$ standard in the SJV, consistent with the requirements of subpart 4.

c. Ammonia

The 2012 $PM_{2.5}$ Plan and Supplement state that ''[b]ecause of the regional

[28] 2012 $PM_{2.5}$ Plan Appendix A, Figures A–30 and A–29, p. A–52.

[29] *See* 2012 $PM_{2.5}$ Plan, p. A–10. The design value for Bakersfield-California for 2009–2011 is given as a rounded value of 62 $\mu g/m^3$ in Table A–5 in Appendix A of the Plan. For greater precision in estimating species contributions, we have used the unrounded value of 61.8 $\mu g/m^3$ calculated as the average of the 98th percentiles values for each year (66.7, 53.3, and 65.5) as listed in Table A–4.

[30] The nitrate fraction of ammonia nitrate is calculated as molecular weight of nitrate (62) divided by the molecular weight of ammonium nitrate (80) and equals 77.5 percent.

[31] The academic journal papers and are described in Appendix F, section 2.7 (p. 28), and in WOEA, section 5.c (p. 64).

[32] Kleeman, M.J., Ying, Q., and Kaduwela, A., Control strategies for the reduction of airborne particulate nitrate in California's San Joaquin Valley, Atmospheric Environment, 2005, 39, 5325–5341. Liang, J., Gürer, K., Allen, P.D., Zhang, K.M., Ying, Q., Kleeman, M., Wexler, A., and Kaduwela, A., 2006, A photochemical model investigation of an extended winter PM episode observed in Central California: Model Performance Evaluation, Proceedings of the 5th Annual CMAQ Models-3 User's Conference, Chapel Hill, NC. Pun, B.K., Balmori R.T.F, and Seigneur, C., 2009, Modeling wintertime particulate matter formation in Central California, Atmospheric Environment, 43, 402–409. Different models and emission inventories in these studies conducted over the years also contribute to the variation in results.

[33] 2012 $PM_{2.5}$ Plan, Chapter 4, p. 4–8 and Figure 4–7, p. 4–10; more detail in WOEA section 9, p. 58, Figures 49–52.

[34] Chapter 4, Figures 4–4 and 4–5 (Plan, p. 4–9); WOEA, section 5b, p. 16. See also CARB Staff Report, p. E–3.

[35] As noted below in the ammonia subsection, the ''limiting precursor'' concept is not absolute, and must be used with caution. However, for $NO_X$ it does support evidence from the modeling results that $NO_X$ significantly contributes to $PM_{2.5}$ exceedances.

[36] CRPAQS is the California Regional Particulate Air Quality Study. More information is available about CRPAQS at *http://www.arb.ca.gov/airways/ccaqs.htm.*

[37] Lurmann, F.W., Brown, S.G., McCarthy, M.C., and Roberts, P.T., December 2006, Processes Influencing Secondary Aerosol Formation in the San Joaquin Valley during Winter, Journal of Air and Waste Management Association, 56, 1679–1693.

surplus in ammonia, even substantial ammonia emissions reductions yield a relatively small reduction in nitrate'' (Plan p. 4–8) and that ''ammonia reductions would not significantly contribute to the Valley's attainment of the 2006 $PM_{2.5}$ standard'' (Plan p. 4–11). To support this finding, the Plan and Supplement discuss the ambient contribution of ammonia to measured $PM_{2.5}$ levels in the SJV, and the sensitivity of ambient $PM_{2.5}$ to ammonia reductions. The latter includes discussion of the relative abundance of $NO_X$ and ammonia, and of modeled simulations of further reductions in ammonia emissions.

The Plan indicates that ammonia contributes to ambient concentrations of $PM_{2.5}$, in the form of ammonium nitrate and ammonium sulfate. As noted above in the $NO_X$ discussion, ammonium nitrate contributes 65 percent of the 2009–2011 average peak $PM_{2.5}$ ambient levels at Bakersfield. Ammonium sulfate contributes an additional 7 percent (p. G–10; WOEA, p. 10). Thus, ammonium nitrate and ammonium sulfate together account for a total of 72 percent of the peak 24-hour $PM_{2.5}$ concentrations, or 44.5 $\mu g/m^3$, and ammonia emissions are essential to the formation of both of these components of the ambient particulate matter. If only the ammonium portion of these molecules is considered, the corresponding figures are 16.6 percent of peak $PM_{2.5}$ ambient levels, or 10.3 $\mu g/m^3$.[38] This level of contribution is a substantial fraction of the SJV's 2009–2011 design value of 61.8 $\mu g/m^3$, and indicates that emissions of ammonia contribute significantly to ambient $PM_{2.5}$ concentrations that exceed the 24-hour $PM_{2.5}$ standard in the SJV.

Next we examine information in the Plan regarding the sensitivity of ambient $PM_{2.5}$ levels in the SJV to ammonia emission control. On this issue there is conflicting evidence. Based on evidence that ammonia is not the limiting precursor and that modeled ammonia reductions are relatively ineffective, the Plan concludes that controls for ammonia are not warranted. However, a detailed evaluation of the modeling shows that ammonia controls can be effective at reducing ambient $PM_{2.5}$ in some locations.

The Plan's evidence discussed above to support the argument that $NO_X$ is the limiting precursor for ammonia nitrate formation is also presented as evidence that ammonia is not the limiting precursor, and so ambient $PM_{2.5}$ would not be sensitive to ammonia reductions (WOEA, p. 16–20). The Plan notes that there is both an abundance of ambient ammonia relative to ambient nitrate, and an abundance of ammonia emissions relative to $NO_X$ emissions. The Plan also indicates that there is an abundance of gaseous ammonia relative to particulate ammonium at multiple locations during the 2000–2001 winter episode in the CRPAQS study (WOEA, p. 20 and Figure 18). This abundance suggests that even under conditions favorable to ammonium nitrate formation, a substantial amount of unreacted ammonia remains. Based on these multiple pieces of evidence on the abundance of ammonia, the Plan concludes that ammonia is not the limiting factor for ammonium nitrate formation and, thus, that reducing ammonia emissions would not reduce ambient $PM_{2.5}$ in the SJV.

The 2012 $PM_{2.5}$ Plan also considered air quality modeling analyses to evaluate the effectiveness of reducing ammonia as compared to other precursors, and to $PM_{2.5}$ decreases needed for attainment. Modeling for the 2012 $PM_{2.5}$ Plan indicated that a 25 percent reduction in ammonia emissions resulted in a 0.55 $\mu g/m^3$ decrease in ambient $PM_{2.5}$ (WOEA, p. 65, Table 6). This benefit is roughly one-seventh the corresponding benefit for a 25 percent reduction in $NO_X$. *Id.* Restating the inventory reduction percentages in terms of tons per day reductions, the Plan notes that reducing ammonia emissions by one ton per day is only about 10 percent as effective as reducing one ton per day of $NO_X$ (Plan p. 4–11). Thus, based on this air quality modeling, the Plan concludes that additional ammonia control is considerably less effective than $NO_X$ control.

The Plan also notes that, assuming the same rate of improvement in ambient $PM_{2.5}$ concentration per ton of ammonia reduced, it would take a 34 percent reduction in ammonia emissions to decrease ambient $PM_{2.5}$ by 1 $\mu g/m^3$, the amount that would have been needed to advance projected attainment by one year from 2019 to 2018. The Plan considers this to be ''an infeasible amount, since there are no control strategies that exist or have been identified which could achieve such large reductions'' (Plan, p. 4–11).

The Plan assumes that additional ammonia control, as modeled, would provide limited benefit for attainment planning purposes. The Plan concludes, based upon the various information and analyses described above, that ''ammonia reductions would not significantly contribute to the Valley's attainment of the 2006 $PM_{2.5}$ standard'' (Plan p. 4–11), and therefore additional control measures should not be evaluated.

After reviewing the information discussed above, EPA believes that the information provided by the State and District in the Plan and Supplement shows that ammonia contributes to a large fraction of measured $PM_{2.5}$ concentrations in the SJV area, in the form of ammonium nitrate and ammonium sulfate. Additionally, modeling analyses submitted by the State and studies available to EPA indicate that although ammonia control is generally less effective at reducing $PM_{2.5}$ concentrations when compared to $NO_X$ control, it remains true that reducing ammonia emissions in the SJV would reduce $PM_{2.5}$ by varying amounts throughout the nonattainment area. Moreover, reductions in ammonia in conjunction with reductions of $SO_2$ and $NO_X$ would help to provide for attainment of the NAAQS in the SJV.

While EPA finds the modeling and other analyses presented in the 2012 $PM_{2.5}$ plan to be credible, the fact remains that the modeling analyses show that additional reductions in ammonia may reduce ambient $PM_{2.5}$ levels to varying degrees. In the various studies, when ammonia emissions were reduced by up to 50 percent, ambient ammonium nitrate decreased by 5 to 25 percent, depending on the episode modeled and the geographic location evaluated. (WOEA, p. 64) These percentages for ammonia benefits are generally smaller than those for $NO_X$ reductions, but these modeling results show that reductions in ammonia emissions under certain circumstances can effectively reduce ambient $PM_{2.5}$. The fact that all the modeling studies, including the modeling done for the current Plan, find at least some benefit from ammonia control shows that the concept of a ''limiting precursor'' discussed above is not absolute. In addition, the test for determining whether emission reduction measures for a particular precursor must be evaluated for purposes of timely attainment should not be exclusively based on the control effectiveness of the precursor relative to other precursors, but should also consider whether emissions of the precursor ''contribute significantly'' to ambient $PM_{2.5}$ levels which exceed the $PM_{2.5}$ standard in the nonattainment area.

Regarding the Plan's statement that it would take a 34 percent reduction in

[38] The ammonium fraction of ammonia nitrate is calculated as molecular weight of ammonium (18) divided by the molecular weight of ammonium nitrate (80) and equals 23.5 percent. The ammonium fraction of ammonia sulfate is calculated as molecular weight of ammonium portion (36) divided by the molecular weight of ammonium sulfate (132) and equals 27.3 percent.

ammonia emissions to decrease ambient $PM_{2.5}$ by 1 μg/m³, the amount needed to advance attainment by one year from 2019 to 2018, EPA notes that the test for advancing the attainment date is based not on an evaluation of control measures for a single pollutant but rather on an evaluation of potential control measures for direct $PM_{2.5}$ and all $PM_{2.5}$ precursors from all types of sources in the nonattainment area. We also note that the appropriate inquiry in this context is whether reasonably available control measures would advance attainment by one year from 2015 to 2014 (not from 2019 to 2018), given under subpart 4 the applicable attainment date for the SJV area for the 2006 $PM_{2.5}$ NAAQS is December 31, 2015.

In summary, the information provided by the State and District in the Plan and Supplement shows that ammonia contributes to a large fraction of measured $PM_{2.5}$ concentrations in the SJV area, in the form of ammonium nitrate and, to a lesser extent, ammonium sulfate. Additionally, modeled evidence submitted by the State and studies available to EPA indicate that although ammonia control is less effective at reducing $PM_{2.5}$ concentrations compared to $NO_X$ control, reducing ammonia emissions in the SJV would reduce $PM_{2.5}$ by some amount in parts of the Valley. Given the severity of the $PM_{2.5}$ nonattainment problem in the SJV, the demonstration that attainment in SJV by 2015 is impracticable, and the documentation in the 2012 $PM_{2.5}$ Plan showing that ammonia emissions are responsible for more than 10 μg/m³ of ambient $PM_{2.5}$ concentrations in the SJV area, EPA does not agree with the statement in the Plan that additional ammonia controls need not be evaluated to satisfy CAA requirements for the 2006 $PM_{2.5}$ standard in the SJV.

While stating that additional ammonia reductions are not necessary, the State nevertheless provided in the Supplement an evaluation of ammonia control measures currently implemented in the SJV and other potential ammonia control measures. We discuss the State's ammonia control evaluation in section D, below (''Reasonably Available Control Measures/Reasonably Available Control Technology'').

d. VOC

The 2012 $PM_{2.5}$ Plan states that further reductions in VOC emissions would not contribute to $PM_{2.5}$ attainment in the San Joaquin Valley. To support this finding, the Plan discusses the ambient contribution of VOC to measured $PM_{2.5}$ levels in the Valley, the indirect role of VOC in ammonium nitrate formation, and modeled simulations of further reductions in VOC emissions.

There are two routes by which VOC can contribute to ambient $PM_{2.5}$. The first is through various chemical reactions leading to the formation of Secondary Organic Aerosols (SOA). The second is through photochemical reactions that create oxidants such as ozone and the hydroxyl radical (OH), which in turn oxidize $NO_X$ emissions to nitrate, leading to the formation of particulate ammonium nitrate. The Plan's Chapter 4 (p. 4–12) discussed both routes in section 4.4.2. The WOEA discusses SOA in section 6 (WOEA, p. 32) and the oxidant route in section 5d (WOEA, p. 24).

For the direct contribution of VOC to $PM_{2.5}$, SOA, the 2012 $PM_{2.5}$ Plan states that modeling for annual average $PM_{2.5}$ for the 2008 $PM_{2.5}$ Plan found that anthropogenic SOA were about 3 to 5 percent of total organic aerosol, and that SOA were mainly formed during the summer from nonanthropogenic sources. The winter anthropogenic contribution that is of interest for the 24-hour $PM_{2.5}$ standard would necessarily be lower, since SOA formation is less at winter temperatures, which are lower than the annual average. The Plan also cites a study by Chen *et al.* [39] for the winter 2000–2001 CRPAQS episode. This study found that the SOA portion of total organic aerosol had a maximum value of 4.26 μg/m³ with concentrations at Fresno and Bakersfield of 2.46 and 2.28 μg/m³, respectively, which represent 6 percent and 4 percent of the total organic aerosol at those locations. Applying this roughly 5 percent SOA proportion to the organic carbon portion of the measured 2009–2011 winter $PM_{2.5}$ composition shows that SOA is around 0.9 percent of total ambient $PM_{2.5}$ at Bakersfield, and 1.5 percent of ambient $PM_{2.5}$ at Fresno.[40] Because anthropogenic SOA is only a portion of the total, the portion due to controllable anthropogenic sources would be even less. These modeling studies show that SOA is not a substantial component of ambient $PM_{2.5}$ in the SJV and that the potential for reducing ambient $PM_{2.5}$ through VOC emission reductions is very limited.

For the indirect contribution of VOC to $PM_{2.5}$, nitrate formation via daytime photochemistry, it appears that this route is also not a substantial contributor, based on modeled sensitivity to VOC reductions. For one such study there were relatively low modeled concentrations of ozone, which did not appear consistent with nitrate formation via daytime oxidant (ozone) photochemistry, which would be expected to have elevated ozone levels.[41] The Plan reviews the same studies that the State relied on in the 2008 $PM_{2.5}$ Plan for attainment of the 1997 $PM_{2.5}$ standards (Plan Modeling Protocol, p. F–31). The EPA's review of these studies and of the 2008 $PM_{2.5}$ Plan's examination of them is covered in the TSD for the EPA's final action on the 2008 $PM_{2.5}$ Plan.[42] The findings from those reviews remain the same for the current Plan: past modeling studies vary on whether controlling VOC reduces $PM_{2.5}$, but the most reliable ones show VOC control has little benefit, or even a disbenefit. As detailed in that previous TSD and in the Plan's Modeling Protocol, the studies for which VOC control showed a benefit at some times and places are less reliable because they used unrealistic emissions levels, unrealistic control scenarios, or the effect occurred at $PM_{2.5}$ concentrations no longer reached in the SJV. The Protocol also suggested that there is sufficient background ozone flowing in from outside the SJV area to perform the oxidizing role, even in the absence of oxidants generated from VOC emissions within the SJV,[43] implying that VOC reductions would have little effect on ambient $PM_{2.5}$ levels exceeding the standard in the SJV. The overall conclusion is that the effect of reducing VOC emissions is somewhat uncertain, but in general produces little benefit or

[39] Chen, J., Ying, Q., and Kleeman, M.J., 2010, Source apportionment of wintertime secondary organic aerosol during the California regional $PM_{10}$/$PM_{2.5}$ air quality study, Atmospheric Environment, 44(10), 1331–1340.

[40] The contribution of Organic Matter to 2009–2011 peak day $PM_{2.5}$ levels was 17 percent at Bakersfield and 29 percent at Fresno (*see* Staff Report, Appendix B, p. 10 [pdf.52], Figure 6. Five percent of these gives 0.85 percent SOA at Bakersfield and 1.45 percent at Fresno. As a fraction of the 2007 design values of 66 μg/m³ at Bakersfield and 63 μg/m³ at Fresno, these give SOA contributions of 0.56 and 0.91 μg/m³ at Bakersfield and Fresno, respectively.

[41] Pun, B.K., Balmori R.T.F, and Seigneur, C., 2009, Modeling Wintertime Particulate Matter Formation in Central California, Atmospheric Environment, 43: 402–409. doi: 10.1016/j.atmosenv.2008.08.040.

[42] EPA-Region 9, Technical Support Document and Responses to Comments Final Rule on the San Joaquin Valley 2008 $PM_{2.5}$ State Implementation Plan,'' September 30, 2011, section II.C.

[43] Kleeman, M.K., Ying, Q., and Kaduwela, A., 2005, Control strategies for the reduction of airborne particulate nitrate in California's San Joaquin Valley, Atmospheric Environment, 39: 5325–5341 September 2005. doi:10.1016/j.atmosenv.2005.05.044; cited in Plan Modeling Protocol. p. F–36).

even a disbenefit in $PM_{2.5}$ concentrations.

Added to this evidence from past studies is the 2012 Plan's current modeling, which indicates a disbenefit from controlling VOC at important geographic locations. This is shown by negative $PM_{2.5}$ sensitivities (that is, decreased VOC emissions result in increased $PM_{2.5}$ levels) for multiple locations.[44] In addition, diagrams of model $PM_{2.5}$ response at Bakersfield to various combinations of $NO_X$ and VOC reductions show graphically that VOC reductions increase $PM_{2.5}$, for any given level of $NO_X$.[45] For all the monitoring sites, these $NO_X$ vs. VOC diagrams show either no decrease or an actual increase in $PM_{2.5}$ as VOC emissions are reduced. The current modeling provides strong evidence that additional VOC reductions would not decrease ambient $PM_{2.5}$ concentrations in the SJV.

In sum, the information provided by the State and District in the Plan and Supplement shows that: (a) wintertime levels of secondary organic aerosol measured in the SJV are low and therefore the direct products of VOC emissions do not directly contribute significantly to $PM_{2.5}$ levels above the standard in the SJV; and (b) wintertime reductions in VOC emissions in the SJV, when $PM_{2.5}$ concentrations are high, would not reduce ambient $PM_{2.5}$ levels, and therefore the indirect products of VOC emissions also do not directly contribute significantly to $PM_{2.5}$ levels above the standard in the SJV. Based on this information, we propose to determine that at this time VOC emissions do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the 2006 $PM_{2.5}$ standard in the SJV nonattainment area.

3. Proposed Action

Based on a review of the information provided by the District and other information available to EPA, we propose to determine that at this time VOC emissions do not contribute significantly to ambient $PM_{2.5}$ levels which exceed the 2006 $PM_{2.5}$ standard in the SJV and, therefore, that VOCs may be excluded from the State's evaluation of potential control measures for purposes of this standard in this area. Consistent with the regulatory presumptions under subpart 4, all other $PM_{2.5}$ precursors ($NO_X$, $SO_2$, and ammonia) must be included in the State's evaluation of potential control measures for the 2006 $PM_{2.5}$ standard in the SJV area, including NNSR provisions to implement the requirements of subpart 4.[46] We discuss the State's evaluation of potential control measures for $NO_X$, $SO_2$, and ammonia, as well as direct $PM_{2.5}$, in section D (''Reasonably Available Control Measures/Reasonably Available Control Technology'').

*D. Reasonably Available Control Measures/Reasonably Available Control Technology*

1. Requirements for RACM/RACT

CAA section 172(c) under subpart 1 describes the general attainment plan requirement for RACM and RACT, requiring that attainment plan submissions ''provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment'' of the NAAQS. The attainment planning requirements specific to $PM_{2.5}$ under subpart 4 likewise impose upon states an obligation to develop attainment plans that require RACM on sources of direct $PM_{2.5}$ and those $PM_{2.5}$ precursors determined to be subject to the RACM/RACT requirement. CAA section 189(a)(1)(C) requires that Moderate area $PM_{2.5}$ SIPs contain provisions to assure that RACM are implemented by no later than 4 years after designation of the area. The EPA reads CAA sections 172(c)(1) and 189(a)(1)(C) together to require that attainment plans for Moderate nonattainment areas must provide for the implementation of RACM and RACT for existing sources of $PM_{2.5}$ and $PM_{2.5}$ precursors in the nonattainment area as expeditiously as practicable but no later than 4 years after designation.[47] As part of the RACM/RACT analysis, all available controls should be evaluated, and reasonable controls should be adopted.

The terms RACM and RACT are not specifically defined in the Act, nor do the provisions of subpart 4 specify how states are to meet the RACM and RACT requirements. In longstanding guidance, however, the EPA has interpreted the RACM requirement to include any potential control measure for a point, area, on-road and non-road emission source that is technologically and economically feasible (General Preamble at 13540) and is not ''absurd, unenforceable, or impracticable'' (General Preamble at 13560). The EPA has historically defined RACT as the lowest emission limitation that a particular stationary source is capable of meeting by the application of control technology (*e.g.,* devices, systems, process modifications, or other apparatus or techniques that reduce air pollution) that is reasonably available considering technological and economic feasibility. *See* General Preamble at 13541 and 57 FR 18070, 18073–74 (April 28, 1992).

The EPA recommends that states use the following process to identify RACM/RACT:

1. Develop a comprehensive list of available control measures for all source categories in the nonattainment area. In developing this list, the state should identify existing control measures currently being implemented in the area and also include any control measures suggested in public comments.

2. Remove from the list any measure that is unreasonable because emissions from the affected source or source category are insignificant (*i.e.,* de minimis). The state should appropriately document any determination that a source or source category is insignificant.

3. Evaluate each remaining available control measure for its ''reasonableness,'' considering technological and economic feasibility and any potentially adverse impacts. The state should provide a reasoned justification if it rejects a listed control measure as unreasonable.

4. Include in its submitted Moderate area attainment plan, in enforceable form, each control measure found to be reasonable unless the measure is already either federally promulgated, part of the state's SIP, or otherwise creditable in SIPs. In areas that demonstrate attainment by the Moderate area attainment date, the state may justify rejection of an otherwise reasonable measure by demonstrating that the measure would not, individually or collectively with other reasonable measures being rejected, advance attainment by one year or more. For areas that demonstrate that attainment by the Moderate area attainment date is impracticable, the state must provide for the implementation of all available control measures that are technologically and economically feasible.

[44] See VOC columns of WOEA Tables 6 and 7 (p. 65) for Bakersfield, Visalia, Corcoran, and Merced.

[45] WOEA Figure 54 (p. 67) shows the model $PM_{2.5}$ response at Bakersfield to reductions in various combinations of precursors. Subfigure ''b)'' shows $NO_X$ reductions plotted against VOC reductions. For a given level of $NO_X$, in decreasing VOC by moving leftward along a horizontal line (representing constant $NO_X$), one crosses the lines of constant $PM_{2.5}$ (isopleths) into regions of increased $PM_{2.5}$. The Plan presents similar diagrams in Chapter 4, Figures 4–15 through 4–23 (pp. 4–31*ff*) for the various monitoring sites.

[46] Absent a demonstration to EPA's satisfaction that major stationary sources of ammonia emissions do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the NAAQS in the SJV area, under CAA section 189(e) major stationary sources of ammonia are subject to the control requirements that apply to major stationary sources of direct $PM_{2.5}$, including NNSR requirements. We intend to evaluate the adequacy of SJV's NNSR program for $PM_{2.5}$ purposes in a separate rulemaking.

[47] This interpretation is consistent with guidance provided in the General Preamble at 13540.

*See* General Preamble at 13540–13544.

An evaluation of technological feasibility should include consideration of factors such as a source's process and operating conditions, raw materials, physical plant layout, and non-air quality and energy impacts (*e.g.,* increased water pollution, waste disposal, and energy requirements) (57 FR 18070, 18073).

An evaluation of economic feasibility should include consideration of factors such as cost per ton of pollution reduced (cost-effectiveness), capital costs, and annualized cost (57 FR 18070, 18074). Absent other indications, the EPA presumes that it is reasonable for similar sources to bear similar costs of emissions reductions. Economic feasibility of RACM and RACT is thus largely informed by evidence that other sources in a source category have in fact applied the control technology, process change, or measure in question in similar circumstances. *Id.*

2. RACM/RACT Analysis in the 2012 $PM_{2.5}$ Plan

The 2012 $PM_{2.5}$ Plan's RACM/RACT evaluation for direct $PM_{2.5}$, $NO_X$ and $SO_2$ sources is summarized in section 9.2 (p. 9–3) and detailed in Appendices C (''Mobile Source Control Strategies'') and D (''Stationary and Area Source Control Strategy Evaluation''). RACM for ammonia sources is discussed in Attachment A of the Supplement. The Plan includes a short discussion of the District's current VOC control measures (p. 5–17 and Supplement, p. 13) but includes no detailed evaluation of them. The treatment of VOCs is thus consistent with the District's determination that additional VOC controls are not necessary in the SJV area for purposes of attaining the $PM_{2.5}$ NAAQS.

The evaluation of potential controls in the 2012 $PM_{2.5}$ Plan is presented by source category. For stationary and area source categories, the evaluation is broken down by the current District rule or rules that apply to that source category. The evaluation also addresses a number of source categories that are not currently subject to emission controls (*e.g.,* fireworks). *See* 2012 Plan, Appendix D, p. D–163.

The following information is provided in Appendix D for each stationary or area source category or District rule or, for ammonia sources, in Attachment A to the Supplement:

- A description of the sources within the category or sources subject to the rule;
- base year (2007), current year (2012), and projected baseline year emissions (for every year from 2014 to 2019) in the source category or affected by the rule;
- a discussion of the current rule requirements and/or listing and discussion of existing rules, regulations, or other control efforts that address the source category; and
- identification and discussion of potential new controls, including in many cases, a discussion of the technological and economic feasibility of the new controls. Rules adopted by other agencies (including the EPA, South Coast AQMD, and Bay Area AQMD) are discussed and compared to existing SJV rules. Measures proposed by the public for the source category/rule are also identified and discussed. In addition, non-regulatory approaches to reducing emissions in each stationary and area source category are discussed, including the use of incentives, opportunities for technology advancement programs, policy initiatives, and education/outreach programs.

The following information is provided in Appendix C for each major on- and off-road mobile source category:

- A description of the type of sources in the category;
- base year (2007), current year (2012), and projected baseline year emissions (for every year from 2014 to 2019) in the source category;
- a discussion of the current rule requirements and/or listing and discussion of existing rules, regulations, or other control efforts that address the source category; and
- identification and discussion of potential new controls. Measures proposed by the public for the source category/rule are also identified and discussed with the majority of this discussion presented in the responses to comments in Appendix I, pp. I–10 to I–13.

Through this evaluation process, the District identified 5 new control measures for adoption. The 2012 $PM_{2.5}$ plan includes enforceable commitments to adopt these measures. *See* 2012 $PM_{2.5}$ Plan, section 5.3.1 (p. 5–21) and Table 2 below.

TABLE 2—SJVAPCD 2012 $PM_{2.5}$ PLAN SPECIFIC RULE AMENDMENT COMMITMENTS

| District rule No. | Measure number and description | Amend date | Comply date | Rule amendment commitment |
|---|---|---|---|---|
| 4308 | Boilers, Steam Generators, and Process Heaters 0.075 to <2 MMBtu/hr. | 2013 | 2015 | Lower the $NO_X$ emission limit for instantaneous water heaters in the size range of 0.075–0.4 MMBtu/hr from the current level of 55 ppmv to 20 ppmv. |
| 4692 | Commercial Charbroiling | 2016 | 2017 | Add requirements for under-fired charbroilers.<br>1. Lower the threshold level for calling wood-burning curtailments from 30 $\mu g/m^3$ to $\geq$20 $\mu g/m^3$.<br>2. Review the meteorological conditions that lead to elevated $PM_{2.5}$, to prevent the buildup of $PM_{2.5}$ that may lead to a potential exceedance day. |
| 4901 | Wood Burning Fireplaces and Wood Burning Heaters. | 2016 | 2016/2017 | 3. Consider expanding the wood burning season to include October and/or March.<br>4. Analyze the feasibility of allowing the use of the cleanest certified wood burning devices at specified curtailment levels. |
| 4905 | Natural Gas-Fired, Fan Type Residential Central Furnaces. | 2014 | 2015 | Lower the $NO_X$ emission limits for residential furnaces and examine the possibility of incorporating $NO_X$ limits for natural gas-fired, fan-type, commercial central furnaces into the rule. |
| 9610 | SIP Creditability of Incentives | 2013 | 2013 | Establish appropriate mechanisms for the District to take SIP credit for eligible incentive programs. |

Source: 2012 $PM_{2.5}$ Plan, p. 5–21, Table 5–3, and section 5.3.1.

The District also identified a number of source categories for which existing information is inadequate to determine the feasibility of additional controls. These categories and the additional controls to be studied are discussed in section 5.3.3. (p. 5–24). The schedule for these studies is given in Table 5–4 (p. 5–24).

The Plan also includes descriptions of the District's incentive programs

(Chapter 6); its technology advancement program (Chapter 7), and its public outreach program (Chapter 8).

The efforts by the SJV's eight metropolitan planning organizations (MPO)[48] to implement cost-effect transportation control measures (TCM) are described in Appendix C, section C–11–4 (p. C–33). While no additional TCMs were identified by the MPOs, the Plan includes a discussion of the on-going implementation of a broad range of TCMs in the Valley. There is also a discussion of the MPOs' Congestion Management and Air Quality (CMAQ) funding policy which is a standardized process across the Valley for distributing 20 percent of the CMAQ funds to projects that meet a minimum cost-effectiveness. During the comment period for the 2012 $PM_{2.5}$ Plan, a number of TCMs were suggested by the public for consideration. *See* Appendix I, pp. I–10 to I–13. The feasibility of these measures is discussed in the District's responses to comments. *Id.*

The Supplement identifies three categories of ammonia ($NH_3$) emission sources in the SJV, which are estimated to account for 96% of ammonia air emissions in the Valley—farming operations, including confined animal facilities (239.2 tpd), evaporation from agricultural fertilizers (66.1 tpd), and composting solid waste operations (20.5 tpd) (*see* Supplement at 11). Information presented in the Supplement then compares District rules for confined animal facility (CAF) and composting operations to analogous requirements in other areas and discusses water quality measures for agricultural fertilizer application that may also reduce air emissions (*see generally* Supplement at Attachment A).

*Farming operations:* The Supplement states that the control measures in SIP-approved Rule 4570 (Confined Animal Facilities, adopted 2010)[49] have a secondary benefit of limiting $NH_3$ emissions and have reduced ammonia emissions by more than 100 tpd (*see* Supplement at A–2, citing Staff Report for June 2009 re-adoption of Rule 4570 (June 2009) at Appendix F). Rule 4570 is a work practice rule that requires farmers to implement management practices (*e.g.,* feed according to NRCS guidelines, remove manure from corrals at least four times per year) for different components of the CAF operation, such as feeding, milking parlors, housing/bedding, manure management and land application. Rule 4570 applies to livestock operations, including dairy, beef, poultry and swine, above certain size thresholds. The District assumes in its RACM analysis that, for most control measures, the ammonia control efficiencies are the same as the VOC control efficiencies. The District compares Rule 4570 to livestock rules in seven other California air districts, including the South Coast Air Quality Management District (SCAQMD), Bay Area Air Quality Management District (BAAQMD), and the Sacramento Metropolitan Air Quality Management District (SMAQMD). Based on a review of the number of work practices required by the other California rules, the District concludes that Rule 4570 is at least as stringent as the air quality rules for livestock operations in these other areas. In cases where the work practice standards in other rules may be more stringent than the requirements in Rule 4570, the District considers these measures beyond RACT or the emissions differences not significant (*see, e.g.,* Supplement at A–7, noting frequency of mitigation requirements in South Coast Rule 223, adopted June 2, 2006).

The Supplement also compares Rule 4570 to the Idaho Department of Environmental Quality's (IDEQ) dairy ammonia permit by rule, adopted in 2009 (Idaho rule).[50] While Rule 4570 is based on implementing a certain number of BMPs in specific categories, the Idaho rule is based on a ''points'' system, where each BMP is assigned a certain number of points based on control effectiveness. The District states that Rule 4570 is more stringent than the Idaho rule based on Rule 4570's lower applicability threshold (*e.g.,* 500 milking cows v. 1,638 cows (@1,400 lbs) for free stall/flush dairies), more stringent requirements and greater number of required mitigation measures (*see* Supplement at A–25 and A–29). The District also states that Rule 4570 is more stringent regarding temporary suspension and substitution of mitigation measures, and contains more stringent testing, monitoring and recordkeeping requirements. It also states that Rule 4570 is more stringent because it provides specific mitigation measures for various operations at dairies, while the Idaho rule is based on what the District characterizes as an ''arbitrary'' point system that does not guarantee a specific degree of control (*see* Supplement at A–24 to A–29).[51]

*Fertilizer application:* The Supplement identifies fertilizer application to crops as the second largest source of ammonia emissions in the Valley and suggests that research to identify maximum efficiency of nitrogen use for various crop types could lead to a reduction of excess nitrogen in the soil that is susceptible to leaching and volatilization. The Supplement also refers to a ''Regional Board General Order'' issued by the Central Valley Regional Water Quality Control Board as a control measure that has ''significantly reduced losses of nitrogen compounds to the environment, including leaching of nitrogen compounds to groundwater and air emissions such as ammonia and nitrous oxide'' (Supplement at A–25 to A–27).[52] The Supplement does not, however, identify any state or local air pollution control measure that limits ammonia emissions from fertilizer application operations.

*Composting:* The District compares its two SIP-approved composting rules, Rule 4566 (Organic Water Materials, adopted in 2011)[53] and Rule 4565 (Biosolids, Animal Manure, and Poultry Litter Operations, adopted in 2007),[54] to analogous rules adopted by the SCAQMD, Rule 1133.3 (Emission Reductions from Greenwaste Composting Operations, adopted in 2011) and Rule 1133.2 (Emission Reductions from Co-Composting Operations, adopted in 2003). For this analysis, the District assumes that ammonia control efficiencies achieved by these rules are the same as the VOC

[48] These eight MPOs represent the eight counties in the San Joaquin Valley air basin: the San Joaquin Council of Governments, the Stanislaus Council of Governments, the Merced County Association of Governments, the Madera County Transportation Commission, the Council of Fresno County Governments, Kings County Association of Governments, the Tulare County Association of Governments and the Kern Council of Governments.

[49] *See* 77 FR 2228 (January 17, 2012) (final rule approving Rule 4570 into the California SIP).

[50] The Idaho rule requires dairy farms above specified threshold numbers of cows or animal units to register with Idaho DEQ and to implement industry best management practices (BMPs) to control ammonia emissions. A list of BMPs is contained in the rule. Each BMP is assigned a point value based on relative effectiveness in reducing ammonia. Dairy farms must employ BMPs totaling 27 points. *See* Idaho Administrative Procedure Act (IDAPA) 58.01.01 Sections 760–764: Rules for the Control of Ammonia from Dairy Farms (adopted March 30, 2007; amended May 8, 2009).

[51] Citing IDEQ's technical documentation for the Idaho rule, the Supplement states that the Idaho rule's point system is ''arbitrary'' and that overall ammonia emission reductions from the rule may not be substantial given the flexibility in the rule and the absence of a direct correlation between the points required and the amount of emission reductions achieved (*see* Supplement at A–25).

[52] *See* Reissued Waste Discharge Requirements General Order for Existing Milk Cow Dairies, California Regional Water Quality Control Board Central Valley Region Order R5–2013–0122, October 3, 2013, available at *http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0122.pdf*

[53] *See* 77 FR 71129 (November 29, 2012) (final rule approving Rule 4566 into California SIP).

[54] *See* 77 FR 2228 (January 17, 2012) (final rule approving Rule 4565 into California SIP).

control efficiencies. In its comparison of Rule 4566 with SCAQMD Rule 1133.3, the District acknowledges that Rule 1133.3 has a much lower size threshold for implementing most stringent controls (80% control efficiency) but notes that neither SCAQMD nor the District currently has any facilities that trigger the most stringent controls. Therefore, the District states that, in practice, the controls are equivalent. In its comparison of Rule 4565 with SCAQMD Rule 1133.2, the District finds that the controls in Rule 4565 are generally more stringent than Rule 1133.2 for small facilities but less stringent than Rule 1133.2 for large facilities. The Supplement states that the most stringent measures in Rule 1133.2 are not cost-effective for facilities in the Valley.

3. Evaluation and Proposed Action

The process followed by the District in the 2012 $PM_{2.5}$ Plan and Supplement to identify RACM/RACT is generally consistent with the EPA's recommendations in the General Preamble. The process included compiling a comprehensive list of potential controls measures for sources of direct $PM_{2.5}$, $NO_X$, $SO_2$, and ammonia in the SJV. This list included measures suggested in public comments on the Plan. *See* 2012 $PM_{2.5}$ Plan, Appendices C, D, and I. No source categories were identified as insignificant except by implication for a few source categories of ammonia which collectively contributed less than 5 percent to the base year ammonia inventory (Supplement, p. A–1.) As part of this process, the District evaluated potential controls for all relevant source categories for economic and technological feasibility and provided justifications for the rejection of certain identified measures. *Id.* After completing this evaluation, the District included enforceable commitments to adopt and expeditiously implement those measures it found to be reasonable. *See* 2012 $PM_{2.5}$ Plan, Table 5–3, p. 21 and Table D–1 above. Since submittal of the 2012 $PM_{2.5}$ Plan in March 2013, the District has adopted all but two of these measures. One measure, amendments to Rule 4905 (Natural Gas-Fired, Fan Type Residential Central Furnaces) is scheduled for adoption this winter. The second measure, amendments to Rule 4692 (Commercial Charbroiling), is not scheduled until 2016. Research and development of cost-effective control technology are currently underway for certain measures in Rule 4692, the addition of $PM_{2.5}$ emission limits for under-fired charbroilers (Plan, p. 5–22 and Supplement, p. 8).

We have reviewed the District's determination in the 2012 $PM_{2.5}$ Plan that its stationary and area source control measures represent RACM/RACT for direct $PM_{2.5}$, $NO_X$, and $SO_2$. As discussed in Section II.C. of the TSD, the EPA is proposing to determine that at this time, VOCs do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the 2006 $PM_{2.5}$ standard in the SJV and that a VOC control evaluation therefore is not necessary for purposes of this standard in this area.[55] In our review, we relied mainly on our previous evaluations of the District's rules in connection with our approval of the SJV RACT SIP for the 1997 8-hour ozone standard, our comments on the 2012 $PM_{2.5}$ Plan, and our comments on the District's RACT SIP for the 2008 8-hour ozone standard.[56] We also reviewed measures suggested by the public in comments on the 2012 $PM_{2.5}$ Plan. Based on this review, we believe that the District's rules provide for the implementation of RACM/RACT for stationary and area sources of direct $PM_{2.5}$, $NO_X$, and $SO_2$.[57]

We have also reviewed the District's analysis of current and potentially available ammonia controls for the three largest sources of ammonia emissions in the SJV: CAF operations, agricultural fertilizer application, and composting operations. Collectively these sources account for 96 percent of total base year (2007) ammonia emissions.[58] *See* 2012 $PM_{2.5}$ Plan, Appendix B, Table B–5.

*Farming Operations and Composting:* The District adopted Rule 4565, Rule 4566 and Rule 4570 primarily to control VOC emissions, and EPA has determined that the control requirements in each of these rules represent RACT-level controls for VOCs. *See* 77 FR 2228 (January 17, 2012) (final rule approving Rule 4565 and Rule 4570 into California SIP) and 77 FR 71129 (November 29, 2012) (final rule approving Rule 4566 into California SIP). Although the Supplement does not provide a detailed analysis of the extent to which these rules also reduce ammonia emissions, the District's general conclusion that the work practice standards in these rules reduce ammonia emissions appears to be factually correct. The District's evaluation of Rule 4565, Rule 4566 and Rule 4570 generally supports a conclusion that these SIP-approved rules for CAFs and composting operations are as stringent as analogous rules implemented in other California districts.

With respect to the Idaho rule, because it is based on a point system and Rule 4570 is based on numbers of BMPs for different components of the CAF operation, it is difficult to compare the requirements in these two rules

[55] VOC sources in the San Joaquin Valley are currently subject to a broad range of controls measures adopted by the District and CARB as part of their strategy to attain the ozone standards in the area. The SJV is currently designated nonattainment and classified as extreme for the 1-hour ozone standard and for both the 1997 and 2008 8-hour ozone standards. *See* 40 CFR 81.305. Extreme ozone nonattainment areas are required by CAA section 172(c)(1) to implement RACM for VOC sources and by section 182(b)(2) to the implement RACT for all major sources of VOC and certain other sources of VOC. A major source of VOC in an extreme ozone nonattainment area is a source that emits or has the potential to emit 10 tons per year or more of VOC (CAA section 182(e)) which is much lower than the 100 tpy threshold for major stationary sources in Moderate $PM_{2.5}$ nonattainment areas (CAA section 302(j)). In 2012, the EPA approved the RACM demonstration in SJV's SIP for attainment of the 1997 8-hour ozone standard (77 FR 12652, 12670 (March 1, 2012)) and found that the State had met the section 182(b)(2) RACT control requirement for the 1997 8-hour ozone standards (limited approval, 77 FR 1417 (January 10, 2012); final corrective rule approval, 77 FR 71129 (November 29, 2012)).

As noted in the General Preamble, Congress recognized that PM precursors may be otherwise controlled and expressly recommended that the EPA consider other provisions of the CAA in addressing precursors (General Preamble at 13542, n. 22). Accordingly, the General Preamble provides that a state may demonstrate in a SIP submittal that control of VOC under other CAA requirements relieves it from the need to adopt additional controls for VOC as a precursor under section 189(e). *Id.* at 13542.

[56] *See* 77 FR 1417 (January 10, 2012); EPA Region 9, Technical Support Document for EPA's Notice of Proposed Rulemaking for the California State Implementation Plan—EPA's Evaluation of San Joaquin Valley Unified Air Pollution Control District's Reasonably Available Control Technology (RACT) Demonstration for Ozone State Implementation Plan (SIP), Adopted April 16, 2009 (dated August 29, 2011); letter dated October 19, 2012, from Kerry Drake, Associate Director, Air Division EPA-Region 9 to Samir Sheikh, SJVAPCD; and letter dated June 4, 2014, from Andrew Steckel, Chief, Rules Office, EPA Region 9 to Errol Villegas, Planning Manager, SJVAPCD.

[57] A full list of the District's rules, including cites to our most recent final or proposed rulemaking on each can be found in Appendix B to the TSD.

[58] The balance of the ammonia inventory is spread among a number of source categories from electric utilities to gasoline-powered on-road vehicles. The largest of these sources, at 6.3 tpd in 2007 (1.7 percent of the total ammonia inventory), is the area source category ''Other (Miscellaneous Processes).'' *See* 2012 $PM_{2.5}$ Plan, Appendix B, Table B–5. Ammonia emissions in this category are from domestic sources including pets, untreated human waste (*e.g.,* diapers), and perspiration. *See* ENVIRON International Corporation, ''Final Work Plan California Regional $PM_{10}/PM_{2.5}$ Air Quality Study—Ammonia Emissions Improvement Projects in Support of CRPAQS Aerosol Modeling and Data Analyses: Draft Ammonia Inventory Development,'' April 13, 2001, p. 2–16, found at *http://www.arb.ca.gov/ei/areasrc/nh3environworkplan.pdf.*

We note that two of the remaining source categories (open burning and residential wood burning at a combined 2.9 tpd in 2007) are covered by SIP-approved rules that prohibit and/or curtail burning and therefore also reduce ammonia emissions from these sources.

directly. Both rules contain options for controlling ammonia emissions in different parts of the CAF operation, but Rule 4570 may be more prescriptive in requiring a certain number of BMPs for each component, while the Idaho rule does not set a specific number of BMPs and instead requires that the points associated with the selected BMPs total to at least 27. It appears that in some respects Rule 4570 has more stringent provisions than the Idaho rule (*e.g.,* rule applicability threshold, and provisions for temporary suspension/substitution, testing and records retention). On the other hand, the Idaho rule contains options (*e.g.,* chemical amendments, lagoon nitrification/de-nitrification systems, lagoon covers, tunnel ventilation with biofilter, incorporation of manure within 24 hours of land application) that do not appear to be included in Rule 4570. It is not clear whether these control options are commonly implemented in Idaho or reasonably available or appropriate for use in the SJV.

In the absence of specific information regarding more stringent ammonia air emission control measures that may be technologically and economically feasible for implementation in the SJV area, we find the District's evaluation of Rule 4565, Rule 4566 and Rule 4570 in comparison to analogous rules adopted elsewhere is adequate to demonstrate that the District is implementing all available control measures for ammonia emissions from CAFs and composting operations that are technologically and economically feasible for implementation in the SJV at this time. We note, however, that the District's analyses of these rules appear to rest on certain assumptions concerning ammonia emissions reductions that are not supported by specific documentation or analyses (*e.g.,* assumptions concerning ammonia control efficiencies based on VOC control efficiencies). The point system in the Idaho rule appears to be based upon detailed scientific studies on the ammonia control efficiencies of the identified BMPs,[59] some of which may be available for implementation in the SJV. We note also that the timing of the *NRDC* decision in early 2013 may have constrained the State's and District's ability to fully evaluate additional ammonia control measures as part of a RACM/RACT control strategy ahead of the applicable Moderate area attainment date (December 31, 2015). Taking these unique circumstances into account, we find the District's ammonia control evaluation adequate for RACM/RACT purposes at this time but recommend that the State and District conduct a more thorough evaluation of all available ammonia control measures for farming and composting operations as part of its development of a Serious area plan. Specifically, we encourage the District to revisit its control evaluation for CAFs and composting operations at its earliest opportunity, both to specifically consider the ammonia control efficiencies and cost effectiveness of Rule 4565, Rule 4566 and Rule 4570, and to address any additional control options that may be technologically and economically feasible for implementation in the SJV, *e.g.,* the BMPs identified in the Idaho rule and other control options identified by EPA or by citizens during the District's rulemaking processes.

*Fertilizer application:* Although certain water pollution control and other requirements contained in the ''Regional Board General Order'' cited in the Supplement may indirectly reduce ammonia emissions to the air from fertilizer application operations, these requirements have not been approved into the SIP for purposes of attainment of the NAAQS and therefore cannot provide a basis for approval of a RACM demonstration under the CAA. We are not aware, however, of ammonia air emission control measures that have been adopted and implemented for fertilizer application operations elsewhere. In the absence of information regarding air emission control measures for agricultural fertilizer application that may be technologically and economically feasible for implementation in the SJV area, we find the District's analysis in the Supplement acceptable for RACM purposes at this time. We note also that the timing of the *NRDC* decision in early 2013 may have constrained the State's and District's ability to fully evaluate additional ammonia control measures as part of a RACM/RACT control strategy ahead of the applicable Moderate area attainment date (December 31, 2015). Taking these unique circumstances into account, we find the District's ammonia control evaluation adequate for RACM/RACT purposes at this time, but we encourage the District to revisit its control evaluation for fertilizer application at its earliest opportunity to specifically evaluate the technical and economic feasibility of potential air pollution control measures that may reduce ammonia emissions from fertilizer application in the SJV.

*Mobile Sources:* Finally, we have reviewed the analysis of current and potentially available controls for both on and off-road mobile sources in Chapter 5 and Appendix C. As we have noted in previous actions on SJV plans,[60] California is a leader in the development and implementation of stringent control measures for on-road and off-road mobile sources. Its current program addresses the full range of mobile sources in the SJV through regulatory programs for both new and in use vehicles and through incentive grant programs. *See* 2012 $PM_{2.5}$ Plan, Table 5–2 and Appendix A of the TSD. The District has also adopted measures to reduce emissions from mobile sources including its indirect source review rule (Rule 9510) and employer trip reduction rule (Rule 9410) and has a well-funded incentive grants program focused on mobile sources. *See* Chapter 6. The MPOs also have a program to fund cost-effective TCMs. *See* Appendix C, p. C–33. Overall, we believe that the State, District, and MPO programs provide for the implementation of RACM for $PM_{2.5}$ and its precursors from mobile sources in the SJV.

For the foregoing reasons, we propose to find that the 2012 $PM_{2.5}$ Plan and Supplement provide for the implementation of all RACM/RACT that can be implemented prior to the applicable Moderate area attainment date as required by CAA sections 189(a)(1)(C) and 172(c)(1) and to approve the RACM/RACT demonstration in the Plan.[61]

### *E. Major Stationary Source Control Requirements Under CAA Section 189(e)*

CAA section 189(e) specifically requires that the control requirements applicable to major stationary sources of

[59] IDEQ's technical documentation indicates that under the Idaho rule, BMP points are awarded based on a detailed assessment of each BMP's relative effectiveness in controlling ammonia emissions. *See* IDEQ, ''Scientific Basis for the Control of Ammonia from Dairy Farms Best Management Practices,'' July 18, 2006, *available at http://www.deq.idaho.gov/media/635665-58_0101_0502_scientific_basis_final.pdf.*

[60] The proposed approvals of the SJV 2007 [8-hour] Ozone Plan at 76 FR 57846, 57852 (September 16, 2011) and the 2008 $PM_{2.5}$ Plan at 76 FR 41338, 41345 (July 13, 2011) include discussions of California's control programs for mobile sources.

[61] The 2012 $PM_{2.5}$ Plan is the latest in a series of air quality plans and control strategies that the District and CARB have adopted to provide for attainment of the NAAQS in the SJV. These plans include the 2003 $PM_{10}$ Plan (approved 69 FR 30005 (May 26, 2004)); the 2004 Extreme [1-hour] Ozone Attainment Plan (approved 75 FR 10420 (March 8, 2010), approval withdrawn 77 FR 70376 (November 26, 2012)); the 2007 [8-hour] Ozone Plan (approved 77 FR 12652 (March 1, 2012)); the 2008 $PM_{2.5}$ SIP (approved 76 FR 69896 (November 9, 2011)); and the 2009 RACT SIP (limited approval January 10, 2012 (77 FR 1417); last corrective rule approval November 29, 2012 (77 FR 71129)).

direct $PM_{2.5}$[62] also apply to major stationary sources of $PM_{2.5}$ precursors, except where the Administrator determines that such sources do not contribute significantly to $PM_{2.5}$ levels that exceed the standard in the area (General Preamble at 13539 and 13541 to 42). The Supplement contains a discussion of the District's Rule 2201 (New and Modified Stationary Source Review Rule) (Supplement at 17–20) and three potential major stationary sources of ammonia operating in the SJV (Supplement at A–39 to A–41). The EPA is not proposing to act on these components of the Plan at this time and will do so in a separate rulemaking to address the control requirements specific to major stationary sources of direct $PM_{2.5}$ and $PM_{2.5}$ precursors under section 189(e) in the SJV.

*F. Adopted Control Strategy*

1. Requirements for Control Strategies and Enforceable Commitments

CAA section 110(a)(2)(A) provides that each SIP ''shall include enforceable emission limitations and other control measures, means or techniques . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirement of the Act.'' Section 172(c)(6) of the Act, which applies to nonattainment SIPs, is virtually identical to section 110(a)(2)(A).[63] Measures necessary to meet RACM/RACT requirements should also be adopted by the State in an enforceable form (General Preamble at 13541).

Generally, the EPA will approve a State plan that takes emissions reduction credit for a control measure only where the EPA has approved the measure as part of the SIP, or in the case of certain on-road and nonroad measures, where the EPA has issued the related waiver of preemption or authorization under CAA section 209(b) or section 209(e). The EPA has, however, approved enforceable commitments that are limited in scope where circumstances exist that warrant the use of such commitments in place of adopted measures. Commitments approved by the EPA under CAA section 110(k)(3) are enforceable by the EPA and citizens under CAA sections 113 and 304, respectively. In the past, the EPA has approved enforceable commitments and courts have enforced actions against states that failed to comply with them.[64] Additionally, if a state fails to meet its commitments, the EPA could make a finding of failure to implement the SIP under CAA section 179(a)(4), which starts an 18-month period for the state to correct the non-implementation before mandatory sanctions are imposed.

Once the EPA determines that circumstances warrant use of an enforceable commitment, the EPA considers three factors in determining whether to approve the use of an enforceable commitment to meet a CAA requirement: (a) Does the commitment address a limited portion of the CAA-required program; (b) is the state capable of fulfilling its commitment; and (c) is the commitment for a reasonable and appropriate period of time.[65]

2. Control Strategy in the 2012 $PM_{2.5}$ Plan

For purposes of evaluating the 2012 $PM_{2.5}$ Plan, we have divided the measures relied on to satisfy the applicable control requirements into two categories: baseline measures and control strategy measures.

As the term is used here, baseline measures are federal, State, and District rules and regulations adopted prior to January 2012 (*i.e.,* prior to the development of 2012 $PM_{2.5}$ Plan) that continue to achieve emissions reductions through the current attainment year of 2015 and beyond.[66] The Plan describes many of these measures in Chapter 5, Section 5.1.1 and 5.1.2 and in Appendices C and D. Reductions from these measures are incorporated into the baseline inventory and, for the most part, not individually quantified. According to the Plan, these measures provide all the emissions reductions projected to occur between the base year of 2007 and the current attainment year of 2015 and, based on the model-predicted level of emission reductions needed to meet the 2006 $PM_{2.5}$ standard in the SJV in 2019, most of the direct $PM_{2.5}$, $NO_X$, $SO_2$, and ammonia reductions needed to meet the $PM_{2.5}$ standard. *See* Table F–1 in the TSD and Appendices A and B in the TSD.

Control strategy measures are the new rules, rule revisions, commitments, and other measures that provide the additional increment of emissions reductions needed beyond the baseline measures to provide for attainment (when applicable), to demonstrate RFP, to meet the RACM/RACT requirement, or to provide for contingency measures.

For the Plan, the District identified and committed to adopt, submit, and implement amendments to four District prohibitory rules as well as to adopt and submit a rule to provide a process for quantifying emission reductions from the use of incentive funds (Rule 9610) (2012 $PM_{2.5}$ Plan, p. 5–21, Table 5–3 and SJV Governing Board Resolution 2012–12–19, p. 4). The District also committed to achieve an aggregate reduction of 1.9 tpd of direct $PM_{2.5}$ by 2019 (*id*). These commitments and their current status are shown in Table 3 below.[67]

[62] The control requirements applicable to major stationary sources of direct $PM_{2.5}$ in a Moderate area include, at minimum, the requirements of a nonattainment new source review (NNSR) permit program meeting the requirements of CAA section 172(c)(5) (*see* CAA 189(a)(1)(A)).

[63] The language in sections 110(a)(2)(A) and 172(c)(6) is quite broad, allowing a SIP to contain any enforceable ''means or techniques'' that EPA determines are ''necessary or appropriate'' to meet CAA requirements, such that the area will attain as expeditiously as practicable, but no later than the designated date. Furthermore, the express allowance for ''schedules and timetables'' demonstrates that Congress understood that all required controls might not have to be in place before a SIP could be fully approved.

[64] *E.g., American Lung Ass'n of N.J.* v. *Kean,* 670 F. Supp. 1285 (D.N.J. 1987), aff'd, 871 F.2d 319 (3rd Cir. 1989); *NRDC, Inc.* v. *N.Y. State Dept. of Env. Cons.,* 668 F. Supp. 848 (S.D.N.Y. 1987); *Citizens for a Better Env't* v. *Deukmejian,* 731 F. Supp. 1448, recon. granted in par, 746 F. Supp. 976 (N.D. Cal. 1990); *Coalition for Clean Air* v. *South Coast Air Quality Mgt. Dist.,* No. CV 97–6916–HLH, (C.D. Cal. Aug. 27, 1999).

[65] The U.S. Court of Appeals for the Fifth Circuit upheld the EPA's interpretation of CAA section 110(a)(2)(A) and 172(c)(6) and the Agency's use and application of the three factor test in approving enforceable commitments in the Houston-Galveston ozone SIP in *BCCA Appeal Group et al.* v. *EPA et al.,* 355 F.3d 817 (5th Cir. 2003).

[66] These measures are typically rules that have compliance dates that occur after the adoption date of a plan and mobile source measures that achieve reductions as older engines are replaced through attrition (*e.g.,* through fleet turnover).

[67] The current status of each commitment is presented for informational purposes only. We are not at this time proposing to make any finding regarding the District's compliance with these commitments.

TABLE 3—SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT 2012 $PM_{2.5}$ PLAN SPECIFIC RULE AMENDMENT COMMITMENTS

| District rule No. | Measure number & description | Amendment date | Compliance date | Emission reductions | Status of the amended rule |
|---|---|---|---|---|---|
| 4308 ..... | Boilers, Steam Generators, and Process Heaters 0.075 to <2 MMBtu/hr. | 2013 | 2015 | TBD ..... | Adopted November 14, 2013; submitted May 13, 2014. |
| 4692 ..... | Commercial Charbroiling ..... | 2016 | 2017 | 0.4 tpd $PM_{2.5}$ ..... | Adoption scheduled for 2016. |
| 4901 ..... | Wood Burning Fireplaces and Wood Burning Heaters. | 2016 | 2016/2017 | 1.5 tpd of $PM_{2.5}$ .. | Adopted September 18, 2014. |
| 4905 ..... | Natural Gas-Fired, Fan Type Residential Central Furnaces. | 2014 | 2015 | TBD ..... | Adoption scheduled for January 22, 2015. |
| 9610 ..... | SIP Creditability of Incentives ..... | 2013 | 2013 | TBD ..... | Adopted June 20, 2013; proposed for approval May 19, 2014 (79 FR 28650). |

Source: 2012 $PM_{2.5}$ Plan, p. 5–21, Table 5–3.

3. Evaluation and Proposed Actions

As discussed above, the Plan provides for the vast majority of the emissions reductions necessary for attainment to be achieved by baseline measures. These reductions come from a combination of District, State, and federal stationary and mobile source measures. Over the past two decades, the District has adopted or revised almost 40 prohibitory rules that limit emissions of $NO_X$, $SO_2$ and/or particulate matter from stationary and area sources in the SJV area (*see* Appendix B of the TSD). All but a few of these rule are currently SIP approved and as such their emissions reductions are fully creditable in attainment-related SIPs. California has also adopted standards for many categories of on- and off-road vehicles and engines as well as standards for gasoline and diesel fuels (2012 $PM_{2.5}$ Plan, Chapter 5).

The State's mobile source measures fall into two categories: Measures for which the State has obtained or has applied to obtain a waiver of federal pre-emption or authorization under CAA section 209 (''section 209 waiver measures'' or ''waiver measures'') and those for which the State is not required to obtain a waiver or authorization (''non-waiver measures'' or ''SIP measures''). We believe that credit for emissions reductions from implementation of California mobile source rules that are subject to CAA section 209 waivers or authorizations (*i.e.,* ''waiver measures'') is appropriate notwithstanding the fact that such rules are not approved as part of the California SIP. Historically, the EPA has granted credit for the waiver measures because of special Congressional recognition, in establishing the waiver process in the first place, of the pioneering California motor vehicle control program and because amendments to the CAA (in 1977) expanded the flexibility granted to California in order ''to afford California the broadest possible discretion in selecting the best means to protect the health of its citizens and the public welfare'' (H.R. Rep. No. 294, 95th Congr., 1st Sess. 301–2 (1977)). In allowing California to take credit for the waiver measures notwithstanding the fact that the underlying rules are not part of the California SIP, the EPA treated the waiver measures similarly to the Federal motor vehicle control requirements, which the EPA has always allowed States to credit in their SIPs without submitting the program as a SIP revision.

Credit for Federal measures, including those that establish on-road and nonroad standards, notwithstanding their absence in the SIP, is justified by reference to CAA section 110(a)(2)(A), which establishes the following content requirements for SIPs: ''* * * enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), * * *, as may be *necessary or appropriate* to meet the applicable requirements of this chapter.'' (emphasis added). Federal measures are permanent, independently enforceable (by the EPA and citizens), and quantifiable without regard to whether they are approved into a SIP, and thus the EPA has never found such measures to be ''necessary or appropriate'' for inclusion in SIPs to meet the applicable requirements of the CAA. Section 209 of the CAA establishes a process under which the EPA allows California's waiver measures to substitute for Federal measures, and like the Federal measures for which they substitute, the EPA has historically found, and continues to find, based on considerations of permanence, enforceability, and quantifiability, that such measures are not ''necessary or appropriate'' for California to include in its SIP to meet the applicable CAA requirements.

First, with respect to permanence, we note that, to maintain a waiver, CARB's on-road waiver measures can be relaxed only to a level of aggregate equivalence to the Federal Motor Vehicle Control Program (FMVCP). (CAA section 209(b)(1)). In this respect, the FMVCP acts as a partial backstop to California's on-road waiver measures (*i.e.,* absent a waiver, the FMVCP would apply in California). Likewise, Federal nonroad vehicle and engine standards act as a partial backstop for corresponding California nonroad waiver measures. (CAA section 209(e)(2)(A)). The constraints of the waiver process thus serve to limit the extent to which CARB can relax the waiver measures for which there are corresponding EPA standards, and thereby serve an anti-backsliding function similar in substance to those established for SIP revisions in CAA sections 110(l) and 193. Meanwhile, the growing convergence between California and EPA mobile source standards diminishes the difference in the emissions reductions reasonably attributed to the two programs and strengthens the role of the Federal program in serving as an effective backstop to the State program. In other words, with the harmonization of EPA mobile source standards with the corresponding State standards, the Federal program is becoming essentially a full backstop to most parts of the California program.

Second, as to enforceability, we note that the waiver process itself bestows enforceability onto California to enforce the on-road or nonroad standards for which the EPA has issued the waiver or authorization. CARB has as long a history of enforcement of vehicle/engine

emissions standards as the EPA, and CARB's enforcement program is equally as rigorous as the corresponding EPA program. The history and rigor of CARB's enforcement program lends assurance to California SIP revisions that rely on the emissions reductions from CARB's rules in the same manner as the EPA's mobile source enforcement program lends assurance to other states' SIPs in their reliance on emissions reductions from the FMVCP. While it is true that citizens and the EPA are not authorized to enforce California waiver measures under the Clean Air Act (*i.e.,* because they are not in the SIP), citizens and the EPA are authorized to enforce EPA standards in the event that vehicles operate in California without either California or EPA certification.

As to quantifiability, the EPA's historical practice has been to give SIP credit for motor-vehicle-related waiver measures by allowing California to include motor vehicle emissions estimates made by using California's EMFAC (and its predecessors) motor vehicle emissions factor model in SIP inventories. The EPA verifies the emissions reductions from motor-vehicle-related waiver measures through review and approval of EMFAC, which is updated from time to time by California to reflect updated methods and data, as well as newly-established emissions standards. (Emissions reductions from the EPA's motor vehicle standards are reflected in an analogous model known as MOVES.) The EMFAC model is based on the motor vehicle emissions standards for which California has received waivers from the EPA but accounts for vehicle deterioration and many other factors. The motor vehicle emissions estimates themselves combine EMFAC results with vehicle activity estimates, among other considerations. See the 1982 Bay Area Air Quality Plan, and the related EPA rulemakings approving the plan (*see* 48 FR 5074, February 3, 1983, for the proposed rule and 48 FR 57130, December 28, 1983, for the final rule) as an example of how the waiver measures have been treated historically by the EPA in California SIP actions. The 2012 $PM_{2.5}$ Plan was developed using a version of the EMFAC model referred to as EMFAC2011, which the EPA has approved for use in SIP development in California (78 FR 14533, March 6, 2013). Thus, the emissions reductions that are from the California on-road ''waiver measures'' and that are estimated through use of EMFAC are as verifiable as are the emissions reductions relied upon by states other than California in developing their SIPs based on estimates of motor vehicle emissions made through the use of the MOVES model.

Moreover, the EPA's waiver (and authorization) review and approval process is analogous to the SIP approval process. First, CARB adopts its emissions standards following notice and comment procedures at the state level, and then submits the rules to the EPA as part of its waiver request. When the EPA receives new waiver or authorization requests from CARB, the EPA publishes a notice of opportunity for public hearing and comment and then publishes a decision in the **Federal Register** following the public comment period. Once again, in substance, the process is similar to that for SIP approval and supports the argument that one hurdle (the waiver/authorization process) is all Congress intended for California standards, not two (waiver/authorization process plus SIP approval process). Second, just as SIP revisions are not effective until approved by the EPA, changes to CARB's rules (for which a waiver or authorization has been granted) are not effective until the EPA grants a new waiver or authorization, unless the changes are ''within the scope'' of a prior waiver or authorization and no new waiver or authorization is needed. Third, both types of final actions by the EPA— *i.e.,* final actions on California requests for waivers or authorizations and final actions on state submittals of SIPs and SIP revisions—may be challenged under CAA section 307(b)(1) in the appropriate United States Court of Appeals.

For additional explanation of the EPA's long-standing practice of allowing credit for California ''waiver measures'' notwithstanding the fact that the measures are not approved into the SIP, please see the EPA's responses to comments challenging this practice in the following final rules: 77 FR 12652, at 12655–12658, March 1, 2012 (final action on San Joaquin Valley 1997 8-Hour Ozone SIP); 77 FR 12674, at 12677–12682, March 1, 2012 (final action on South Coast 1997 8-Hour Ozone SIP); 76 FR 69896, at 69906–69910, November 9, 2011 (final action on San Joaquin Valley 1997 $PM_{2.5}$ SIP); 76 FR 69928, at 69930–69932, November 9, 2011 (final action on South Coast 1997 $PM_{2.5}$ SIP).

In addition to baseline measures, which according to the District will achieve the vast majority of the direct $PM_{2.5}$, $NO_X$, and $SO_x$ emission reductions needed to attain the 2006 $PM_{2.5}$ standard in the SJV, the Plan also contains District commitments to adopt several amendments to its rules by specific dates and to achieve specified amounts of emissions reductions by 2019 (2012 $PM_{2.5}$ Plan, p. 5–21, Table 5–3 and SJV Governing Board Resolution 2012–12–19, p. 4; see also Table 2 above).

As discussed above, we generally consider three factors in determining whether to approve the use of an enforceable commitment to meet a CAA requirement. In this case, however, the 2012 $PM_{2.5}$ Plan does not rely on either the rule amendment commitments or the emission reduction commitments in the impracticability demonstration, RACM demonstration, RFP demonstration, or quantitative milestones, or to meet any other CAA requirement; therefore, we do not need to apply this three factor test before proposing to approve the District's commitments into the SIP. Approval of these commitments will strengthen the SIP and contribute to the SIP's purpose of ''eliminating or reducing the severity and number of violations of the [$PM_{2.5}$ NAAQS] and achieving expeditious attainment of such standards.'' (CAA section 176(c)(1)(A)). For these reasons, the EPA proposes to approve the SJVAPCD Governing Board District's commitments as given in p. 5–21, Table 5–3 of the 2012 $PM_{2.5}$ Plan and on page 4 of SJV Governing Board Resolution 2012–12–19.

### *G. Demonstration That Attainment by the Moderate Area Attainment Date Is Impracticable*

#### 1. Requirements for Attainment/Impracticability of Attainment Demonstrations

CAA section 189(a)(1)(B) requires that each Moderate area attainment plan include a demonstration that the plan provides for attainment by the latest applicable Moderate area deadline or, alternatively, that attainment by the latest applicable attainment date is impracticable. A demonstration that the plan provides for attainment must be based on air quality modeling, and the EPA generally recommends that a demonstration of impracticability also be based on air quality modeling consistent with the EPA's modeling guidance (General Preamble at 13538). *Id.*[68]

CAA section 188(c) states, in relevant part, that the Moderate area attainment date ''shall be as expeditiously as practicable but no later than the end of the sixth calendar year after the area's designation as nonattainment. . . .'' For the San Joaquin Valley, which was

[68] For more information on the applicable air quality modeling requirements, please *see* section IV.B. above.

initially designated as nonattainment for the 2006 $PM_{2.5}$ NAAQS effective December 14, 2009, the applicable Moderate area attainment date under section 188(c) is as expeditiously as practicable, but no later than December 31, 2015.

In SIP submissions to demonstrate impracticability, the state should document that its required control strategy in the attainment plan represents the application of RACM/RACT to existing sources. The EPA believes it is reasonable to require adoption of all available control measures that are technologically and economically feasible in areas that do not demonstrate timely attainment. The impracticability demonstration will then be based on a showing that the area cannot attain by the applicable date, notwithstanding implementation of the required controls.

2. Impracticability Demonstration in the 2012 $PM_{2.5}$ Plan

The 2012 $PM_{2.5}$ Plan and Supplement include a demonstration, based on air quality modeling that even with the implementation of all reasonably available control measures for all appropriate sources, attainment by December 31, 2015 is not practicable. *See* 2012 $PM_{2.5}$ Plan, section 9.1 and Supplement, section 2.1. This demonstration is specific to Kern County (in particular the California Street-Bakersfield monitor) because the air quality modeling performed for the 2012 $PM_{2.5}$ Plan showed that this area would be the last to attain the 2006 $PM_{2.5}$ standard. *Id.* The demonstration is summarized in Table 4 below.

TABLE 4—IMPRACTICABILITY OF ATTAINMENT DEMONSTRATION, KERN COUNTY

[Tons per winter day]

| Year | 2015 |
|---|---|
| Baseline $NO_X$ inventory | 58.6 |
| New control measures | 0 |
| $NO_X$ inventory after new controls | 58.6 |
| $NO_X$ emissions level needed for attainment | 46.8 |
| Shortfall in $NO_X$ emissions reductions needed for attainment | 11.8 |
| Baseline direct $PM_{2.5}$ inventory | 11.5 |
| New control measures | 0 |
| Direct $PM_{2.5}$ inventory after new controls | 11.5 |
| Direct $PM_{2.5}$ level needed for attainment | 11.1 |
| Shortfall in direct $PM_{2.5}$ emissions reductions needed for attainment | 0.4 |
| Baseline $SO_2$ inventory | 1.8 |
| New control measures | 0 |
| $SO_2$ inventory after new controls | 1.8 |
| $SO_2$ emissions level needed for $PM_{2.5}$ attainment | 1.8 |
| Shortfall in $SO_2$ emission reductions needed for attainment | 0 |

Source: 2014 Supplement, p. 6.

3. Evaluation and Proposed Action

The impracticability demonstration in the 2012 $PM_{2.5}$ Plan is based on air quality modeling which is generally consistent with applicable EPA guidance. We find the modeling adequate to support the impracticability demonstration in the Plan. *See* section VI.B.

We have also evaluated the RACM/RACT demonstration and find that it provides for the expeditious implementation of all RACM/RACT that may feasibly be implemented at this time, consistent with the requirements of CAA sections 172(c)(1) and 189(a)(1)(C) for the 2006 $PM_{2.5}$ NAAQS in the SJV. *See* section IV.D.

Finally, we have evaluated the demonstration in the 2012 $PM_{2.5}$ Plan that the implementation of the State/District's SIP control strategy, including RACM/RACT measures, is insufficient to bring the San Joaquin Valley into attainment by December 31, 2015 and agree that attainment by that date is thus impracticable.

In addition to the information in the 2012 $PM_{2.5}$ Plan and Supplement, we have reviewed recent $PM_{2.5}$ monitoring data from the San Joaquin Valley. These data show that 24-hour $PM_{2.5}$ levels in the SJV, with a current design value (2011–2013) of 65 $\mu g/m^3$, continue to be well above the 35 $\mu g/m^3$ level of the 2006 $PM_{2.5}$ standard, and the recent trends in the Valley's 24-hour $PM_{2.5}$ levels are not consistent with a projection of attainment by the end of 2015.[69]

Based on this evaluation, we propose to approve the State's demonstration in the 2012 $PM_{2.5}$ Plan and Supplement that attainment of the 2006 $PM_{2.5}$ NAAQS by the Moderate area attainment date in the SJV is impracticable, consistent with the requirements of CAA section 189(a)(1)(B)(ii). Based on this proposal, we also propose to reclassify the SJV as Serious nonattainment, which would trigger requirements for the State to submit a Serious area plan consistent with the requirements of subparts 1 and 4 of part D, title I of the Act (*see* Section V).

[69] *See* Memorandum dated December 15, 2014 from Elfego Felix and Scott Bohning, U.S. EPA, Region 9 Air Quality Analysis Office, to San Joaquin Valley Reclassification Docket, Subject: Practicability of SJV 2015 attainment of the 2006 24-hour PM NAAQS (''Felix-Bohning Memo'') and U.S. EPA, 2013 Design Value Reports, $PM_{2.5}$ Detailed Information Updated 8/24/14, available at *http://www.epa.gov/airtrends/values.html* (''PM25_DesignValues_20112013_FINAL_08_28_14).''

*H. Reasonable Further Progress and Quantitative Milestones*

1. Requirements for Reasonable Further Progress and Quantitative Milestones

CAA section 172(c)(2) requires nonattainment area plans to provide for reasonable further progress (RFP). In addition, CAA section 189(c) requires $PM_{2.5}$ nonattainment area SIPs to include quantitative milestones to be achieved every 3 years until the area is redesignated to attainment and which demonstrate reasonable further progress (RFP), as defined in CAA section 171(1). Section 171(1) defines RFP as ''such annual incremental reductions in emissions of the relevant air pollutant as are required by [Part D] or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable [NAAQS] by the applicable date.'' Neither subpart 1 nor subpart 4 of part D, title I of the Act requires that a set percentage of emissions reductions be achieved in any given year for purposes of satisfying the RFP requirement.

RFP has historically been met by showing annual incremental emission reductions sufficient generally to maintain at least linear progress toward attainment by the applicable deadline (Addendum at 42015). As discussed in EPA guidance in the Addendum, requiring linear progress in reductions of direct $PM_{2.5}$ and any individual precursor in a $PM_{2.5}$ plan may be appropriate in situations where:

- The pollutant is emitted by a large number and range of sources,
- the relationship between any individual source or source category and overall air quality is not well known,
- a chemical transformation is involved (*e.g.,* secondary particulate significantly contributes to $PM_{2.5}$ levels over the standard), and/or
- the emission reductions necessary to attain the $PM_{2.5}$ standard are inventory-wide. Id.

The EPA's guidance in the Addendum recommends that requiring linear

progress is less appropriate in other situations, such as:

- Where there are a limited number of sources of direct $PM_{2.5}$ or a precursor,
- where the relationships between individual sources and air quality are relatively well defined, and/or
- where the emission control systems utilized (*e.g.,* at major point sources) will result in swift and dramatic emission reductions.

In nonattainment areas characterized by any of these latter conditions, RFP may be better represented as step-wise progress as controls are implemented and achieve significant reductions soon thereafter. For example, if an area's nonattainment problem can be attributed to a few major sources, EPA guidance indicates that ''RFP should be met by 'adherence to an ambitious compliance schedule' which is likely to periodically yield significant emission reductions of direct $PM_{2.5}$ or a $PM_{2.5}$ precursor'' (Addendum at 42015).

Plans for $PM_{2.5}$ nonattainment areas should include detailed schedules for compliance with emission regulations in the area and provide corresponding annual emission reductions to be realized from each milestone in the schedule (Addendum at 42016). In reviewing an attainment plan under subpart 4, EPA evaluates whether the annual incremental emission reductions to be achieved are reasonable in light of the statutory objective of timely attainment. We believe that it is appropriate to require early implementation of the most cost-effective control measures while phasing in the more expensive control measures (Id.).

Section 189(c) provides that the quantitative milestones submitted by a state for an area also must be consistent with RFP for the area. Thus, the EPA determines an area's compliance with RFP in conjunction with determining its compliance with the quantitative milestone requirement. Because RFP is an annual emission reduction requirement and the quantitative milestones are to be achieved every 3 years, when a state demonstrates compliance with the quantitative milestone requirement, it will demonstrate that RFP has been achieved during each of the relevant 3 years. Quantitative milestones should consist of elements that allow progress to be quantified or measured objectively. Specifically, states should identify and submit quantitative milestones providing for the amount of emission reductions adequate to achieve the NAAQS by the applicable attainment date (Addendum at 42016).

The CAA does not specify the starting point for counting the 3-year periods for quantitative milestones under CAA section 189(c). In the General Preamble and Addendum, EPA interpreted the CAA to require that the starting point for the first 3-year period be the due date for the Moderate area plan submittal (General Preamble at 13539, Addendum at 42016). In keeping with this historical approach, the EPA is proposing to establish December 31, 2014 as the starting point for the first 3-year period under CAA section 189(c) for the 2006 $PM_{2.5}$ standard in the SJV. This date is the due date for the state's submittal of attainment-related SIPs necessary to satisfy the subpart 4 Moderate area requirements applicable to the SJV area.[70] Accordingly, the first quantitative milestone date for the SJV area would be December 31, 2017 (3 years after December 31, 2014). Following reclassification of the SJV area as Serious for the 2006 $PM_{2.5}$ standard, later milestones would be addressed by the Serious area plan (Addendum at 42016).

2. RFP Demonstration and Quantitative Milestones in the 2012 $PM_{2.5}$ Plan

The RFP demonstration is in Chapter 9, section 9.3 (pp. 9–4 to 9–7) of the 2012 $PM_{2.5}$ Plan. The District included this same demonstration and provided a brief discussion of quantitative milestones in section 4 (p. 14) of the Supplement. The demonstration addresses direct $PM_{2.5}$, $NO_X$, and $SO_2$ and uses the 2007 winter daily average inventory as the base year inventory and the 2019 winter daily average baseline inventory as the attainment year inventory. The 2012 $PM_{2.5}$ Plan does not explicitly provide an RFP demonstration for ammonia but does include a base year ammonia inventory as well as 2014, 2017, and 2019 ammonia baseline inventories, which account for reductions from existing ammonia control measures. (2012 $PM_{2.5}$ Plan at Appendix B).

The Plan shows that emissions of direct $PM_{2.5}$, $NO_X$ and $SO_X$ will decline from the 2007 base year through 2015 and states that emissions will remain below the levels needed to show ''generally linear progress'' from 2007 to 2019—the year that the Plan projects to be the earliest practicable attainment date (2012 $PM_{2.5}$ Plan, section 9.3). Direct $PM_{2.5}$, $NO_X$ and $SO_2$ are emitted by a large number and range of sources in the SJV and the emission reductions needed for these pollutants are inventory wide (2012 $PM_{2.5}$ Plan, Appendix B). The District followed the procedures in the 2007 $PM_{2.5}$ Implementation Rule (40 CFR 51.1009(f)) to calculate its RFP targets for 2014 and 2017 in both the 2012 $PM_{2.5}$ Plan[71] and the Supplement. (2012 $PM_{2.5}$ Plan, pp. 9–5 to 9–7 and Supplement at 14). It then showed that projected emission levels based on its adopted control strategy would be below those targets in both milestone years. Id. With respect to quantitative milestones, the Supplement states that the Plan ''identifies target emissions levels for generally linear progress that can serve as the quantitative milestones for subpart 4'' and that the adopted control strategy in the Plan meets these quantitative milestones. Supplement at 14 (citing 2012 $PM_{2.5}$ Plan at Table 9–4).

3. Evaluation and Proposed Actions

We are deferring action on the quantitative milestones described on pg. 14 of the Supplement but we are evaluating the Plan with respect to the RFP requirement. Because the District's methodology for calculating ''RFP target emission levels'' and evaluating ''generally linear progress'' is premised on a 2019 attainment date, these evaluations are not consistent with the requirements of the Act.[72] The Plan demonstrates, however, that all RACM/RACT are being implemented as expeditiously as practicable and identifies projected emission levels for 2014 and 2017 that reflect full implementation of the State's and District's RACM/RACT control strategy for the area. See 2012 $PM_{2.5}$ Plan, section 9.3 and Appendix B; see also discussion in Section II.D (''Reasonably Available Control Measures/Reasonably Available Control Technology''). In an area that cannot practicably attain the $PM_{2.5}$ standard by the applicable Moderate area attainment date, we believe it is reasonable to find that full

[70] Subpart 4 requires states to submit attainment plans within 18 months after nonattainment designations (CAA 189(a)(2)). Due to unusual circumstances, however, the EPA has by rule created a later attainment plan submission date for the 2006 $PM_{2.5}$ NAAQS in order to provide states and the EPA an opportunity to address the requirements for attainment plans consistent with a court decision. *See* 79 FR 31566 (June 2, 2014).

[71] The 2012 $PM_{2.5}$ Plan was developed and adopted by the District in accordance with the methodology for calculating RFP targets in the 2007 $PM_{2.5}$ Implementation Rule, prior to the D.C. Circuit's decision in *NRDC* remanding this rule.

[72] Under subpart 4, the latest permissible attainment date for a Moderate $PM_{2.5}$ nonattainment area is the end of the sixth calendar year after the area's designation as nonattainment. CAA 188(c)(1). Because the SJV area was designated nonattainment for the 2006 $PM_{2.5}$ NAAQS effective December 2009, the area is currently subject to a Moderate area attainment date no later than December 31, 2015.

implementation of a control strategy that satisfies the Moderate area control requirements (*i.e.,* RACM/RACT at a minimum) represents reasonable further progress toward attainment. We propose, therefore, to approve the RFP demonstration for direct $PM_{2.5}$, $NO_X$ and $SO_2$ as meeting the requirements of CAA section 172(c)(2).

The 2012 $PM_{2.5}$ Plan also shows a substantial reduction in total ammonia emissions in the period 2007 to 2012 with emissions increasing each following year but still remaining below 2007 base year levels in 2015 and 2019. See Appendix B, Table B–5. Unlike the wide range of sources emitting $PM_{2.5}$, $NO_X$ and $SO_2$ in the Valley, emissions of ammonia are almost entirely from three source categories: CAF, fertilizer application, and composting, with more than two-thirds of all emissions coming from CAF.[73] Collectively, these three categories emit 96 percent of all ammonia emissions in the 2007 base year inventory.

Reductions in ammonia emissions from CAF between 2007 and 2012 resulted from the implementation of District Rule 4570 ''Confined Animal Operations,'' which required implementation of control measures to reduce ammonia in 2008 and required full compliance by affected sources by mid-2012. Although emissions in this category increase after 2012 due to continuing growth in the Valley's dairy industry, overall emissions in 2015 and 2019 remain below the 2007 base year level. The implementation of the District's Rule 4655 ''Organic Material Composting Operations'' (adopted August 18, 2011) beginning in 2012 most likely resulted in some ammonia reductions (Supplement, p. A–27), but these reductions are not included in the base year or baseline inventories. As discussed in the Supplement (p. A–25), ammonia emissions from manure fertilizer application by dairies may be reduced as a co-benefit from the Central Valley Regional Water Quality Control Board's requirements for reducing nitrate in ground water adopted in 2007. However, because these reductions are not quantified and the control requirements are not in the SIP, no reductions from these controls are included in the inventories at this time.

As discussed above, generally linear reduction in emissions on a yearly basis may not be necessary for RFP where there are a limited number of sources of a precursor and where the emission control systems utilized will result in swift emission reductions. Both of these considerations are relevant for ammonia emissions in the San Joaquin Valley. In such cases, the EPA believes that RFP can be shown by adherence to an ambitious compliance schedule (Addendum at 42015). In this case all ammonia reductions included in the 2012 $PM_{2.5}$ Plan were achieved through the implementation of controls before the Plan was adopted. We believe that this represents an ambitious compliance schedule. Additionally, despite the growth in total ammonia emissions in the Valley after 2012, the District's implementation of its existing RACM/RACT control strategy for ammonia emissions is projected to result in total ammonia emissions that are lower in the Moderate area attainment year of 2015 and in 2019 than in the base year of 2007 (Table 5 below). We propose, therefore, to conclude that the 2012 $PM_{2.5}$ Plan provides for RFP for ammonia as required by CAA section 172(c)(2).

TABLE 5—AMMONIA EMISSIONS BY YEAR

[Winter daily average in tons]

| | 2007 | 2012 | 2014 | 2015 | 2017 | 2019 |
|---|---|---|---|---|---|---|
| A. Farming Operations (CAF) | 264.5 | 225.4 | 234.6 | 239.2 | 248.4 | 257.6 |
| B. Pesticide/Fertilizers | 68.4 | 66.9 | 66.3 | 66.1 | 65.5 | 64.9 |
| C. Other (Waste Disposal) (Composting) | 17.9 | 19.3 | 20.1 | 20.5 | 21.3 | 22.2 |
| D. All other sources | 16.5 | 15.0 | 15.0 | 14.9 | 15.2 | 15.4 |
| E. Total ammonia emissions | 367.3 | 326.6 | 336.0 | 340.7 | 350.4 | 360.1 |

Source: 2012 $PM_{2.5}$ Plan, Appendix B, Table B–5.

We are proposing to determine that VOCs do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the 2006 $PM_{2.5}$ standard in the SJV and that a VOC control evaluation therefore is not necessary for RFP or quantitative milestones for purposes of the 2006 $PM_{2.5}$ standard in the SJV (see section II.C. of the TSD). CAA section 171(1) defines RFP as ''such annual incremental reductions in emissions of the relevant air pollutant . . . that may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable [NAAQS] by the applicable date.'' Based on our proposal to determine that VOCs do not contribute significantly to ambient $PM_{2.5}$ levels that exceed the standard, we propose to conclude that no RFP demonstration or quantitative milestones are necessary for purposes of the 2006 $PM_{2.5}$ standard in the SJV.

In evaluating RFP, we are relying in part on the Plan's analysis of both adopted control measures and additional control measures for wood burning and charbroiling to be adopted in future years, which the Plan indicates will collectively bring the SJV into attainment of the 2006 $PM_{2.5}$ standard by the end of 2019. We are not, however, proposing to approve this demonstration of attainment by 2019 for any purpose at this time. Following reclassification of the SJV area to Serious nonattainment for the 2006 $PM_{2.5}$ standard, the SJV area will be subject to Serious Area planning requirements under subpart 4 and will need to reevaluate and strengthen its SIP control strategy as necessary to meet the Serious area requirement for best available control measures (BACM) and Best Available Control Technology (BACT), among other requirements. The State will also need to demonstrate attainment as expeditiously as practicable, but no later than December 31, 2019, and provide a revised RFP demonstration, both taking into consideration the implementation of the Serious Area control strategy. Today, we are proposing to approve most of the 2012 $PM_{2.5}$ Plan and Supplement for the limited purpose of satisfying the statutory control requirements that apply to Moderate areas demonstrating that attainment by the Moderate Area attainment date under subpart 4 is

[73] In the inventories provided in Appendix B of the Plan, emissions from these sources are found in the categories ''Farming Operations,'' ''Pesticides/Fertilizers,'' and ''Other (Waste Disposal),'' respectively.

impracticable (*see* Section II.D. of the TSD).

*I. Contingency Measures*

1. Requirements for Contingency Measures

Under CAA section 172(c)(9), $PM_{2.5}$ plans must include contingency measures to be implemented if an area fails to meet RFP (''RFP contingency measures'') or fails to attain the $PM_{2.5}$ standards by the applicable attainment date (''attainment contingency measures''). Under subpart 4, however, the EPA interprets section 172(c)(9) in light of the specific requirements for particulate matter nonattainment areas. Section 189(b)(1)(A) differentiates between attainment plans that provide for timely attainment and those that demonstrate that attainment is impracticable. Where the SIP includes a demonstration that attainment by the applicable attainment date is impracticable, the state need only submit contingency measures to be implemented if an area fails to meet RFP.[74]

The purpose of contingency measures is to continue progress in reducing emissions while the SIP is being revised to meet the missed RFP milestone or correct continuing nonattainment.

The principle requirements for contingency measures are:

- Contingency measures must be fully adopted rules or control measures that are ready to be implemented quickly upon failure to meet RFP or failure of the area to meet the standard by its attainment date.
- The SIP should contain trigger mechanisms for the contingency measures, specify a schedule for implementation, and indicate that the measures will be implemented without further action by the state or by the EPA. In general, we expect all actions needed to affect full implementation of the measures to occur within 60 days after the EPA notifies the state of a failure.
- The contingency measures should consist of other control measures for the area that are not relied on to demonstrate attainment or RFP.
- The measures should provide for emissions reductions equivalent to approximately one year of reductions needed for RFP calculated as the overall level of reductions needed to demonstrate attainment divided by the number of years from the base year to the attainment year.

(General Preamble at 13543 and Addendum at 42014).

Contingency measures can include Federal, state and local measures already scheduled for implementation or already implemented. The CAA requires contingency measures that provide for additional emissions reductions that are not relied on to demonstrate RFP or attainment and thus not included in these demonstrations. In other words, contingency measures are intended to achieve reductions over and beyond those relied on in the RFP and attainment demonstrations. Nothing in the CAA precludes a state from implementing such measures before they are triggered. EPA has approved numerous SIPs under this interpretation. *See,* for example, 62 FR 15844, April 3, 1997 (direct final rule approving Indiana ozone SIP revision); 62 FR 66279, December 18, 1997 (final rule approving Illinois ozone SIP revision); 66 FR 30811, June 8, 2001 (direct final rule approving Rhode Island ozone SIP revision); 66 FR 586, January 3, 2001 (final rule approving District of Columbia, Maryland, and Virginia ozone SIP revisions); and 66 FR 634, January 3, 2001 (final rule approving Connecticut ozone SIP revision); *see also LEAN* v. *EPA,* 382 F.3d 575 (5th Cir. 2004) (upholding contingency measures that were previously required and implemented where they were in excess of the attainment demonstration and RFP SIP).

2. Contingency Measures in the 2012 $PM_{2.5}$ Plan

Contingency measures for failure to meet RFP milestones are described in Section 9–4 of the Plan. The Supplement also discusses the RFP contingency measures in section 5.

3. Evaluation and Proposed Action

We are deferring action on the RFP contingency measures in the 2012 $PM_{2.5}$ Plan and Supplement. We note that once SJV is reclassified to Serious, the State will be obligated to demonstrate that its SIP provides for the implementation of BACM and BACT and for attainment as expeditiously as practicable, and no later than 2019. As part of this demonstration, the State will need to revise its RFP demonstration to establish new RFP targets, quantitative milestones, and RFP contingency measures for the 2006 $PM_{2.5}$ NAAQS.

Because we are proposing to approve the State's demonstration that attainment by the applicable Moderate area attainment date of December 31, 2015 is impracticable in the SJV and to reclassify the area to Serious, contingency measures for failure to attain are not required as part of this Moderate area plan. Upon reclassification of the SJV area as a Serious area, California will be required to adopt failure-to-attain contingency measures as part of the Serious area attainment plan for the 2006 $PM_{2.5}$ NAAQS.

*J. Interpollutant Trading Ratios for Nonattainment New Source Review Permits*

The CAA's Nonattainment New Source Review (NNSR) permitting provisions require that emissions from new or modified major stationary sources proposing to construct or modify in a nonattainment area be ''offset'' by reductions from the same or other sources in the area (CAA section 173(c)). This ''offset'' requirement ensures that progress toward attaining the NAAQS is maintained while still allowing for the construction and modification of major stationary sources. Generally, the pollutant emitted at the new or modified source must be offset by reductions of the same pollutant. Under certain circumstances, however, the EPA may allow for ''interpollutant'' offsets—*i.e.,* increased emissions of one pollutant (or a precursor to that pollutant) may be offset by reductions in a different precursor to the pollutant, or emissions of a certain precursor may be offset by reductions in the pollutant to which it is a precursor.

Where a state intends to provide for such interpollutant trading, the state must provide a technical demonstration that shows the net air quality benefits of the interpollutant trade in the $PM_{2.5}$ nonattainment area, to ensure the trade does not jeopardize the attainment demonstration or progress toward attainment of the NAAQS. We refer to the rate of emission reduction in tons per day (tpd) that would offset the ambient effect of a 1 tpd increase in new source emissions as an ''interpollutant trading (IPT) ratio'' or an ''interpollutant equivalency ratio''. In a July 2011 policy memorandum (''IPT memo''), EPA stated that ''any ratio involving $PM_{2.5}$ precursors submitted to the EPA for approval for use in a state's interpollutant offset program for $PM_{2.5}$ nonattainment areas must be accompanied by a technical demonstration that shows the net air quality benefits of such ratio for the $PM_{2.5}$ nonattainment area in which it

[74] The EPA does not interpret the requirement for failure-to-attain contingency measures to apply to Moderate $PM_{2.5}$ nonattainment areas that cannot practicably attain the NAAQS by the statutory attainment date. Rather, the EPA believes it is appropriate for the state to identify and adopt attainment contingency measures as part of the Serious area attainment plan that it will develop once the EPA reclassifies the area (Addendum at 42015).

will be applied.'' [75] The IPT memo provides general guidance on developing interpollutant offset ratios, which includes sensitivity simulations with a photochemical model when $PM_{2.5}$ precursors are involved. In rough terms, the memorandum describes the process for calculating a ratio as taking the modeled impact in micrograms per cubic meter (μg/m³) per tpd of the pollutant whose emissions are to be offset, and dividing by the μg/m³ impact per tpd of the offsetting pollutant, *i.e.* the ratio of the sensitivities of ambient $PM_{2.5}$ levels to emission changes in the pollutants.[76]

The 2012 $PM_{2.5}$ Plan includes proposed interpollutant trading ratios for use in the District's NSR program. (Appendix H, p. H–3). The proposed ratios are 5.3 tpd of $NO_X$ emission reductions to offset 1 tpd of direct $PM_{2.5}$ emission increase and 4.1 tpd of $SO_X$ emission reductions to offset 1 tpd of direct $PM_{2.5}$ emission increase. *Id.* Attachment 1 to Appendix H includes a description of the approach used for determining these ratios. The 2012 $PM_{2.5}$ Plan refers to ''EPA's preferred method'' for estimating ratios (pp. H–4 and H–88). As discussed above, however, the EPA has provided only general guidance and has not identified a preferred method. The method described in the Plan does use the general concept in the EPA's IPT memo for computing a ratio of modeled sensitivities, but it contains internal inconsistencies and an insufficient rationale for the specific approach used to develop the ratios.

An internal inconsistency of the approach used is that dividing the pollutant sensitivities provided in the sensitivity table gives ratios that do not match those provided in the trading ratio table (Appendix H, Tables 1 and 2, p. H–87). For example, for Fresno—1st Street site, the sensitivities given are 0.14 μg/m³ per tpd of direct $PM_{2.5}$, and 0.03 for $NO_X$; the ratio of these is 4.7, but the corresponding trading ratio given is 4.0. Overall the differences in ratios range from +17 percent to −17 percent. These discrepancies may be a result of rounding within the sensitivity table, but there is not enough documentation to make this determination. Another inconsistency is that the interpollutant ratios provided in Appendix H do not match those provided in the WOEA (Staff Report Appendix B). For example, the WOEA sensitivities for Bakersfield-California site imply that the $NO_X$:$PM_{2.5}$ and $SO_X$:$PM_{2.5}$ ratios are both 4.25,[77] but the corresponding Appendix H ratios are given as 7.0 and 5.2. This discrepancy may be due to different modeling runs having been used to establish the ratios, but this is not explained.

The specifics of the Plan's approach pose several difficulties. The Plan states that the sensitivity simulations used 50 percent reductions in emissions from ''NSR source categories'' (p. H–86). The latter is not defined. If ''NSR source categories'' are major stationary sources, then a 50 percent reduction in the overall category would be far larger than any likely emission increase or offset. It is not clear that the response of the model to this large a change is representative of the ambient effects that would occur from an actual interpollutant trade or for the aggregate of trades expected to occur. The Plan states that a 50 percent reduction in annual average emissions was used, but it is not clear why this is appropriate for a NAAQS based on a 24-hour average. The Plan provides no rationale for why a 50 percent reduction is appropriate to use for assessing interpollutant ratios, including consideration of the robustness of the ratios under alternative reduction percentages.

Another issue is that in general, the ambient effect of a trade will depend on the location of both the new source and the offset, since transport and atmospheric chemistry depend on location. The Plan implicitly recognizes this by providing ratios for multiple monitor locations, ranging from 3.4 to 8.1. However, the Plan then averages the ratios together, which would seem to guarantee that the final ratio does not reflect any actual trade or impacts at any particular location. A scheme in which the ratio varied by general geographic zone of source and of offset would better address the effect of actual trades. Alternatively, the use of the maximum of the available ratios would have provided a conservative analysis. The Plan's approach examined only design values and only at monitor locations, employing the same general procedure used for the attainment demonstration, *i.e.,* the application of RRFs to monitored concentrations. It is not clear why this approach is appropriate for deriving interpollutant trading ratios for NSR. Trades will affect all concentrations, not just the 98th percentile and not just their three-year average as used in design value calculations. They will also affect all locations, not just those with monitors. The procedure used does not employ information about concentrations away from monitors that are available from the modeling; these concentrations show the outcome of a trade at unmonitored locations, but are not reflected in the procedure.

A more general concern with the Plan procedure is that it does not provide an overall rationale for the methodology grounded in the statutory purpose of NSR offsets. The CAA requires that emissions from new or modified major stationary sources be sufficiently offset ''so as to represent . . . reasonable further progress'' toward attainment of the NAAQS (CAA 173(a)(1)(A)), and the EPA's implementing regulations require that emission offsets provide a ''net air quality benefit in the affected area'' (40 CFR part 51, Appendix S, sec. IV. A.). The Plan does not explain how this requirement is satisfied when interpollutant trading is used. As mentioned above, the justification for an interpollutant ratio requires a technical demonstration that the new source emission increase and the offset are equivalent in their ambient effect. However, the precise sense in which changes in precursor emissions must be ''equivalent'' has not been defined; equivalency could be defined in terms of the maximum concentration from the model, the average over time and space of modeled concentrations above the NAAQS, or some other metric. The criteria for assessing equivalency should be provided with a rationale grounded in the underlying goals of NSR offsetting.

Given these inadequacies in the technical demonstration and related documentation for the $PM_{2.5}$ NSR interpollutant trading ratios provided in Appendix H of the 2012 $PM_{2.5}$ Plan, we are proposing to disapprove these interpollutant trading ratios for NSR purposes.

*K. Motor Vehicle Emission Budgets*

1. Requirements for Motor Vehicle Emissions Budgets

CAA section 176(c) requires Federal actions in nonattainment and maintenance areas to conform to the SIP's goals of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of the standards. Conformity to the SIP's goals means that such

[75] Memorandum, dated July 21, 2011, Gina McCarthy, Assistant Administrator, to Regional Air Division Directors, Regions 1–10, Subject: Revised Policy to Address Reconsideration of Interpollutant Trading Provisions for Fine Particles ($PM_{2.5}$) (''IPT memo'').

[76] If 1 tpd of pollutant A is to be offset by R tpd of pollutant B, and the sensitivity of $PM_{2.5}$ to emissions in μg/m³ per tpd are respectively $S_A$ and $S_B$, then the pollutant and its offset have an equal ambient $PM_{2.5}$ effect in μg/m³ when $S_A*1 = S_B*R$ so $R = S_A/S_B$.

[77] For example, $NO_X$:$PM_{2.5}$ ratio = $PM_{2.5}$ sensitivity/$NO_X$ sensitivity = 0.34/0.08 = 4.25 (Table 7, CARB Staff Report App. B., p.65).

actions will not: (1) Cause or contribute to violations of a NAAQS, (2) worsen the severity of an existing violation, or (3) delay timely attainment of any NAAQS or any interim milestone.

Actions involving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the EPA's transportation conformity rule, codified at 40 CFR part 93, subpart A. Under this rule, metropolitan planning organizations (MPOs) in nonattainment and maintenance areas coordinate with state and local air quality and transportation agencies, EPA, FHWA, and FTA to demonstrate that an area's regional transportation plans (RTP) and transportation improvement programs (TIP) conform to the applicable SIP. This demonstration is typically done by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the motor vehicle emissions budgets (budgets) contained in all control strategy SIPs. An attainment, maintenance, or RFP SIP should include budgets for the attainment year, each required RFP year, or the last year of the maintenance plan, as appropriate. Budgets are generally established for specific years and specific pollutants or precursors and must reflect all of the motor vehicle control measures contained in the attainment and RFP demonstrations (40 CFR 93.118(e)(4)(v)).

$PM_{2.5}$ plans should identify budgets for direct $PM_{2.5}$ and all $PM_{2.5}$ precursors whose on-road emissions are determined to significantly contribute to $PM_{2.5}$ levels in the area for each RFP milestone year and the attainment year, if the plan demonstrates attainment. All direct $PM_{2.5}$ SIP budgets should include direct $PM_{2.5}$ motor vehicle emissions from tailpipe, brake wear, and tire wear. A state must also consider whether re-entrained paved and unpaved road dust or highway and transit construction dust are significant contributors and should be included in the direct $PM_{2.5}$ budget. (40 CFR 93.102(b) and § 93.122(f) and the conformity rule preamble at 69 FR 40004, 40031–40036 (July 1, 2004)).

Transportation conformity trading mechanisms are allowed under 40 CFR 93.124 where a SIP establishes appropriate mechanisms for such trades. The basis for the trading mechanism is the SIP attainment modeling which established the relative contribution of each $PM_{2.5}$ precursor pollutant.

In general, only budgets in approved SIPs can be used for transportation conformity purposes; however, section 93.118(e) of the transportation conformity rule allows budgets in a submitted SIP to apply for conformity purposes before the SIP is approved under certain circumstances. First, there must not be any other approved SIP budgets that have been established for the same time frame, pollutant, and CAA requirement. Second, the EPA must find that the submitted SIP budgets are adequate for transportation conformity purposes. To be found adequate, the submittal must meet the conformity adequacy requirements of 40 CFR 93.118(e)(4). The criteria for determining adequacy of submitted motor vehicle emissions budgets are provided at 40 CFR § 93.118(e)(4) and (5). The transportation conformity rule, however, does allow submitted motor vehicle emissions budgets that have been found adequate to replace approved budgets if the EPA has limited the duration of its approval to last only until it finds replacement budgets adequate (40 CFR § 93.118(e)(1)).

2. Motor Vehicle Emissions Budgets in the 2012 $PM_{2.5}$ Plan

The 2012 $PM_{2.5}$ Plan includes budgets for direct $PM_{2.5}$ and $NO_X$ for the RFP years of 2014 and 2017 and the projected attainment year of 2019. (2012 $PM_{2.5}$ Plan, Appendix C, section C.11). The SJV has eight separate county-based MPOs; therefore, separate budgets are provided for each MPO as well as a total for the nonattainment area as a whole. The budgets reflect winter daily average emissions and are calculated using EMFAC2011, the currently approved emission model for California (78 FR 14533 (March 6, 2013)).[78] Winter annual day emissions are used in the Plan and the budgets because SJV's exceedances of the 24-hour $PM_{2.5}$ standard occur almost exclusively during the winter months (2012 $PM_{2.5}$ Plan, p. 3–4 and Appendix G, p. 7).

The direct $PM_{2.5}$ budgets include tailpipe, brake wear, and tire wear emissions but exclude paved road, unpaved road, and road construction dust based on the District's conclusion that these source categories are insignificant contributors to $PM_{2.5}$ levels in the Valley (Appendix C, section C.11.2.). The Plan states it does not include budgets for $SO_2$ because on-road mobile exhaust estimates of $SO_x$ are less than 1 ton per day Valley-wide in 2014 and 2017, which equates to less than 10 percent of the total $SO_x$ emissions inventory for those years (*id.*). Additionally, the Plan states that it does not include budgets for VOC because VOC emissions do not contribute significantly to the formation of secondary $PM_{2.5}$ in the SJV (*id.*). The Plan does not specifically address ammonia emissions for MVEB purposes but shows that ammonia emissions from on-road mobile sources contribute just over 1 percent of the total ammonia inventory in 2014 and 2017 (*see* Plan at Appendix B, Table B–5).

The truck activity estimates in EMFAC2011 used to develop the budgets in the 2012 $PM_{2.5}$ Plan are consistent with those used by CARB in its 2010 revisions to the In-Use Truck and Bus Rule. Since the 2010 updates, new economic data (*e.g.,* statewide diesel fuel usage, truck sales) has become available which suggests that truck emissions will be lower in future years in the San Joaquin Valley than currently estimated in EMFAC2011. In order to account for this reduction in emissions from trucks in the budgets, results from EMFAC2011 are scaled by year-specific factors (SJV $PM_{2.5}$ Plan, Appendix C, section C.11.3 and Table C–1). The MPOs will also use these scaling factors in their conformity determinations.[79] Reductions from certain State and local control measures are not included in the on-road emission inventories generated from EMFAC2011 and must be subtracted from EMFAC2011 inventories used as the basis for the motor vehicle emissions budgets and the attainment demonstration.

On October 7, 2014, we received a letter from CARB stating that it intends to revise the previously-submitted 2014 and 2017 budgets to remove reductions resulting from implementation of the Carl Moyer and Proposition IB incentive grant programs but intends to make no other revisions to the budgets. The letter provided the proposed revised budgets. (Table 6 below). These changes make the budgets consistent with the attainment demonstration. The letter also stated that CARB would be taking the revised budgets to its Board in November 2014 for approval and an additional letter from CARB requested in the interim that the EPA consider these budgets under the Agency's

[78] After EMFAC2011 was released in 2011, new information on statewide diesel fuel usage and economic forecasts became available to the State. For the 2012 $PM_{2.5}$ Plan, CARB adjusted EMFAC2011 emissions estimates for heavy-duty trucks to reflect this new information (p. B–26). The EPA allowed the use of these adjustment factors in transportation conformity determinations in the SJV. See footnote 14 of this notice.

[79] On January 14, 2014, we approved the use of these scaling factors by the SJV MPOs in the regional emissions analyses in their transportation conformity determinations. *See* letter dated January 14, 2014, Matthew Lakin, Chief, Air Planning Office, EPA-Region 9 to John Taylor, Branch Chief, Transportation Planning Branch, CARB; Subject: Use of San Joaquin Valley Heavy Duty Diesel Vehicle Recession Adjustment Methodology.

parallel processing procedures for SIP submittals.[80] [81]

TABLE 6—2006 $PM_{2.5}$ STANDARD MVEB FOR THE SAN JOAQUIN VALLEY

[Winter daily average in tons]

| County | 2014 | | 2017 | |
|---|---|---|---|---|
| | $PM_{2.5}$ | $NO_X$ | $PM_{2.5}$ | $NO_X$ |
| Fresno | 1.0 | 31.6 | 0.9 | 25.2 |
| Kern (SJV) | 1.2 | 43.2 | 1.0 | 34.4 |
| Kings | 0.2 | 8.8 | 0.2 | 7.2 |
| Madera | 0.3 | 8.7 | 0.2 | 7.0 |
| Merced | 0.5 | 17.2 | 0.4 | 13.7 |
| San Joaquin | 0.7 | 20.0 | 0.6 | 15.9 |
| Stanislaus | 0.5 | 15.1 | 0.5 | 12.0 |
| Tulare | 0.5 | 14.3 | 0.4 | 10.7 |
| Total * | 4.9 | 159.0 | 4.2 | 126.0 |

Source: Letter, Richard Corey, Executive Officer, CARB, to Jared Blumenfeld, Regional Administrator, Region 9, dated October 7, 2014, Attachment, Table C–4.

* Totals reflect disaggregated emissions and may not add exactly as shown here due to rounding. Attachment, Letter, Richard Corey, Executive Officer, CARB, to Jared Blumenfeld, Regional Administrator, Region 9, dated October 7, 2014, with Attachment, revised Table C–4, ''Transportation Conformity Budgets'' to 2012 $PM_{2.5}$ Plan.

The 2012 $PM_{2.5}$ Plan also includes a proposed trading mechanism for transportation conformity analyses that would allow future decreases in $NO_X$ emissions from on-road mobile sources to offset any on-road increases in $PM_{2.5}$, using a $NO_X$:$PM_{2.5}$ ratio of 8:1. (Appendix C, section C.11.3 and Table C–2).

3. Evaluation and Proposed Actions

We have evaluated the revised budgets against our adequacy criteria in 40 CFR 93.118(e)(4) as part of our review of the budgets' approvability (*see* section II.I (Table I–3) in the TSD for this proposal) and expect to have completed the adequacy review of these budgets before or concurrent with our final action on the 2012 $PM_{2.5}$ Plan.[82] We posted the budgets on EPA's adequacy review Web page at *http://www.epa.gov/otaq/stateresources/transconf/currsips.htm* from October 23, 2014 to November 24, 2014 and did not receive any comments on them.

Based on the information about re-entrained road dust in the Plan and in accordance with 40 CFR 93.102(b)(3), we propose to concur with the District's finding that re-entrained road dust emissions from paved roads, unpaved roads, and road construction are not significant contributors to the $PM_{2.5}$ nonattainment problem in the Valley and that these emissions therefore do not need to be addressed in the MVEBs. Additionally, based on the information about VOC, $SO_2$, and ammonia emissions in the Plan and in accordance with 40 CFR 93.102(b)(2)(v), we propose to find that transportation-related emissions of VOC, $SO_2$, and ammonia emissions are not significant contributors to the $PM_{2.5}$ nonattainment problem in the SJV area and, accordingly, that MVEBs for these pollutants are not necessary.

For the reasons discussed in section IV.G., above, we are proposing to approve the State's demonstration that it is impracticable to attain the 2006 $PM_{2.5}$ standard in the San Joaquin Valley by the applicable Moderate area attainment date of December 31, 2015 and proposing to reclassify the area as Serious. Because the 2012 $PM_{2.5}$ Plan does not demonstrate attainment, we do not address in this proposal any budgets for the attainment year of 2015 or 2019.

For reasons discussed in section IV.H. above, we are proposing to approve the RFP demonstration for 2014 and 2017 in the 2012 $PM_{2.5}$ Plan. The budgets, as given in Table 6 above, are consistent with the demonstration, are clearly identified and precisely quantified, and meet all other applicable statutory and regulatory requirements including meeting the adequacy criteria in 93.118(e)(4). For these reasons, the EPA proposes to approve the budgets listed in Table 6 above. We provide a more detailed discussion in Section II.H of the TSD, which can be found in the docket for today's action.

CARB has requested that we limit the duration our approval of the budgets only until the effective date of the EPA's adequacy finding for any subsequently submitted budgets. (Letter, James N. Goldstene, Executive Officer, California Air Resources Board, to Jared Blumenfeld, Regional Administrator, EPA Region 9, March 4, 2013). The transportation conformity rule allows us to limit the approval of budgets. (40 CFR 93.118(e)(1)). However, we can consider a state's request to limit an approval of its MVEB only if the request includes the following elements:

- An acknowledgement and explanation as to why the budgets under consideration have become outdated or deficient;
- A commitment to update the budgets as part of a comprehensive SIP update; and
- A request that the EPA limit the duration of its approval to the time when new budgets have been found to be adequate for transportation conformity purposes.

(67 FR 69141 (November 15, 2002) (limiting our prior approval of MVEB in certain California SIPs)).

Because CARB's request does not include all of these elements, we cannot address it at this time. Once CARB has adequately addressed them, we intend to review the information and take appropriate action. If we propose to limit the duration of our approval of the MVEB in the 2012 $PM_{2.5}$ Plan, we will provide the public an opportunity to

[80] Letter from Richard Corey, Executive Officer, CARB, to Jared Blumenfeld, Regional Administrator, Region 9, dated October 7, 2014.

[81] Letter from Richard Corey, Executive Officer, CARB, to Jared Blumenfeld, Regional Administrator, Region 9, dated November 6, 2014, requesting parallel processing of the motor vehicle emissions budgets in the 2012 $PM_{2.5}$ Plan.

[82] Under the Transportation Conformity regulations, the EPA may review the adequacy of submitted motor vehicle emission budgets simultaneously with the EPA's approval or disapproval of the submitted implementation plan. 40 CFR 93.118(f)(2).

comment. The duration of the approval of the budgets, however, would not be limited until we complete such a rulemaking.

We have previously approved motor vehicle emissions budgets for the 1997 annual and 24-hour $PM_{2.5}$ standards (76 FR 69896, 69923 (November 9, 2011)). These budgets will continue to apply for the 2006 24-hour standard until we finalize our approval of the budgets in the 2012 $PM_{2.5}$ Plan or find these budgets adequate. The budgets approved in 2011, however, will continue to apply in the SJV for determining transportation conformity for the 1997 $PM_{2.5}$ annual and 24-hour standards.

As noted above, the State included a trading mechanism to be used in transportation conformity analyses that would use the proposed budgets in the 2012 Plan [83] as allowed for under 40 CFR 93.124. This trading mechanism would allow future decreases in $NO_X$ emissions from on-road mobile sources to offset any on-road increases in $PM_{2.5}$, using a $NO_X$:$PM_{2.5}$ ratio of 8:1. To ensure that the trading mechanism does not impact the ability to meet the $NO_X$ budget, the Plan provides that the $NO_X$ emission reductions available to supplement the $PM_{2.5}$ budget would only be those remaining after the $NO_X$ budget has been met. The Plan also provides that each agency responsible for demonstrating transportation conformity shall clearly document the calculations used in the trading, along with any additional reductions of $NO_X$ or $PM_{2.5}$ emissions in the conformity analysis.

The EPA has reviewed the air quality modeling used to develop the 8:1 $NO_X$:$PM_{2.5}$ ratio and, while we are not proposing to take any action on it, we find that it is a reasonable method to use to develop ratios for transportation conformity purposes. We note that the ratio the State is proposing to use for transportation conformity purposes is derived from air quality modeling that evaluated the effect of reductions in local Kern County $NO_X$ and $PM_{2.5}$ levels on ambient concentrations at the California Avenue-Bakersfield site (2012 $PM_{2.5}$ Plan, Appendix G, p. 68). The air quality modeling that the State performed to evaluate the effectiveness of regional (nonattainment wide) $NO_X$ and $PM_{2.5}$ reductions on ambient concentrations showed $NO_X$:$PM_{2.5}$ ratios that range from a high of 4.7 at the Stockton monitor to a low of 2.8 at the Corcoran monitor. *See* 2012 $PM_{2.5}$ Plan, Appendix G, p. 65. Because the 8:1 trading ratio is more stringent than any determined by the regional modeling, we are proposing to approve its use to trade excess $NO_X$ reductions for $PM_{2.5}$ increases. We are not, however, proposing to approve its use to trade excess $PM_{2.5}$ reductions for $NO_X$ increases, as this would result in under-control of $NO_X$.

We believe that the 2012 $PM_{2.5}$ Plan includes an approvable 8:1 $NO_X$:$PM_{2.5}$ ratio trading mechanism for determining transportation conformity for the 2006 $PM_{2.5}$ standard. We therefore propose to approve the trading mechanism as described on p. C–32 in Appendix C of the 2012 $PM_{2.5}$ Plan as enforceable components of the transportation conformity program in the SJV for the 2006 $PM_{2.5}$ standard with the condition that trades are limited to substituting excess reductions in $NO_X$ for increases in $PM_{2.5}$.

## V. Reclassification as Serious Nonattainment and Serious Area SIP Requirements

### *A. Reclassification as Serious and Applicable Attainment Date*

Section 188 of the Act outlines the process for classification of $PM_{2.5}$ nonattainment areas and establishes the applicable attainment dates. Under the plain meaning of the terms of section 188(b)(1) of the Act, the EPA has general authority to reclassify at any time before the applicable attainment date any area that the EPA determines cannot practicably attain the standard by such date. Accordingly, section 188(b)(1) of the Act is a general expression of delegated rulemaking authority. In addition, subparagraphs (A) and (B) of section 188(b)(1) mandate that the EPA reclassify ''appropriate'' $PM_{10}$ nonattainment areas at specified time frames (*i.e.,* by December 31, 1991 for the initial $PM_{10}$ nonattainment areas, and within 18 months after the SIP submittal due date for subsequent nonattainment areas). These subparagraphs do not restrict the EPA's general authority but simply specify that, at a minimum, it must be exercised at certain times.[84]

We have reviewed the impracticability demonstration in the Plan and Supplement and believe the State has adequately demonstrated that the San Joaquin Valley nonattainment area cannot practicably attain the 2006 $PM_{2.5}$ standard by the applicable attainment date of December 31, 2015 (see section IV.G, above). We have also reviewed recent $PM_{2.5}$ monitoring data for the San Joaquin Valley available in the EPA's Air Quality System (AQS) database. These data show that 24-hour $PM_{2.5}$ levels in the SJV continue to be well above 35 $\mu/m^3$, the level of the 2006 $PM_{2.5}$ standard, and the recent trends in the Valley's 24-hour $PM_{2.5}$ levels are not consistent with a projection of attainment by the end of 2015 (*see* Table 7 below and Figure III–1 and Table III–1 in the TSD).

TABLE 7—24-HOUR $PM_{2.5}$ NAAQS DESIGN VALUES [1] IN $\mu g/m^3$ FOR MONITORS IN THE SJV

| Site | AQS ID | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|
| Bakersfield: | | | | | | | | | | |
| Planz | 60290016 | 54 | 60 | 68 | 70 | 70 | 65 | 55 | 47 | 60 |
| CA Ave | 60290014 | 58 | 62 | 66 | 66 | 68 | 62 | 62 | 58 | 65 |
| Golden State Hwy | 60290010 | 60 | 64 | 69 | 64 | 66 | 64 | n/a | n/a | n/a |
| Corcoran | 60310004 | 55 | 58 | 61 | 52 | 53 | 49 | 46 | 43 | 49 |
| Hanford | 60311004 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 54 | 60 |
| Visalia | 61072002 | 55 | 56 | 58 | 57 | 59 | 51 | 47 | 47 | 56 |
| Fresno: | | | | | | | | | | |
| Pacific | 60195025 | 57 | 59 | 61 | 52 | 50 | 43 | 48 | 53 | 63 |
| Garland | 60190011 | 60 | 58 | 63 | 58 | 60 | 54 | 58 | 59 [2] | 62 [2] |
| Clovis | 60195001 | 55 | 56 | 58 | 54 | 53 | 47 | 54 | 54 | 58 |
| Tranquility | 60192009 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 31 | 30 |

[83] The budgets and the trading program approved in 2011 will continue to apply in the SJV for determining transportation conformity for the 1997 $PM_{2.5}$ annual standard.

[84] For a general discussion of EPA's interpretation of the reclassification provisions in section 188(b)(1) of the Act, see the General Preamble, 57 FR 13498 at 13537–38 (April 16, 1992).

TABLE 7—24-HOUR $PM_{2.5}$ NAAQS DESIGN VALUES [1] IN μg/m³ FOR MONITORS IN THE SJV—Continued

| Site | AQS ID | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|
| Madera | 60392010 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 51 | 52 |
| Merced: | | | | | | | | | | |
| M Street | 60472510 | 45 | 45 | 48 | 50 | 51 | 45 | 39 | 40 | 49 |
| Coffee | 60470003 | n/a | n/a | n/a | n/a | n/a | n/a | 43 | 41 | 42 |
| Turlock | 60990006 | n/a | n/a | n/a | n/a | n/a | 55 | 51 | 49 | 53 |
| Modesto | 60990005 | 49 | 51 | 55 | 54 | 55 | 49 | 50 | 44 | 51 |
| Manteca | 60772010 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 38 | 37 |
| Stockton | 60771002 | 40 | 41 | 45 | 51 | 50 | 44 | 38 | 36 | 45 |

Source: U.S. EPA, 2013 Design Value Reports, PM2.5 Detailed Information Updated 8/24/14, available at *http://www.epa.gov/airtrends/values.html* (''PM25_DesignValues_20112013_FINAL_08_28_14''). The term ''n/a'' means monitoring data is not available or does not meet minimum data completeness requirements (40 CFR part 50, appendix N).

[1] The 24-hour design value for each monitor is based on the 3-year average of annual 98th percentile 24-hour $PM_{2.5}$ concentrations. See 40 CFR part 50 appendix N. For example, the 24-hour design value for 2013 is the average of the 98th percentile $PM_{2.5}$ concentrations for 2011, 2012, and 2013. The 2006 24-hour $PM_{2.5}$ NAAQS is attained when the design value is 35 μg/m³ or less.

[2] The Garland site was approved for replaced operation of the First Street site (AQS ID: 60190008) beginning with data collected in calendar year 2012. The design value reported represents a combined site record with the existing Garland site and old First Street site which ceased operation in early 2012.

In accordance with section 188(b)(1) of the Act, the EPA is proposing to reclassify the SJV area from Moderate to Serious nonattainment for the 2006 24-hour $PM_{2.5}$ standard of 35 μg/m³, based on the EPA's determination that the SJV area cannot practicably attain this standard by the applicable attainment date of December 31, 2015.

Under section 188(c)(2) of the Act, the attainment date for a Serious area ''shall be as expeditiously as practicable but no later than the end of the tenth calendar year beginning after the area's designation as nonattainment. . . .'' The SJV area was designated nonattainment for the 2006 $PM_{2.5}$ standard effective December 14, 2009.[85] Therefore, upon final reclassification of the SJV area as a Serious nonattainment area, the latest permissible attainment date under section 188(c)(2) of the Act, for purposes of the 2006 $PM_{2.5}$ standard in this area, will be December 31, 2019.

Under section 188(e) of the Act, a state may apply to EPA for a single extension of the Serious area attainment date by up to 5 years, which EPA may grant if the state satisfies certain conditions. Before EPA may extend the attainment date for a Serious area under section 188(e), the state must: (1) Apply for an extension of the attainment date beyond the statutory attainment date; (2) demonstrate that attainment by the statutory attainment date is impracticable; (3) have complied with all requirements and commitments pertaining to the area in the implementation plan; (4) 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; and (5) submit a demonstration of attainment by the most expeditious alternative date practicable.[86]

### *B. Clean Air Act Requirements for Serious $PM_{2.5}$ Nonattainment Area Plans*

Upon reclassification as a Serious nonattainment area for the 2006 $PM_{2.5}$ NAAQS, California will be required to submit additional SIP revisions to satisfy the statutory requirements that apply to Serious $PM_{2.5}$ nonattainment areas, including the requirements of subpart 4 of part D, title I of the Act.

The Serious area SIP elements that California will be required to submit are as follows:

1. Provisions to assure that the best available control measures (BACM), including best available control technology (BACT) for stationary sources, for the control of direct $PM_{2.5}$ and $PM_{2.5}$ precursors shall be implemented no later than 4 years after the area is reclassified (CAA section 189(b)(1)(B));

2. a demonstration (including air quality modeling) that the plan provides for attainment as expeditiously as practicable but no later than December 31, 2019, or where the state is seeking an extension of the attainment date under section 188(e), a demonstration that attainment by December 31, 2019 is impracticable and that the plan provides for attainment by the most expeditious alternative date practicable and no later than December 31, 2024 (CAA sections 188(c)(2) and 189(b)(1)(A));

3. plan provisions that require reasonable further progress (RFP) (CAA 172(c)(2));

4. quantitative milestones which are to be achieved every 3 years until the area is redesignated attainment and which demonstrate RFP toward attainment by the applicable date (CAA section 189(c));

5. provisions to assure that control requirements applicable to major stationary sources of $PM_{2.5}$ also apply to major stationary sources of $PM_{2.5}$ precursors, except where the state demonstrates to the EPA's satisfaction that such sources do not contribute significantly to $PM_{2.5}$ levels that exceed the standard in the area (CAA section 189(e));

6. a comprehensive, accurate, current inventory of actual emissions from all sources of $PM_{2.5}$ and $PM_{2.5}$ precursors in the area (CAA section 172(c)(3));

7. contingency measures to be implemented if the area fails to meet RFP or to attain by the applicable attainment date (CAA section 172(c)(9)); and

8. A revision to the nonattainment new source review (NSR) program to lower the applicable ''major stationary source'' [87] thresholds from 100 tons per year (tpy) to 70 tpy (CAA section 189(b)(3)).

[85] *See* 74 FR 58688 (November 13, 2009).

[86] For a discussion of EPA's interpretation of the requirements of section 188(e), see ''State Implementation Plans for Serious $PM_{10}$ Nonattainment Areas, and Attainment Date Waivers for $PM_{10}$ Nonattainment Areas Generally; Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990,'' 59 FR 41998 (August 16, 1994) (hereafter ''Addendum'') at 42002; 65 FR 19964 (April 13, 2000) (proposed action on $PM_{10}$ Plan for Maricopa County, Arizona); 66 FR 50252 (October 2, 2001) (proposed action on $PM_{10}$ Plan for Maricopa County, Arizona); 67 FR 48718 (July 25, 2002) (final action on $PM_{10}$ Plan for Maricopa County, Arizona); and *Vigil* v. *EPA,* 366 F.3d 1025, amended at 381 F.3d 826 (9th Cir. 2004) (remanding EPA action on $PM_{10}$ Plan for Maricopa County, Arizona but generally upholding EPA's interpretation of CAA section 188(e)).

[87] For any Serious area, the terms ''major source'' and ''major stationary source'' include any stationary source that emits or has the potential to emit at least 70 tons per year of $PM_{10}$ (CAA section 189(b)(3)).

The EPA is currently developing a proposed rulemaking to provide guidance to states on the attainment planning requirements in subparts 1 and 4 of part D, title I of the Act that apply to areas designated nonattainment for $PM_{2.5}$. In the interim, EPA encourages the State to review the General Preamble and Addendum for guidance on how to implement these statutory requirements in the SJV $PM_{2.5}$ nonattainment area.[88]

*C. Statutory Deadline for Submittal of the Serious Area Plan*

Section 189(b)(2) of the Act states, in relevant part, that the state must submit the required BACM provisions ''no later than 18 months after reclassification of the area as a Serious Area'' and must submit the required attainment demonstration ''no later than 4 years after reclassification of the area to Serious.'' Thus, if a final reclassification of the area to Serious becomes effective in early 2015, the Act provides the state with up to 18 months after this date (*i.e.,* until late 2016) to submit a BACM demonstration and up to 4 years after this date (*i.e.,* until early 2019) to submit a Serious area attainment demonstration. Given the December 31, 2019 Serious area attainment date for the 2006 $PM_{2.5}$ standard in this area under CAA section 188(c)(2), EPA expects the State to adopt and submit a Serious area attainment demonstration for the 2006 $PM_{2.5}$ standard well before the statutory SIP submittal deadline in section 189(b)(2).

The Act does not specify a deadline for the State's submittal of nonattainment NSR program revisions to lower the ''major stationary source'' threshold from 100 tons per year (tpy) to 70 tpy (CAA section 189(b)(3)) following reclassification of a Moderate $PM_{2.5}$ nonattainment area as Serious nonattainment under subpart 4. Pursuant to EPA's gap-filling authority in CAA section 301(a) and to effectuate the statutory control requirements in section 189 of the Act, the EPA proposes to require the State to submit these nonattainment NSR SIP revisions no later than 12 months from the effective date of final reclassification of the SJV area as Serious nonattainment for the 2006 $PM_{2.5}$ standard. We believe this timeframe will give the State sufficient time to make these relatively straightforward revisions to its nonattainment NSR SIP while assuring that new or modified major sources locating in the SJV area will be subject to the lower statutory major source thresholds expeditiously. We are requesting comment on this proposed 12-month timeframe for submission of the nonattainment NSR SIP revisions. We note that nonattainment NSR SIP revisions that satisfy the requirement in CAA section 189(b)(3) for purposes of the 1997 $PM_{2.5}$ standards may also satisfy this requirement for the 2006 $PM_{2.5}$ standard.

**VI. Reclassification of Indian Country**

Eight Indian tribes are located within the boundaries of the San Joaquin Valley $PM_{2.5}$ nonattainment area. These tribes are listed in Table 8 below.

TABLE 8—INDIAN TRIBES LOCATED IN SAN JOAQUIN VALLEY $PM_{2.5}$ NONATTAINMENT AREA

| |
|---|
| Big Sandy Rancheria of Mono Indians (including the Big Sandy Rancheria). |
| Cold Springs Rancheria of Mono Indians (including the Cold Springs Rancheria). |
| North Fork Rancheria of Mono Indians (including the North Fork Rancheria). |
| Picayune Rancheria of Chukchansi Indians (including the Picayune Rancheria). |
| Santa Rosa Rancheria Tachi Yokut Tribe (including the Santa Rosa Rancheria). |
| Table Mountain Rancheria (including the Table Mountain Rancheria). |
| Tule River Indian Tribe (including the Tule River Reservation). |
| Tejon Indian Tribe. |

We have considered the relevance of our proposal to reclassify the SJV nonattainment area as Serious for the 2006 $PM_{2.5}$ standard to each tribe located within the SJV area. We believe that the same facts and circumstances that support the proposal for the non-Indian country lands also support the proposal for Indian country[89] located within the SJV nonattainment area. The EPA is therefore proposing to exercise our authority under CAA section 188(b)(1) to reclassify areas of Indian country geographically located in the SJV nonattainment area. Section 188(b)(1) broadly authorizes the EPA to reclassify a nonattainment area—including any Indian country located within such an area—that EPA determines cannot practicably attain the relevant standard by the applicable attainment date.

Elevated $PM_{2.5}$ levels are a pervasive pollution problem throughout the SJV area. Directly-emitted $PM_{2.5}$ and its precursor pollutants ($NO_X$, $SO_2$, VOC, and ammonia) are emitted throughout a nonattainment area and can be transported throughout that nonattainment area. Therefore, boundaries for nonattainment areas are drawn to encompass both areas with direct sources of the pollution problem as well as nearby areas in the same airshed. Initial classifications of nonattainment areas are coterminous with, that is, they match exactly, their boundaries. The EPA believes this approach best ensures public health protection from the adverse effects of $PM_{2.5}$ pollution. Therefore, it is generally counterproductive from an air quality and planning perspective to have a disparate classification for a land area located within the boundaries of a larger nonattainment area, such as the areas of Indian country contained within the SJV $PM_{2.5}$ nonattainment area. Moreover, violations of the 2006 $PM_{2.5}$ standard, which are measured and modeled throughout the nonattainment area, as well as shared meteorological conditions, would dictate the same conclusion. Furthermore, emissions increases in portions of a $PM_{2.5}$ nonattainment area that are left classified as Moderate could counteract the effects of efforts to attain the standard within the overall area because less stringent requirements would apply in those Moderate portions relative to those that would apply in the portions of the area reclassified to Serious.

Uniformity of classification throughout a nonattainment area is thus a guiding principle and premise when an area is being reclassified. Equally, if the EPA believes it is likely that a given nonattainment area will not attain the $PM_{2.5}$ standard by the applicable attainment date, then it may be an additional reason why it is appropriate to maintain a uniform classification within the area and thus to reclassify the Indian country together with the balance of the nonattainment area. In this particular case, we are proposing to determine, based on the State's demonstration and current ambient air quality trends, that the SJV nonattainment area cannot practicably attain the 2006 $PM_{2.5}$ standards by the applicable Moderate area attainment date of December 31, 2015.

In light of the considerations outlined above that support retention of a uniformly-classified $PM_{2.5}$ nonattainment area, and our finding that is impracticable for the area to attain by

[88] *See generally* the General Preamble, 57 FR 13498 (April 16, 1992) and Addendum, 59 FR 41998 (August 16, 1994).

[89] ''Indian country'' as defined at 18 U.S.C. 1151 refers to: ''(a) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.''

the applicable attainment date, we propose to reclassify the areas of Indian country within the San Joaquin Valley nonattainment area to Serious for the 2006 $PM_{2.5}$ standard.

The effect of reclassification would be to lower the applicable ''major source'' threshold for purposes of the nonattainment new source review program and the Title V operating permit program from its current level of 100 tpy to 70 tpy (CAA sections 189(b)(3) and 501(2)(B)) thus subjecting more new or modified stationary sources to these requirements. The reclassification may also lower the *de minimis* threshold under the CAA's General Conformity requirements (40 CFR part 93, subpart B) from 100 tpy to 70 tpy. Under the General Conformity requirements, Federal agencies bear the responsibility of determining conformity of actions in nonattainment and maintenance areas that require Federal permits, approvals, or funding. Such permits, approvals or funding by Federal agencies for projects in these areas of Indian country may be more difficult to obtain because of the lower *de minimis* thresholds.

Given the potential implications of the reclassification, the EPA has contacted tribal officials to invite government-to-government consultation on this rulemaking effort.[90] The EPA specifically solicits additional comment on this proposed rule from tribal officials. We note that although eligible tribes may opt to seek EPA approval of relevant tribal programs under the CAA, none of the affected tribes will be required to submit an implementation plan to address this reclassification.

## VII. Summary of Proposed Actions and Request for Public Comment

Under CAA section 110(k)(3), the EPA is proposing to approve the following elements of the 2012 $PM_{2.5}$ Plan and Supplement submitted by California to address the CAA's Moderate area planning requirements for the 2006 $PM_{2.5}$ NAAQS in the San Joaquin Valley nonattainment area:

1. The 2007 base year emissions inventories as meeting the requirements of CAA section 172(c)(3);

2. the reasonably available control measures/reasonably available control technology demonstration as meeting the requirements of CAA sections 172(c)(1) and 189(a)(1)(C);

3. the reasonable further progress demonstration as meeting the requirements of CAA section 172(c)(2);

4. the demonstration that attainment by the Moderate area attainment date of December 31, 2015 is impracticable as meeting the requirements of CAA section 189(a)(1)(B)(ii); and

5. SJVUAPCD's commitments to adopt and implement specific rules and measures in accordance with the schedule provided in Chapter 5 of the 2012 $PM_{2.5}$ Plan to achieve the emissions reductions shown therein, and to submit these rules and measures to ARB within 30 days of adoption for transmittal to EPA as a revision to the SIP, as stated on p. 4 of SJVUAPCD Governing Board Resolution 2012–12–19.

In addition, the EPA is proposing to approve the 2014 and 2017 motor vehicle emissions budgets as shown in Table 6 above because they are derived from an approvable RFP demonstration and meet the requirements of CAA section 176(c) and 40 CFR part 93, subpart A, provided the State completes its public review process and adopts and submits these budgets in final form prior to our final action on the Plan and Supplement. The EPA is also proposing to approve, in accordance with 40 CFR 93.124, the trading mechanism as described on p. C–32 in Appendix C of the 2012 $PM_{2.5}$ Plan as an enforceable component of the transportation conformity program for the SJV for the 2006 $PM_{2.5}$ standard, with the condition that trades are limited to substituting excess reductions in $NO_X$ for increases in $PM_{2.5}$.

The EPA is proposing to disapprove the $PM_{2.5}$ interpollutant trading ratios provided in Appendix H of the 2012 $PM_{2.5}$ Plan for NNSR permitting purposes. Under section 179(a) of the CAA, final disapproval of a SIP submittal that addresses a requirement of part D, title I of the Act or is required in response to a finding of substantial inadequacy as described in CAA section 110(k)(5) (SIP Call) starts a sanctions clock. The NNSR interpollutant trading ratios provided in the 2012 $PM_{2.5}$ Plan were not submitted to meet either of these requirements. Therefore, if we take final action to disapprove this component of the Plan, no sanctions will be triggered. Disapproval of a SIP element also triggers the requirement under CAA section 110(c) for EPA to promulgate a FIP no later than 2 years from the date of the disapproval unless the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such FIP. Disapproval of these NNSR interpollutant trading ratios, however, would not create any deficiency in the plan and therefore would not trigger the obligation on EPA to promulgate a FIP under section 110(c).

Finally, pursuant to CAA section 188(b)(1), the EPA is proposing to reclassify the San Joaquin Valley $PM_{2.5}$ nonattainment area, including the Indian country within it, as Serious nonattainment for the 2006 $PM_{2.5}$ standard based on the Agency's determination that the SJV area cannot practicably attain the 2006 $PM_{2.5}$ standard by the Moderate area attainment date of December 31, 2015. Upon final reclassification as a Serious nonattainment area, California will be required to submit, within 18 months after the effective date of reclassification, provisions to assure that BACM shall be implemented no later than 4 years after the date of reclassification and to submit, within 4 years after the effective date of reclassification, a Serious area plan that satisfies the requirements of part D of title I of the Act, including a demonstration that the plan provides for attainment of the 2006 $PM_{2.5}$ standard as expeditiously as practicable but no later than December 31, 2019, or by the most expeditious alternative date practicable and no later than December 31, 2024, in accordance with the requirements of CAA sections 189(b) and 188(e).

In addition, because the EPA is proposing to similarly reclassify areas of Indian country within the SJV $PM_{2.5}$ nonattainment area as Serious nonattainment for the 2006 $PM_{2.5}$ standard, consistent with our proposed reclassification of the surrounding non-Indian country lands, EPA has invited consultation with interested tribes concerning this issue. We note that although eligible tribes may seek the EPA's approval of relevant tribal programs under the CAA, none of the affected tribes will be required to submit an implementation plan to address this reclassification.

We will accept comments from the public on these proposals for the next 45 days. The deadline and instructions for submission of comments are provided in the **DATES** and **ADDRESSES** sections at the beginning of this preamble.

## VIII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

[90] We sent letters to seven tribal officials regarding government-to-government consultation on September 30, 2014. EPA inadvertently did not send a letter to the Tejon Indian Tribe, therefore, we sent a letter to the chairperson of the Tejon Indian Tribe inviting government to government consultation on our proposed reclassification of the SJV $PM_{2.5}$ nonattainment area on December 18, 2014. All eight letters can be found in the docket for today's action.

*A. Executive Order 12866: Regulatory Planning and Review, and Executive Order 13563: Improving Regulation and Regulatory Review*

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

*B. Paperwork Reduction Act (PRA)*

This action does not impose an information collection burden under the PRA because it does not contain any information collection activities.

*C. Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This proposed action would approve State law as meeting Federal requirements and would not impose additional requirements beyond those imposed by State law. Additionally, the proposed rule would reclassify the SJV nonattainment area as Serious nonattainment for the 2006 $PM_{2.5}$ NAAQS, and would not itself regulate small entities.

*D. Unfunded Mandates Reform Act (UMRA)*

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, and does not significantly or uniquely affect small governments. This proposed action would approve State law as meeting Federal requirements and would not impose additional requirements beyond those imposed by State law. Additionally, the proposed action would reclassify the SJV nonattainment area as Serious nonattainment for the 2006 $PM_{2.5}$ NAAQS, and would not itself impose any federal intergovernmental mandate. The proposed action would not require any tribes to submit implementation plans.

*E. Executive Order 13132: Federalism*

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

*F. Executive Order 13175: Coordination With Indian Tribal Governments*

Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' ''Policies that have Tribal implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes.''

Eight Indian tribes are located within the boundaries of the SJV nonattainment area for the 2006 $PM_{2.5}$ NAAQS: The Big Sandy Rancheria of Mono Indians of California, the Cold Springs Rancheria of Mono Indians of California, the North Fork Rancheria of Mono Indians of California, the Picayune Rancheria of Chukchansi Indians of California, the Santa Rosa Rancheria of the Tachi Yokut Tribe, the Table Mountain Rancheria of California, the Tejon Indian Tribe, and the Tule River Indian Tribe of the Tule River Reservation.

EPA's proposed approvals of the SIP elements submitted by California to address the 2006 $PM_{2.5}$ standard in the SJV would not have tribal implications because the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed SIP approvals do not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The EPA has concluded that the proposed reclassification might have tribal implications for the purposes of Executive Order 13175, but would not impose substantial direct costs upon the tribes, nor would it preempt Tribal law. We note that none of the tribes located in the SJV nonattainment area has requested eligibility to administer programs under the CAA. The proposed reclassification would affect the EPA's implementation of the new source review program because of the lower ''major source'' threshold triggered by reclassification (70 tons per year for direct $PM_{2.5}$ and precursors to $PM_{2.5}$). The proposed reclassification may also affect new or modified stationary sources proposed in these areas that require Federal permits, approvals, or funding. Such projects are subject to the requirements of EPA's General Conformity rule, and Federal permits, approvals, or funding for the projects may be more difficult to obtain because of the lower *de minimis* thresholds triggered by reclassification.

Given the potential implications, the EPA contacted tribal officials during the process of developing this proposed rule to provide an opportunity to have meaningful and timely input into its development. On September 30, 2014, we sent letters to leaders of the seven tribes with areas of Indian country in the SJV nonattainment area inviting government-to-government consultation on the rulemaking effort. We requested that the tribal leaders, or their designated consultation representatives, provide input or request government-to-government consultation by October 27, 2014. We did not receive a response from any of the seven tribes. As noted above, the EPA inadvertently did not send a letter to the Tejon Indian Tribe at the time we sent letters to the other seven tribes. We contacted the chairperson of the Tejon Indian Tribe on December 18, 2014 to offer them an opportunity for government-to-government consultation. We intend to continue communicating with all eight tribes located within the boundaries of the SJV nonattainment area for the 2006 $PM_{2.5}$ NAAQS as we move forward in developing a final rule. EPA specifically solicits additional comment on this proposed rule from tribal officials.

*G. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks*

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order. This proposed action is not subject to Executive Order 13045 because it would only approve a state air quality plan implementing a federal standard and reclassify the SJV nonattainment area as Serious nonattainment for the 2006 $PM_{2.5}$ NAAQS, triggering Serious area planning requirements under the CAA. This proposed action does not establish an environmental standard intended to mitigate health or safety risks.

*H. Executive Order 13211, Actions That Significantly Affect Energy Supply, Distribution, or Use*

This proposed action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

*I. National Technology Transfer and Advancement Act*

This rulemaking does not involve technical standards.

*J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Population*

EPA has determined that this action will not have potential disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. This proposed action would only approve a state air quality plan implementing a federal standard and reclassify the SJV nonattainment area as Serious nonattainment for the 2006 $PM_{2.5}$ NAAQS, triggering additional Serious area planning requirements under the CAA.

**List of Subjects**

*40 CFR Part 52*

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Oxides of nitrogen, Particulate matter, Reporting and recordkeeping requirements, Volatile organic compounds.

*40 CFR Part 81*

Air pollution control, Incorporation by reference.

**Authority:** 42 U.S.C. 7401 *et seq.*

Dated: December 29, 2014.

**Jared Blumenfeld,**

*Regional Administrator, EPA Region 9.*

[FR Doc. 2015–00270 Filed 1–12–15; 8:45 am]

**BILLING CODE 6560–50–P**