6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2018-0562; FRL-10001-51-Region 9]

Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; Determination of Attainment by the Attainment Date; Imperial County, California

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve two state implementation plan (SIP) revisions submitted by the State of California to meet Clean Air Act (CAA or "Act") requirements for the 2008 ozone national ambient air quality standards (NAAQS) in the Imperial County nonattainment area, as follows. The EPA proposes to approve the "Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard" ("Imperial Ozone Plan" or "Plan") and the portions of the "2018 Updates to the California State Implementation Plan" ("2018 SIP Update") that address the requirement for a reasonable further progress (RFP) demonstration for the Imperial County for the 2008 ozone standards. In addition, the EPA is proposing to determine, based on a separate demonstration submitted by the State of California, that the Imperial County nonattainment area would have attained the 2008 ozone NAAQS by the "Moderate" area attainment date of July 20, 2018, but for emissions emanating from outside of the United States, and therefore would no longer be subject to the CAA requirements pertaining to reclassification upon failure to attain. If we finalize these proposed actions, the Imperial County nonattainment area would remain classified as a Moderate nonattainment area for the 2008 ozone NAAQS.

DATES: Any comments must arrive by **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2018-0562, at *https://www.regulations.gov*. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets*.

FOR FURTHER INFORMATION CONTACT: Rory Mays, Air Planning Office (AIR-2), EPA Region IX, (415) 972-3227, mays.rory@epa.gov.

SUPPLEMENTAL INFORMATION:

Throughout this document, "we," "us," and "our" refer to the EPA. The EPA proposes to approve the portions of the Imperial Ozone Plan that address the requirements for emissions statements, a base year emissions inventory, a reasonably available control measures (RACM) demonstration, a demonstration of attainment of the standards by the applicable attainment date

but for emissions emanating from outside of the United States, and motor vehicle emission budgets. The EPA proposes that the requirements for contingency measures for failing to meet RFP would be moot if we finalize our proposed determination that Imperial County has met its 2017 RFP targets. The EPA also proposes that contingency measures for failing to attain the standards would not be required if we finalize our proposed approval of the State's demonstrations of attainment by the attainment date but for international emissions. The EPA proposes to approve the portions of the 2018 SIP Update that address the requirement for a reasonable further progress (RFP) demonstration for the Imperial County for the 2008 ozone standards.

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I. Background

A. Ozone Standards, Area Designations, and SIPs

Ground-level ozone pollution is formed from the reaction of volatile organic compounds (VOC) and oxides of nitrogen (NO_X) in the presence of sunlight. These two pollutants, referred to as ozone precursors, are emitted by many types of sources, including on- and non-road motor vehicles and engines, power plants and industrial facilities, and smaller area sources such as lawn and garden equipment and paints.

Scientific evidence indicates that adverse public health effects occur following exposure to ozone, particularly in children and adults with lung disease. Breathing air containing ozone can reduce lung function and inflame airways, which can increase respiratory symptoms and aggravate asthma or other lung diseases.[1]

Under CAA section 109, the EPA promulgates NAAQS (or "standards") for pervasive air pollutants, such as ozone. The EPA has previously promulgated NAAQS for ozone in 1979 and 1997.[2] In 2008, the EPA revised and further strengthened the ozone NAAQS by setting the acceptable level of ozone in the ambient air at 0.075 parts per million (ppm) averaged over an 8-hour period.[3] Although the EPA tightened the 8-hour ozone standards in 2015 (to 0.070 ppm), this action relates to the requirements for the 2008 ozone standards.[4]

Following promulgation of a new or revised NAAQS, the EPA is required under CAA section 107(d) to designate areas throughout the country as attaining or not attaining the NAAQS. Under the CAA, after the EPA designates areas as nonattainment for a NAAQS, states with nonattainment areas are required to submit SIP revisions that provide for, among other things, attainment of the NAAQS within certain prescribed periods that vary depending on the

[1] "Fact Sheet – 2008 Final Revisions to the National Ambient Air Quality Standards for Ozone," March 2008.
[2] The ozone NAAQS promulgated in 1979 was 0.12 parts per million (ppm) averaged over a 1-hour period. 44 FR 8202 (February 8, 1979). The ozone NAAQS promulgated in 1997 was 0.08 ppm averaged over an 8-hour period. 62 FR 38856 (July 18, 1997).
[3] 73 FR 16436 (March 27, 2008).
[4] Information on the 2015 ozone standards is available at 80 FR 65292 (October 26, 2015).

severity of nonattainment. Areas classified as Moderate must attain the NAAQS within 6 years of the effective date of the nonattainment designation.[5]

The EPA designated Imperial County, California, as nonattainment for the 2008 ozone standards on May 21, 2012, and classified the area as "Marginal."[6] Within 6 months of the applicable attainment date, the EPA is required under CAA section 181(b)(2) to determine whether an area has attained the NAAQS based on the design value of the area as of the area's attainment date. Based on 2012-2014 ozone monitoring data, on May 4, 2016, the EPA determined that Imperial County had not attained the 2008 ozone NAAQS by the July 20, 2015 Marginal area attainment date and reclassified the area as Moderate with an attainment date of no later than July 20, 2018.[7]

In California, the California Air Resources Board (CARB) is the state agency responsible for the adoption and submission to the EPA of the California SIP and revisions to the SIP and has broad authority to establish emission standards and other requirements for mobile sources. Local and regional air pollution control districts in California are responsible for the regulation of stationary sources and are generally responsible for the development of regional air quality plans. The Imperial County Air Pollution Control District (Imperial County APCD or "District") develops and adopts air quality management plans to address CAA planning requirements applicable to Imperial County. Such plans are then submitted to CARB for adoption and submitted to the EPA as revisions to the California SIP.

B. Imperial County Ozone Nonattainment Area

[5] CAA section 181(a)(1), 40 CFR 51.1102 and 40 CFR 51.1103(a).
[6] 77 FR 30088 (May 21, 2012).
[7] 81 FR 26697 (May 4, 2016).

The Imperial County nonattainment area for the 2008 ozone standards includes the whole county as well as Indian country within the geographic boundary of Imperial County pertaining to the Quechan Tribe of the Fort Yuma Indian Reservation and the Torres Martinez Desert Cahuilla Indians.[8] The County encompasses over 4,000 square miles in southeastern California.[9] It is home to approximately 184,000 people, and its principal industries are farming and retail trade. It is bordered by Riverside County to the north, Arizona to the east, Mexico to the south, and San Diego County to the west. The Imperial Valley runs north-south through the central part of the County and includes the County's three most populated cities: Brawley, El Centro, and Calexico. Most of the County's population and industries exist within this relatively narrow land area that extends about one-fourth the width of the County. The rest of Imperial County is primarily desert, with little or no human population.

Ambient 8-hour ozone concentrations in Imperial County are above the level of the 2008 8-hour ozone NAAQS of 0.075 ppm. The maximum design value for the area, based on certified monitoring data at the Calexico monitor (Air Quality System (AQS) ID: 06-025-0005), was 0.077 ppm for the 2015-2017 period.[10]

II. Imperial Ozone Plan and 2018 SIP Update

A. Overarching Requirements

States must implement the 2008 ozone standards under Title 1, part D of the CAA, which includes the ozone specific requirements for attainment plans in sections 181-185 of subpart 2 ("Additional Provisions for Ozone Nonattainment Areas") and, to the extent not amended by subpart 2, the general requirements for attainment plans in section 172 ("Nonattainment plan

[8] 40 CFR 81.305.
[9] Imperial Ozone Plan, 2-1 to 2-3.
[10] AQS Design Value Report (AMP480) for Imperial County for 2008 ozone NAAQS for 2015-2017, August 10, 2018. We also note that the maximum design value for the area in 2016-2018 is 0.077 ppm at Calexico. AQS Design Value Report (AMP480) for Imperial County for 2008 ozone NAAQS for 2016-2018, August 8, 2019.

provisions in general"). To assist states in developing plans to address ozone nonattainment problems, in 2015, the EPA issued a SIP Requirements Rule for the 2008 ozone standards ("2008 Ozone SRR") that addresses statutory obligations pertaining to implementation of the NAAQS, including requirements for emissions inventories and attainment and RFP demonstrations.[11] The 2008 Ozone SRR is codified at 40 CFR part 51 subpart AA.

Following a challenge to the EPA's 2008 Ozone SRR, on February 16, 2018, the U.S. Court of Appeals for the D.C. Circuit ("D.C. Circuit") published its decision in *South Coast Air Quality Management District v. EPA* (*"South Coast II"*).[12] The primary aspect of the *South Coast II* decision that affects the 2017 Imperial Ozone Plan is the vacatur of a provision in the 2008 Ozone SRR that allowed states to demonstrate RFP using baseline years other than 2011. The 2017 Imperial Ozone Plan's RFP demonstration used 2008 as the baseline year; following *South Coast II*, CARB submitted the 2018 SIP Update, which includes an RFP demonstration for Imperial County that uses 2011 as the RFP baseline year.

Pursuant to CAA Title I, Part D, the District's nonattainment new source review (NSR) program must regulate new major sources and major modifications of NO_X and VOC as ozone precursors. The EPA recently approved Imperial County APCD rules addressing various permit rule requirements, including Rules 204 ("Applications"), 206 ("Processing of Applications"), and 207 ("New and Modified Stationary Source Review") into the California SIP.[13] Therefore, the EPA is not proposing any further action on nonattainment NSR requirements for Imperial County in this notice.

[11] 80 FR 12264 (March 6, 2015).
[12] *South Coast Air Quality Management District v. EPA*, 882 F.3d 1138 (D.C. Cir. 2018). The term "*South Coast II*" is used in reference to the 2018 court decision to distinguish it from a decision published in 2006 with the same lead plaintiff. The earlier decision involved a challenge to the EPA's Phase 1 implementation rule for the 1997 ozone standards. *South Coast Air Quality Management Dist. v. EPA*, 472 F.3d 882 (D.C. Cir. 2006).
[13] 82 FR 27125 (June 14, 2017), for Rules 204 and 206; 84 FR 44545 (August 26, 2019), for Rule 207.

We discuss the CAA and regulatory requirements for 2008 ozone plans that are relevant to this proposal in more detail in the following sections of this proposed rule.

B. Requirements for International Border Areas

For a nonattainment area affected by emissions emanating from outside the U.S., CAA section 179B(a) provides that, notwithstanding any other provision of law, the EPA Administrator shall approve a SIP revision required under Title I of the CAA for such an area if (i) the SIP revision meets all of the applicable requirements other than the requirement to demonstrate attainment and maintenance of the relevant NAAQS by the applicable attainment date; and (ii) the state establishes to the Administrator's satisfaction that the SIP revision would be adequate to attain and maintain the relevant NAAQS by the applicable attainment date, but for emissions emanating from outside of the U.S. Moreover, for any state that establishes to the Administrator's satisfaction that the state would have attained the ozone NAAQS by the applicable attainment date, but for emissions emanating from outside the U.S., CAA section 179B(b) provides that the area shall not be subject to section 181(b)(2), which obligates the Administrator to determine whether the area attained by its attainment date and if not, to reclassify such area to a higher classification.[14]

It is important to note that the EPA's approval of a state's CAA section 179B(a) demonstration that a nonattainment area would attain the standards but for emissions emanating from outside the U.S. does not affect the area's nonattainment designation – the area retains its nonattainment designation and remains subject to requirements applicable to nonattainment

[14] The actual text of CAA section 179B(b) refers to section 181(a)(2); however, the EPA has long understood this reference to be erroneous and that Congress intended to refer to section 181(b)(2). "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," 57 FR 13498, 13569, n. 41 (April 16, 1992) ("General Preamble").

areas, such as nonattainment new source review and conformity.[15] Similarly, where the EPA approves a state's CAA section 179B(b) demonstration that the nonattainment area would have attained the standards by the applicable attainment date but for emissions emanating from outside of the U.S., the area retains its nonattainment designation and is still subject to all applicable requirements, based on the area's classification.

The 2008 Ozone SRR does not include regulatory requirements specific to CAA section 179B. Instead, the preamble of the 2008 Ozone SRR recommends that states work with relevant EPA Regional Offices "on a case-by-case basis to determine the most appropriate information and analytical methods for each area's unique situation."[16]

In addition, both the EPA's 1992 General Preamble and 1994 General Preamble Addendum provide general guidance on CAA section 179B.[17] The General Preamble Addendum describes several types of information that may be relevant, such as analyzing monitoring data where a dense network exists, meteorological influences, particle composition, comparison of U.S. and international emissions inventories, and modeling that can be used to evaluate the impact of emissions emanating from outside the U.S. In the General Preamble Addendum, the EPA indicated that it is appropriate to consider this information "for individual nonattainment areas on a case-by-case basis in determining whether an area may qualify for treatment under section 179B."[18] While the focus of the EPA's discussion in the General Preamble Addendum is on particulate matter (e.g., evaluation of particle composition), the EPA is applying these general

[15] 78 FR 34178, 34205 (June 6, 2013).
[16] 2008 Ozone SRR, 12293. See also 78 FR 34178, 34204.
[17] General Preamble, 13569; and "State Implementation Plans for Serious PM10 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, 42000 (August 16, 1994) ("General Preamble Addendum").
[18] General Preamble Addendum, 42001.

principles for evaluation of international impacts on ambient ozone levels to the Imperial County nonattainment area.

C. Summary of the Imperial Ozone Plan and 2018 SIP Update

On November 14, 2017, CARB submitted the Imperial Ozone Plan as a revision to the Imperial County portion of the California SIP.[19] The Imperial Ozone Plan addresses the requirements for base year inventories for attainment planning, baseline emissions inventories for RFP plans, and periodic emission inventories at 3-year intervals. It also includes air quality modeling demonstrating that the area would attain the 2008 ozone standards by the July 20, 2018 Moderate area attainment date (based on a modeled attainment year of 2017), but for emissions emanating from Mexico (pursuant to section 179B(a)), demonstrations for implementation of reasonably available control technology (RACT) and RACM, a demonstration for RFP, motor vehicle emission budgets for 2017, and contingency measures for failure to make RFP. The Plan also includes a certification that an existing SIP-approved rule from the District meets the CAA's emission statement requirements for the 2008 ozone NAAQS.

On December 11, 2018, CARB submitted the 2018 SIP Update to the EPA as a revision to the California SIP for several ozone nonattainment areas.[20] In part, CARB developed the 2018 SIP Update in response to the court's decision in *South Coast II* vacating the 2008 Ozone SRR with respect to the use of an alternate baseline year for demonstrating RFP. For Imperial County, the 2018 SIP Update includes a revised RFP demonstration for the 2008 ozone NAAQS using 2011 as the baseline year, as well as an updated emissions inventory for 2017 that is also used for the revised RFP demonstration (to reflect actual emissions data for 2017 for certain sources,

[19] Letter dated November 14, 2017, from Richard Corey, Executive Officer, CARB, to Alexis Strauss, Acting Regional Administrator, EPA Region 9.
[20] Letter dated December 5, 2018, from Richard Corey, Executive Officer, CARB, to Michael Stoker, Regional Administrator, EPA Region 9.

and updated activity data for certain other sources that were not available when the Imperial Ozone Plan was adopted in 2017). The 2018 Update also addresses aspects of contingency measure and motor vehicle emission budget requirements.

Sections 110(a)(1) and (2) and 110(l) of the CAA require a state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submission 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 submission of the Imperial Ozone Plan. The District provided a public comment period and held a public hearing prior to the adoption of the SIP submission on September 12, 2017.[21] CARB provided the required public notice and opportunity for public comment prior to its October 26, 2017 public hearing and adoption of the SIP submission.[22] The submission includes proof of publication of notices for the respective public hearings. Therefore, we find that the Imperial Ozone Plan meets the procedural requirements for public notice and hearing in CAA sections 110(a) and 110(l) and 40 CFR 51.102.

Similarly, CARB satisfied applicable statutory and regulatory requirements for reasonable public notice and hearing prior to adoption and submission of the 2018 SIP Update. CARB provided the required public notice and opportunity for public comment prior to its

[21] Imperial County APCD, "Notice of Public Hearing for Adoption of the 2017 Imperial County State Implementation Plan for 8-Hour Ozone (Ozone SIP)," August 9, 2017; and Imperial County Air Pollution Control Board, Minute Order #20, September 12, 2017.
[22] CARB, "Notice of Public Meeting to Consider the Ozone State Implementation Plan for Imperial County," September 22, 2017; and CARB Board Resolution 17-18, "Ozone State Implementation Plan for Imperial County," October 26, 2017.

October 25, 2018 public hearing and adoption of the SIP submission.[23] The submission includes proof of publication of notices for the respective public hearings. Therefore, we find that the Imperial Ozone Plan meets the procedural requirements for public notice and hearing in CAA sections 110(a) and 110(l) and 40 CFR 51.102.

CAA section 110(k)(1)(B) requires the EPA to determine whether a SIP submission is complete within 60 days of receipt. This section of the CAA 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 submission. The EPA's SIP completeness criteria are found in 40 CFR part 51, Appendix V. The Imperial Ozone Plan submission, dated November 14, 2017, became complete by operation of law on May 14, 2018. The 2018 SIP Update, submitted December 11, 2018, was found complete as part of the EPA's completeness review for purposes of another ozone nonattainment area addressed in the 2018 SIP Update.[24]

D. Emissions Statement Certification

1. Statutory and Regulatory Requirements

Section 182(a)(3)(B)(i) of the Act requires states to submit a SIP revision requiring owners or operators of stationary sources of VOC or NO_X to provide the state with statements of actual emissions from such sources. Statements must be submitted at least every year and must contain a certification that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement. Section 182(a)(3)(B)(ii) allows states to waive the emissions statement requirement for any class or category of stationary sources that emits less than 25 tons per year of VOCs or NO_X if the state provides an inventory of

[23] CARB, "Notice of Public Meeting to Consider the 2018 Updates to the California State Implementation Plan," September 21, 2018; and CARB Board Resolution 18-50, "2018 Updates to the California State Implementation Plan," October 25, 2018.
[24] 84 FR 11198, 11199 (March 25, 2019).

emissions from such class or category of sources as part of the base year or periodic inventories required under CAA sections 182(a)(1) and 182(a)(3)(A) that is based on the use of emission factors established by the EPA or other methods acceptable to the EPA.

The preamble of the 2008 Ozone SRR states that if the EPA has previously approved an emissions statement rule for the 1997 ozone NAAQS or the 1-hour ozone NAAQS that covers all portions of the nonattainment area for the 2008 ozone NAAQS, then such rule should be sufficient for purposes of the emissions statement requirement for the 2008 ozone NAAQS.[25] The state should review the existing rule to ensure it is adequate and, if so, may rely on it to meet the emissions statement requirement for the 2008 ozone NAAQS. In cases when an existing emissions statement requirement is still adequate to meet this requirement for the 2008 ozone NAAQS, states can provide the rationale for that determination to the EPA in a written statement in the SIP submission explaining how it meets this requirement. States should identify the various requirements within the emissions statement requirement and indicate how each is met by the existing emissions statement program. In cases when an emissions statement requirement is modified for any reason, states must provide the revisions to the emissions statement as part of their SIP submission.

2. Summary of State's Submission

The Imperial Ozone Plan explains that Imperial County APCD adopted Rule 116 ("Emissions Statement and Certification") in 2010 to address the emissions statement requirements for the 1997 ozone NAAQS.[26] The District notes that Rule 116 applies to the nonattainment area for the 1997 ozone NAAQS, which covers the same area as the nonattainment area for the 2008 ozone NAAQS, and that EPA approved the rule into the

[25] 2008 Ozone SRR, 12291.
[26] Imperial Ozone Plan, 10-1.

California SIP in 2012 for purposes of meeting the 1997 ozone NAAQS planning requirements.[27] The Plan then includes a summary of the requirements of CAA section 182(a)(3)(B) and how the District reviewed Rule 116 against those requirements for the 2008 ozone NAAQS.

The District states that the explicit purpose of Rule 116 is to address the requirement for owners and operators of stationary sources of NO_X or VOC to provide a statement of actual emissions of such pollutants; that the rule requires such statements to be submitted annually with a certification by a responsible company official; and that the rule addresses the provision of CAA section 182(a)(3)(B)(ii) that allows states to waive the application of the emissions statement requirements for sources emitting less than 25 tons per year (tpy) or NO_X or VOC so long as the state provides emissions inventories for such classes or categories of sources. Based on this review, the District concludes that Rule 116 fulfills the emissions statement requirements for the 2008 ozone NAAQS.

3. EPA Review of State's Submission

The EPA evaluated Imperial County APCD Rule 116 and the Plan's assessment of Rule 116 for compliance with the specific requirements for emissions statements under CAA section 182(a)(3)(B)(i). We find that Rule 116 applies within the entire nonattainment area for the 2008 ozone NAAQS; applies to all permitted sources of VOC and NO_X; requires the submittal, on an annual basis, of the types of information necessary to estimate actual emissions from the subject stationary sources; and requires certification by the responsible officials representing the owners and operators of stationary sources. Therefore, we propose to find that Rule 116 meets the requirements of CAA section 182(a)(3)(B)(i).

[27] 77 FR 72968 (December 7, 2012).

We also note that, while Rule 116 provides authority to the District to waive the requirement for any class or category of stationary sources that emit less than 25 tons per year, such a waiver is allowed under CAA section 182(a)(3)(B)(ii) so long as the state includes estimates of such class or category of stationary sources in base year emissions inventories and periodic inventories submitted under CAA sections 182(a)(1) and 182(a)(3)(A) based on EPA emission factors or other methods acceptable to the EPA. We recognize that emissions inventories developed by CARB for Imperial County routinely include actual emissions estimates for all stationary sources or classes or categories of such sources, including those less than 25 tons per year, and that such inventories provide the basis for inventories submitted to meet the requirements of CAA sections 182(a)(1) and 182(a)(3)(A). By approval of emissions inventories as meeting the requirements of CAA sections 182(a)(1) and 182(a)(3)(A), the EPA is accepting the methods and factors used by CARB to develop those emissions estimates. For example, in 2014, the EPA approved the 2002 base year emissions inventory for Imperial county for the 1997 ozone NAAQS,[28] and in this notice we are proposing to approve the Imperial Ozone Plan's 2012 base year emissions inventory for the 2008 ozone NAAQS.

Thus, for the reasons stated herein, we propose to approve the Imperial Ozone Plan's certification that Rule 116 (adopted February 23, 2010) meets the emissions statement requirements under CAA section 182(a)(3)(B) for the 2008 ozone NAAQS.[29]

E. Emissions Inventories

1. Statutory and Regulatory Requirements

[28] 79 FR 63332 (October 23, 2014).

[29] For further background on our evaluation of Rule 116, see "Technical Support for the Imperial County Air Pollution Control District Rule 116, Emissions Statement and Certification," EPA Region IX, January 2012, included in the docket for today's action.

Sections 172(c)(3) and 182(a)(1) of the CAA require states to submit for each ozone nonattainment area a "base year inventory" that is a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in the area. In addition, the 2008 Ozone SRR requires that the inventory year selected be consistent with the baseline year for the RFP demonstration, which is the most recent calendar year for which a complete triennial inventory is required to be submitted to the EPA under the Air Emissions Reporting Requirements (AERR).[30]

The EPA has issued guidance on the development of emissions inventories for ozone and other pollutants.[31] Emissions inventories for ozone must include emissions of VOC and NO_X and represent emissions for a typical ozone season weekday.[32] States should include documentation explaining the approaches used to calculate emissions data. In estimating mobile source emissions, states should use the latest emissions models and planning assumptions available at the time it develops the SIP revision.[33]

The base year inventory required by sections 172(c)(3) and 182(a)(1) serves as the starting point for attainment demonstration air quality modeling, assessing RFP, and determining the need for additional SIP control measures. Future year emissions inventories (also referred to as baseline inventories) are necessary to show the projected effectiveness of SIP control measures and must reflect the most recent population, employment, travel and congestion

[30] 2008 Ozone SRR at 40 CFR 51.1115(a) and the Air Emissions Reporting Requirements at 40 CFR part 51, subpart A.
[31] "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," EPA-454/B-17-002, May 2017. At the time the emission inventory for the Imperial Ozone Plan was developed, the following EPA emissions inventory guidance applied: "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," EPA-454-R-05-001, August 2005.
[32] 40 CFR 51.1115(a) and (c), and 40 CFR 51.1100(bb) and (cc).
[33] 2008 Ozone SRR, 12290.

estimates for the area. Both base year and future year inventories are necessary for photochemical modeling to demonstrate attainment and RFP.

2. Summary of State's Submission

The Imperial Ozone Plan includes a base year inventory (using 2012 as the base year) and future year baseline inventories (2008, 2014, and 2017)[34] for NO_X and VOC.[35] Documentation for the emissions inventories appears in Chapter 4, which also contains summary inventories in Tables 4-6 through 4-9; Appendix A contains more detailed inventories.[36] The Plan explains that the inventories represent a joint effort by staff from both CARB and the District. The Plan also explains the reason for selecting 2012 as the base year as related an on-going data collection effort by the South Coast Air Quality Management District to study exposure to air toxics and a desire to maintain consistency for plans developed in the State.[37] The Plan states that the inventories reflect average summer day emissions because ozone levels in Imperial County are typically higher from May through October.[38]

The Imperial Ozone Plan presents VOC and NO_X emissions estimates in two general categories: stationary sources and mobile sources. Stationary sources are subdivided into point sources and areawide sources. The Plan first explains that point sources typically include

[34] The 2018 SIP Update contains a new baseline inventory, using 2011 as the baseline year, to demonstrate RFP. We discuss the baseline emission inventory in the 2018 SIP Update as part of our RFP evaluation in section II.H of this proposed rule.

[35] The Plan uses the term "reactive organic gases" (ROG) to refer to VOCs. Imperial Ozone Plan, 4-1. In general, ROG represent a slightly broader group of compounds than those in the EPA's list of VOCs and pertain to common chemical species (e.g., benzene, xylene, etc.) as VOCs. Therefore, this proposed rulemaking refers to this set of gases as VOCs.

[36] The 2012 base year inventory included in the Imperial Ozone Plan updates a previous submittal from CARB, the "8-Hour Ozone State Implementation Plan Emission Inventory Submittal" (the Multi-area Emission Inventory). The Multi-area Emission Inventory was submitted by CARB on July 17, 2014, and included inventories for 16 nonattainment areas, including Imperial County. The base year inventory submitted with the Imperial Ozone Plan in November 2017 revises and updates the base year emission inventory for Imperial County included in the Multi-area Emission Inventory submitted in July 2014. Because we understand the State intended the November 2017 submittal to replace the July 2014 submittal (at least with respect to Imperial County), we plan no further action on the inventory for Imperial County submitted by CARB in July 2014.

[37] Imperial Ozone Plan, 4-2.

[38] Id. at 4-3.

permitted facilities that have one or more identified and fixed pieces of equipment and emissions points. The Plan's 2012 base year inventory for these types of point sources uses actual emissions for 2012 as reported by regulated entities consistent with the AERR and may be based on testing, continuous emissions monitoring, or calculations.[39] In addition, the Plan explains that the term "point source" includes "stationary area sources," which are smaller sources such as internal combustion engines (e.g., agricultural diesel irrigation pumps) and gasoline dispensing facilities (gas stations) for which emissions are estimated as a group and included in the inventories as an aggregated total.[40] The Plan provides information regarding the methodologies used to estimate base year and forecasted emissions for the various categories of stationary area sources.[41] Areawide sources are small sources that produce emissions over a wide geographic area (e.g., consumer products, architectural coatings, asphalt paving/roofing, residential wood combustion, fires, and agricultural burning). Similar to the approach for stationary area sources, the Plan provides information for each of the various categories of areawide sources regarding the methods used to estimate emissions.[42]

The Plan divides mobile sources into "on-road sources" and "off-road sources."[43] On-road mobile sources include automobiles, light-, medium-, and heavy-duty trucks, and motorcycles. Off-road sources include aircraft, locomotives, cargo handling equipment, farm equipment, and recreational vehicles. Emissions from on-road sources were calculated using CARB's EMFAC2014 model[44] and travel activity data from Southern California Association of

[39] Id.
[40] Id. at 4-4
[41] Id. at 4-4 to 4-5.
[42] Id. at 4-6 to 4-8.
[43] In general, CARB uses the term "off-road" to refer to sources to which the EPA typically applies the term "non-road."
[44] EMFAC is short for EMission FACtor. The EPA announced the availability of the EMFAC2014 model for use in state implementation plan development and transportation conformity in California on December 14, 2015. 80 FR

Governments (SCAG) using the 2016 Regional Transportation Plan/Sustainable Communities Strategy.[45] Off-road emissions were developed using different category-specific models developed to support District regulations or the OFFROAD2007 model where specific models were not available.[46]

With respect to future year baseline inventories, the Plan explains the approaches used to forecast emissions for various categories of both stationary and mobile sources.[47] Forecasted emissions rely on assumptions regarding growth and reductions from adopted control measures, and information used to forecast emissions of stationary sources includes on data regarding economic activity, fuel usage, population and residential housing (i.e., growth and control profiles), whereas projections of mobile source emissions are accomplished through the use of models that predict activity and vehicle turnover rates and also reflect adopted regulatory measures.[48]

The Plan also explains how the emissions inventories reflect emissions reduction credits (ERCs) generated by facilities that voluntarily reduced emissions or ceased operation of equipment prior to the base year of 2012.[49] District Rule 207 ("New and Modified Stationary Source Review") allows voluntarily reduced emissions to be banked for future use as offsets to meet nonattainment permitting requirements.[50] As noted in the Plan, EPA regulations require

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77337. The EPA's approval of the EMFAC2014 emissions model for SIP and conformity purposes was effective on the date of publication of the notice in the *Federal Register*. On August 15, 2019, the EPA approved and announced the availability of EMFAC2017, the latest update to the EMFAC model for use by State and local governments to meet CAA requirements. See 84 FR 41717.

[45] Imperial Ozone Plan, 4-10. SCAG is the metropolitan planning organization for six counties in Southern California, including Imperial County. Imperial Ozone Plan, 4-1.

[46] Id. at 4-11.

[47] Id. at 4-8 to 4-10 and 4-12 to 4-13.

[48] Id. at 4-2.

[49] Id. at 4-16 to 4-17.

[50] The rule governing the use of such emission reduction credits for new of modified major sources of NO_X or VOC in Imperial County is District Rule 207. The EPA has approved Rule 207, as amended on September 11, 2018, including applicable major source thresholds and offset ratios, into the California SIP. 84 FR 44545.

inclusion of ERCs banked prior to the base year in the base year and forecasted emission inventories.[51]

The detailed inventories in Appendix A provide emissions of point sources (including stationary area sources) in five primary categories (Fuel Combustion, Waste Disposal, Cleaning and Surface Coatings, Petroleum Production and Marketing, and Industrial Processes) and various subcategories; emissions for areawide sources in two primary categories (Solvent Evaporation and Miscellaneous Processes) and various subcategories; and emissions for mobile sources in two categories (On-Road and Off-Road).

3. EPA Review of State's Submission

We have reviewed the 2012 base year inventory developed for the Imperial Ozone Plan and the inventory methodologies used by CARB and the District for consistency with CAA requirements and the EPA's guidance. First, as required by EPA regulation, we find that that the 2012 base year inventory includes estimates for NO_X and VOCs for a typical ozone season weekday, and that the Plan includes adequate information to determine how emissions were calculated. Second, we find that the 2012 base year inventory reflects appropriate emissions models and methodologies, and therefore represents a comprehensive, accurate, and current inventory of actual emissions for that year in Imperial County. Third, we find that the selection of 2012 for the base year emissions inventory is appropriate because it is consistent with the 2011 baseline year inventory in the 2018 SIP Update used to demonstrate RFP for Imperial County, as both inventories are derived from a common set of models and methods.

Table 1 presents a summary of ozone precursor summer emissions by source category for the 2012 base year. Based on the 2012 inventory of anthropogenic emissions, which used tons

[51] 40 CFR 51.165(a)(3)(ii)(C)(*1*)(*ii*).

per day (tpd), mobile sources account for 89 percent (%) of NO_x emissions and 49% of VOC emissions. The next largest categories include stationary sources (6% of NO_X emissions) and area sources (44% of VOC emissions).

Table 1 – Summary of Ozone Precursor Summer Emissions for the 2012 Base Year

	2012	
Source Category	NO_X (tpd)	VOC (tpd)
Stationary Sources	1.73	1.33
Area Sources	0.67	8.51
On-road Mobile Sources	10.01	4.25
Non-road Mobile Sources	9.43	5.10
Total for Imperial County	21.83	19.20

Source: Imperial Ozone Plan, App. A, Table A-2. Totals may not add up due to rounding.

With respect to future baseline projections, we reviewed the approaches used and find them acceptable and conclude that the future baseline emissions projections in the Imperial Ozone Plan reflect appropriate methods and assumptions. With respect to nonattainment NSR requirements for offsets,[52] we find that the District properly included emissions reductions generated before the base year (i.e., pre-base year emission reduction credits) in the forecasted year inventory and thus satisfied this requirement.[53]

Therefore, the EPA is proposing to approve the 2012 emissions inventory in the Imperial Ozone Plan as meeting the requirements for a base year inventory set forth in CAA sections 172(c)(3) and 182(a)(1) and 40 CFR 51.1115.

F. Reasonably Available Control Measures Demonstration

1. Statutory and Regulatory Requirements

Section 172(c)(1) of the CAA requires that each attainment plan provide for the implementation of all RACM as expeditiously as practicable, including such reductions in emissions from existing sources in the area as may be obtained through implementation of

[52] 40 CFR 51.165(a)(3)(ii)(C)(*1*)(*ii*).
[53] Imperial Ozone Plan, 4-16 to 4-17.

RACT.[54] EPA regulations governing implementation of the 2008 ozone NAAQS require that, for each nonattainment area required to submit an attainment demonstration, the state concurrently submit a SIP revision demonstrating that it has adopted all RACM necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements.[55] The 2008 Ozone SRR provided that the determination of whether a SIP contains all RACM requires an area-specific analysis establishing that there are no additional economically and technically feasible control measures (alone or cumulatively) that will provide for expeditious attainment or advance the attainment date by one year."[56]

The 2008 ozone NAAQS implementation regulations require that all control measures needed for attainment must be implemented no later than the beginning of the attainment year ozone season.[57] The attainment year ozone season is defined as the ozone season immediately preceding a nonattainment area's maximum attainment date.[58]

2. Summary of State's Submission

When the EPA acted to reclassify Imperial County (and certain other areas) from Marginal to Moderate, the EPA established a deadline of January 1, 2017, for the submission of a SIP revision to address the Moderate area requirements for the 2008 ozone NAAQS, including

[54] For ozone nonattainment areas classified as Moderate or above, CAA section 182(b)(2) also requires implementation of RACT for all major sources of VOC and for each VOC source category for which EPA has issued a Control Techniques Guideline (CTG). Section 182(f) of the Act requires that RACT under section 182(b)(2) also apply to major stationary sources of NO_X. In a separate action, the EPA has proposed to approve in part and conditionally approve in part the portions of the Imperial Ozone Plan (Chapter 7, "Reasonably Available Control Technology Assessment" and App. B, "Reasonably Available Control Technology Analysis for the 2017 Imperial County State Implementation Plan for the 2008 8-Hour Ozone Standard") that relate to the RACT requirements under CAA section 182(b)(2) and 40 CFR 51.1112. 84 FR 49202 (September 19, 2019).
[55] 40 CFR 51.1112(c).
[56] 2008 Ozone SRR, 12286. EPA has previously provided additional guidance interpreting the RACM requirement for ozone nonattainment areas. General Preamble, 13498; Memorandum from John Seitz, Director, OAQPS, to Regional Air Directors, "Guidance on the Reasonably Available Control Measure Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas," November 30, 1999; and Memorandum from John S. Seitz, Director, OAQPS, to Regional Air Directors, "Additional Submission on RACM From States with Severe One-Hour Ozone Nonattainment Area SIPs," December 14, 2000.
[57] 40 CFR 51.1108(d).
[58] 40 CFR 51.1100(h).

the RACM requirement of CAA section 172. Imperial County APCD and CARB undertook a process to identify and evaluate potential RACM in Imperial County. They present their assessment of RACM in Chapter 6 of the Imperial Ozone Plan, which is further explained and supported in Appendix C (area source RACM), Appendix D (key mobile source regulations and programs), and Appendix E (compilation of CARB control measures, 1985-2016) of the Plan. This assessment describes how the state and local control measures address the RACM requirements for purposes of demonstrating RFP (in Chapter 5 of the Plan) and in support of the demonstration that the reductions from such measures would be adequate to bring Imperial County into attainment of the 2008 ozone NAAQS but for emissions from Mexico (in Chapter 8 of the Plan).[59] CARB and the District conclude in their RACM evaluations that no additional measures are necessary in accordance with EPA regulations and RACM guidance.[60]

The District also describes strategic efforts to understand and address air quality and emissions sources at the U.S.-Mexico border and in Mexico (in Chapter 9 of the Plan).[61] The Plan does not relate these efforts to specific CAA requirements for Moderate ozone nonattainment areas, and, accordingly, we are not evaluating this portion of the Plan.

The following paragraphs of this proposed rule separately describe the Plan's RACM analyses as prepared by the District for certain source categories and by CARB for other source types.

a. District's RACM Analysis

[59] Imperial Ozone Plan, 6-1.
[60] Id. at 6-11.
[61] Id., Chapter 9.

Stationary sources emitted an estimated 8% of the NO_X and 8% of the VOC in Imperial County in 2017.[62] The largest portions of stationary source emissions are from fuel combustion (e.g., manufacturing and industrial, and electric utility sources) for NO_X and from cleaning and surface coatings, and petroleum marketing for VOC.

For stationary sources subject to RACT as major sources of NO_X or VOC and non-major point sources subject to CTGs under RACT, the District states that RACM can be achieved through the adoption of RACT and includes its RACT evaluation and summary.[63] The EPA has in a separate action proposed to approve in part and conditionally approve in part the portions of the Imperial Ozone Plan that relate to the RACT requirements under CAA section 182(b)(2) and 40 CFR 51.1112, and thus we do not re-summarize those portions herein.[64] The District's RACM analysis also describes its nonattainment NSR rule for stationary sources (Rule 207).[65]

CARB estimated that area sources would emit 3% of the NO_X and 46% of the VOC in Imperial County in 2017.[66] The largest portions of these emissions are from managed burning and disposal for NO_X and from farming operations, pesticides, consumer products, and managed burning and disposal for VOC. For these area sources, the District's RACM analysis indicates that the District evaluated its area source control measures against EPA's Menu of Control Measures for NO_X and VOC.[67] The District presents a summary of that evaluation in Appendix C of the Plan where, for most source categories, the District found either that the District has

[62] Imperial Ozone Plan, App. A ("Ozone Precursor Emission Inventories for Imperial County"), Table A-4.
[63] Id., at 6-2.
[64] 84 FR 49202.
[65] Id. We note that the Imperial Ozone Plan refers to versions of Rule 207 that were adopted on November 10, 1980 and October 10, 2006. Imperial County APCD most recently amended Rule 207 on September 11, 2018 and the EPA has approved such amended rule into the California SIP. 84 FR 44545.
[66] Imperial Ozone Plan, App. A, Table A-4.
[67] Imperial Ozone Plan, 6-2 to 6-3 and App. C. See also, EPA Menu of Control Measures for NAAQS Implementation, *https://www.epa.gov/air-quality-implementation-plans/menu-control-measures-naaqs-implementation*.

rules in place for such measures or that Imperial County has no sources within a source category. For the latter situation, the Plan includes negative declarations.[68]

Table 2 identifies the District's area source control measures (as listed in Appendix C of the Imperial Ozone Plan) that contribute toward attainment of the 2008 ozone NAAQS by 2017. The EPA has approved each of these measures into the California SIP.

Table 2 – Area Source Measures for RACM in Imperial County

Rule Number	Rule Title	Date Adopted / Amended	Citation for EPA Approval into the California SIP
400.2	Boilers, Process Heaters, and Steam Generators	2/23/2010	78 FR 896 (1/7/2013)
424	Architectural Coatings	2/23/2010	76 FR 39303 (7/6/2011)
426	Cutback Asphalt and Emulsified Paving Materials	9/14/1999	66 FR 20084 (4/19/2001)
427	Automotive Refinishing Operations	2/23/2010	76 FR 67369 (11/1/2011)
414	Storage of Reactive Organic Compound Liquids	5/18/2004	73 FR 70883 (11/24/2008)
n/a	CARB Consumer Products Program, various rules	Various dates	Various rulemakings

Note: This table is adapted from Table C-1 of the Imperial Ozone Plan. See also, Imperial Ozone Plan, section 8.3 ("Weight of Evidence Analysis"), which provides a weight of evidence analysis that describes how the overall emission reduction trends for NO_X and VOC support reduction in ambient ozone concentrations.

The Plan provides a discussion of the District's and CARB's Smoke Management Programs, under which the District and CARB may call no-burn days in Imperial County, and states that these programs are more protective of public health compared to the EPA's episodic burning control measure.[69] The District also states that it does not have a rule for municipal solid waste landfills, but instead issues permits that must comply with CARB and EPA waste management statutes and regulations.[70] Though not described in the RACM portion of the Plan, the District also refers to its Rule 217 ("Large Confined Animal Facilities") as a stationary source control rule in the Plan's inventory.[71]

[68] Id., App. C, Table C-1, pages 5 to 8.
[69] Imperial Ozone Plan, App. C, Table C-1, page 2.
[70] Id. at 4.
[71] Id., Table 4-4.

In addition to the source categories described above, the District states that it was not feasible to adopt and implement control measures for three source categories before the attainment year given the short time between the area's reclassification to Moderate, effective June 3, 2016, and the 2017 attainment year.[72] The District also states that it was determined that these measures were not necessary to demonstrate expeditious attainment or to meet RFP.[73]

The Plan also discusses regional and local transportation control measures (TCMs) that address the portion of the NO_X and VOC emissions sources under regional and local jurisdictions.[74] For regional measures, the District refers to the current quadrennial regional transportation plan applicable to Imperial County, the "2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS)," and the biennial "Federal Transportation Improvement Plan (FTIP)." The District states that the 2016 RTP/SCS addresses the long-term planning requirements for how transportation projects, plans, and programs will conform with applicable air quality plans, while the FTIP addresses the associated short-term planning implementation requirements. For local measures, the District refers to the Imperial County "CEQA Air Quality Handbook" that provides guidance to determine emissions from residential, commercial, and industrial projects and feasible measures to mitigate the effect of such emissions.

[72] Id., App. C, Table C-1, pages 1, 2, and 4. The District states that, in 2019, it will adopt new limits on NO_X emissions from (i) boilers, steam generators, and process heaters rated 0.075 to 5 MMBtu per hour (a new limit of 14 nanograms (ng) NO_X per joule of heat output or 20 ppm), and (ii) new and replacement residential water heaters rated less than 0.075 MMBtu per hour (a new limit of 10 ng NO_X per joule of heat output). The District intends to implement both new limits by January 1, 2020. Imperial Ozone Plan, App. C, 1-2. See also, sections 5.5.4 and 5.5.2, respectively, of CARB and Imperial County APCD's SIP revision for the 2012 $PM_{2.5}$ NAAQS, submitted July 18, 2018. "Imperial County 2018 Annual Particulate Matter Less Than 2.5 Microns in Diameter State Implementation Plan," Imperial County APCD, April 2018 ("Imperial $PM_{2.5}$ Plan").
[73] Imperial Ozone Plan, 6-3.
[74] Id. at 6-3 to 6-7.

The District states that to be considered RACM, TCMs must be technologically and economically feasible in the area, and able to be implemented by the attainment year. The District notes that CAA section 108(f)(1)(A) provides a list of TCMs that could potentially qualify as RACM, and that there are currently no on-going TCMs in Imperial County. The District concludes that no new TCMs are being proposed in the Plan due to the short time between the area's reclassification to Moderate, effective June 3, 2016, and the 2017 attainment year.

b. CARB's RACM Analysis

The Plan notes that CARB provided the RACM analysis for certain sources, including consumer products, pesticides, and mobile sources.[75]

CARB states that CARB's Consumer Products Program has established regulations that limit VOC emissions from 129 consumer product categories and that each applies in Imperial County.[76] These include product categories such as antiperspirants and deodorants and aerosol coatings. The Plan also refers to a voluntary Alternative Control Plan that provides compliance flexibilities to companies. The Plan also notes that the EPA's consumer products regulation was promulgated in 1998[77] and states that California's requirements for general consumer products and aerosol coatings are more stringent than those EPA standards.[78]

CARB states that California Department of Pesticide Regulation (DPR) is responsible for regulating the application of pesticides, and that DPR has adopted and implemented regulations

[75] Imperial Ozone Plan, 6-6.
[76] Imperial Ozone Plan, 6-10 and App. C, Table C-1, page 3.
[77] 63 FR 8819 (September 11, 1998).
[78] Imperial Ozone Plan, 6-10. Regarding the EPA's more recent 2008 rule on VOC emission standards for aerosol coatings, 73 FR 15604 (March 24, 2008), the District states that the rule was aimed primarily at manufacturers of such coatings, which are not present in Imperial County. Imperial Ozone Plan, App. C, Table C-1, page 3.

to limit VOC emissions from use of agricultural pesticides in certain areas of California.[79] In May 2019, CARB provided additional technical clarifications ("CARB's Technical Clarification Letter") with respect to the RACM conclusion for not regulating pesticides in the Imperial Ozone Plan.[80] While acknowledging the "relative significance" of VOC emissions from pesticides, CARB presented its position that implementation of pesticide regulations in the area would not contribute to RFP and is not necessary for expeditious attainment.

CARB provides three bases for this position. First, CARB argues that implementation would not have been feasible given the short timeframe between reclassification in June 2016 and the attainment year of 2017. Second, CARB relies on data in the Imperial Ozone Plan to estimate that a 1.0 tpd reduction in NO_X or VOC emissions would result in 0.2 parts per billion (ppb) reduction in ambient ozone concentration at the modeled high site (El Centro). Based on a conservative assumption of 100% reduction of the pesticide VOC emissions in 2017 of 2.21 tpd VOC, CARB estimates that the modeled 2015-2017 design value of 79 ppb would decrease by no more than 0.44 ppb and concludes that such reductions would not result in attainment of the 2008 ozone NAAQS by the 2017 attainment year. Third, CARB also states that annual emissions data demonstrate that Imperial County has achieved a level of VOC reductions in the pesticide / fertilizer category that is comparable to VOC reduction levels in five other areas (Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, and Ventura County) where pesticide regulations are in effect as a result of an earlier ozone SIP obligation.

[79] Imperial Ozone Plan, 6-10 and App. C, Table C-1, page 4.
[80] Letter dated May 20, 2019 from Michael Benjamin, Chief, Air Quality Planning and Science Division, CARB to Amy Zimpfer, Associate Director, Air Division, EPA Region 9, 3 and Attachment B.

For mobile sources, CARB discusses how California's mobile source measures for NO_X and VOC emissions meet RACM in Imperial County.[81] Given the need for substantial emissions reductions from mobile and area sources to meet the NAAQS in California nonattainment areas, the State of California has developed stringent control measures for on-road and non-road mobile sources and the fuels that power them. California has unique authority under CAA section 209 (subject to a waiver by the EPA) to adopt and implement new emissions standards for many categories of on-road vehicles and engines and new and in-use non-road vehicles and engines. The EPA has approved such mobile source regulations for which waiver authorizations have been issued as revisions to the California SIP.[82]

CARB's mobile source program extends beyond regulations that are subject to the waiver or authorization process set forth in CAA section 209 to include standards and other requirements to control emissions from in-use heavy-duty trucks and buses, gasoline and diesel fuel specifications, and many other types of mobile sources. Generally, these regulations have been submitted and approved as revisions to the California SIP.[83]

CARB identifies the key mobile source regulations and programs that provide emissions reductions in Imperial County.[84] These key measures include requirements for light-duty vehicles,[85] heavy-duty vehicles,[86] non-road sources,[87] and incentive programs for a variety of

[81] Imperial Ozone Plan, 6-6 and App. D.
[82] E.g., 81 FR 39424 (June 16, 2016); 82 FR 14447 (March 21, 2017); and 83 FR 23232 (May 18, 2018).
[83] E.g., EPA approval of standards and other requirements to control emissions from in-use heavy-duty diesel trucks, 77 FR 20308 (April 4, 2012), and revisions to the California on-road reformulated gasoline and diesel fuel regulations, 75 FR 26653 (May 12, 2010).
[84] Imperial Ozone Plan, App. D, 1, 2, 4, and 7.
[85] Id., App. D, 2. E.g., On-Board Diagnostics and Reformulated Gasoline.
[86] Id. at 4. E.g., Heavy-duty Engine Standards, Clean Diesel Fuel, and the Cleaner In-Use Heavy-Duty Trucks (Truck and Bus Regulation).
[87] Id. at 7. E.g., Off-road Engine Standards, (Federal) Locomotive Engine Standards, Clean Diesel Fuel, Cleaner In-Use Off-road Regulation, and the In-Use Large Spark-Ignition Fleet Regulation.

sources[88] that applied through the Imperial County attainment year of 2017. CARB also describes its Mobile Source Strategy, which was adopted in November 2016 and included a suite of actions to address federal air quality standards and other state air quality goals, and its State SIP Strategy, which was adopted by CARB on March 23, 2017 and submitted to the EPA as a revision to the California SIP on April 27, 2017.[89]

CARB concludes that, considering the comprehensiveness and stringency of its mobile source program, all RACM for mobile sources under CARB's jurisdiction are being implemented, and that no additional measures are being proposed in the Plan due to the short time between the area's reclassification to Moderate and the attainment year.[90]

3. EPA Review of State's Submission

The process followed by CARB and the District in the Imperial Ozone Plan to identify RACM is generally consistent with the EPA's regulations and guidance. The process included compiling a comprehensive list of potential control measures for sources of NO_X and VOC in Imperial County.[91] As part of this process, CARB and the District evaluated potential controls for relevant source categories and provided justifications for the rejection of certain identified measures.

The EPA has reviewed the Imperial Ozone Plan's determination that current stationary, area, and mobile source control measures represent RACM for NO_X and VOC. For the reasons

[88] Id. at 1, 2, and 4. E.g., Carl Moyer Program; Goods Movement Emission Reduction Program, funded by Prop. 1B; Lower-Emissions School Bus Program; Air Quality Improvement Program (AQIP), including the Hybrid and Zero-Emission Truck and Bus Voucher Program, and the Clean Vehicle Rebate Project; and the Truck Loan Assistance Program.
[89] "Revised Proposed 2016 State Strategy for the State Implementation Plan," CARB, March 7, 2017 ("State SIP Strategy"). We note that the State SIP Strategy only briefly discusses the Imperial County nonattainment area for the 2008 ozone NAAQS (State SIP Strategy, 21-22) and includes no specific emissions reduction commitments for Imperial County.
[90] Imperial Ozone Plan, 6-7 and 6-10.
[91] Id., App. C.

presented below, we propose that the State and District's rules provide for the implementation of RACM for sources of NO_X and VOC for the 2008 ozone NAAQS.

With respect to mobile sources, CARB has developed and implemented stringent control measures for on-road and non-road mobile sources, and its current program addresses the full range of mobile sources in Imperial County through regulatory programs for both new and in-use vehicles. With respect to transportation controls, we note that the SCAG has a program to fund cost-effective TCMs. Overall, we propose to determine that the programs developed and administered by CARB and SCAG provide for the implementation of RACM for NO_X and VOC in Imperial County.

For area-wide sources and stationary sources not subject to RACT, we reviewed Chapter 6 and Appendix C and found that the measures identified by the District, as reflected in Table 2 of this proposed action, meet RACM for each source category.[92] Regarding consumer products, the EPA has approved many CARB measures into the California SIP that limit VOC emissions from a wide array of products, including antiperspirants and deodorants, aerosol coating products, and other consumer products.[93]

For open burning, we reviewed the District's SIP-approved measures that address managed burning and disposal,[94] which account for 0.54 tpd of NO_X and 1.10 tpd of VOC in the

[92] We also note that while the EPA's Menu of Control Measures is periodically updated with examples of reasonable measures, it should not be relied on as the sole source of comparison for determining RACM for any given source category.

[93] CARB's consumer product measures are found in the California Code of Regulations, Title 17 ("Public Health"), Division 3 ("Air Resources"), Chapter 1 ("Air Resources Board"), Subchapter 8.5 ("Consumer Products"). The compilation of such measures that have been approved into the California SIP, including *Federal Register* citations, is available at: *https://www.epa.gov/sips-ca/epa-approved-regulations-california-sip*. EPA's most recent approval of amendments to California's consumer products regulations was in 2014. 79 FR 62346 (October 17, 2014).

[94] Imperial County Rule 421 ("Open Burning," adopted September 14, 1999), 66 FR 36170 (July 11, 2001); Rule 422 ("Open Burning of Wood Wastes," adopted November 19, 1985), 54 FR 5448 (February 3, 1989); Rule 701 ("Agricultural Burning," adopted August 13, 2002), 68 FR 4929 (January 31, 2003); and Rule 702 ("Range Improvement Burning," adopted September 14, 1999), 66 FR 36170 (July 11, 2001).

Plan's 2017 emissions inventory.[95] The District has SIP-approved rules for open burning in general, open burning of wood wastes, agricultural burning, and range improvement burning.

Regarding landfills, the District stated that it does not have a rule for municipal solid waste landfills and instead permits such facilities. We found that there are no major source landfills in Imperial County, which is consistent with the Plan's 2017 emissions inventory for this source category.[96] We note that methane, which comprises a large portion of landfill organic carbon emissions, is excluded from the EPA's definition of VOCs due to its negligible photochemical reactivity.[97]

In reviewing the Plan's 2017 emissions inventory, we also found that farming operations were projected to emit 2.53 tpd of VOC, which is 15% of the total 2017 VOC emissions inventory.[98] According to CARB's California Emissions Projection Analysis Model (CEPAM), such VOC emissions in Imperial County largely come from agricultural waste from livestock husbandry, particularly feedlot cattle.[99] Imperial County Rule 217 (adopted February 9, 2016) was developed to limit such VOC emissions by requiring the use of best management practices for activities relating to livestock waste, and it is included in the Imperial Ozone Plan's table of stationary source rules in the Plan's emissions inventory.[100] The EPA approved this rule into the California SIP in June 2017, including a determination that the rule represented RACT-level

[95] Imperial Ozone Plan, App. A, Table A-4.
[96] Id.
[97] 40 CFR 51.100(s)(1).
[98] Imperial Ozone Plan, App. A, Table A-4.
[99] CEPAM data accessed October 12, 2018 at *https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php* and included in the docket of this proposed rule. Of the 2.53 tpd estimated for the farming operations source category, 2.22 tpd are estimated to come from agricultural waste from feedlot cattle.
[100] Imperial Ozone Plan, Table 4-4.

controls.[101] A review of other areas shows that there is no change to the set of reasonable controls that may apply to such sources.

We also evaluated the Plan's determinations for three source categories (i.e., commercial and institutional natural gas water heaters; residential, commercial, and institutional low-NO_X water heaters and low-NO_X burner space heaters; and pesticides).

For commercial and institutional natural gas water heaters and residential, commercial, and institutional low-NO_X water heaters and low-NO_X burner space heaters, we considered whether there are additional economically and technically feasible control measures that could have been adopted into the SIP by the attainment year of 2017 to meet RACM. While Imperial County APCD plans to adopt new rules for these two source categories in 2019 to limit NO_X emissions from such sources,[102] no additional measures were proposed for adoption prior to the attainment date due to the short time between the area's reclassification to Moderate and the attainment year of 2017. Based on CEPAM data, these source categories emitted a combined 0.88 tpd of NO_X in 2017,[103] which amounts to 5.4% of the 2017 total NO_X emissions in Imperial County. The combined estimated emissions reductions from both measures constitute 0.27 tpd of NO_X or 1.5% of the total 2017 NO_X emissions of 18.0 tpd.[104] The EPA notes that although not considered RACM, these anticipated new control measures could contribute to a small air quality improvement in the area in the future.

[101] 82 FR 26594 (June 8, 2017).
[102] Imperial Ozone Plan, App. C, 1-2, and Imperial $PM_{2.5}$ Plan, sections 5.5.2 and 5.5.4.
[103] CEPAM data accessed April 15, 2019 at *https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php* and included in the docket of this proposed rule.
[104] Imperial Ozone Plan, Table 8-1.

For the pesticides category VOC emissions are 2.2 tpd in 2017,[105] which amounts to 13% of the total VOC emissions of 16.9 tpd in Imperial County.[106] CARB concluded that implementation of additional pesticide emissions reduction measures would not be feasible given the short timeframe between reclassification in June 2016 and the attainment year of 2017. CARB also estimated that, even if there were a 100% reduction in pesticide VOC emissions, resulting in a maximum reduction in the ozone design value of 0.44 ppb, and even if such reductions had been achieved by 2017, those reductions would not have been sufficient to attain the standards but for international emissions.[107]

Consistent with the EPA's past guidance interpreting the RACM requirement, the EPA has considered which of the above-discussed control measures were technologically and economically feasible and could be adopted by the attainment year of 2017, and if implemented collectively, would achieve sufficient emissions reductions to provide for attainment by the attainment date but for international emissions. As described in the preceding paragraphs, we have considered potential emissions reductions from two NO_X source categories and one VOC category.

The District estimated that adoption of controls on commercial and institutional natural gas water heaters and residential, commercial, and institutional low-NO_X water heaters and low-

[105] Imperial Ozone Plan, App. A, Table A-4. We note that 2.2075 tpd of the 2.21 tpd of VOC emissions from the pesticides / fertilizer category are agricultural pesticides. CEPAM data accessed October 12, 2018 at *https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php*.

[106] Imperial Ozone Plan, Table 8-1.

[107] CARB also examined whether the conditions at each Imperial County ozone monitor in 2012 represented a NO_X-limited regime (where VOC emission reductions have minimal effect on ozone concentrations) or a transitional regime (where both NO_X and VOC emission reductions can reduce ozone concentrations). Imperial Ozone Plan, App. F, 36. CARB found that the modeled 2012 baseline ozone values showed a prevalence of NO_X-limited conditions at the Niland and El Centro sites, and that the observed 2012 values were consistent with a more transitional ozone chemistry at the Calexico site. Regarding the presentation, in CARB's Technical Clarification Letter, of reductions in pesticide VOC emissions from 1990 to 2016 in Imperial County relative to other areas of California where pesticide regulations have been imposed, CARB does not state how the similar scale of past reductions supports a RACM determination. Accordingly, the EPA is not relying on Imperial County's historic pesticide VOC emission reductions as a basis for evaluating RACM.

NO_X burner space heaters would not be feasible given the short timeframe between reclassification in June 2016 and the attainment year of 2017. However, the District estimated that rules to be adopted soon after the attainment date for these source categories would result in a combined emissions reduction of 0.27 tpd of NO_X over more than a decade. CARB's Technical Clarification Letter also evaluated a conservative reduction of 2.21 tpd of VOC emissions on the basis of zeroing out the 2017 emissions for the pesticide source category. Thus, as a conservatively high estimate, these emissions reductions sum to 0.27 tpd of NO_X and 2.21 tpd of VOC, or 2.48 tpd combined.

Based on estimates available in the Imperial Ozone Plan, we have applied the modeled relationship between ozone concentrations in Imperial County and reductions in NO_X or VOC emissions in Mexico to the combined 2.48 tpd of emission reductions, given the proximity (9 miles and 1 mile, respectively) of the El Centro and Calexico monitoring sites to the Mexican border and the Mexicali region. This relationship estimates that a 1.0 tpd reduction in NO_X or VOC emissions would result in a 0.2 ppb reduction in ambient ozone concentration at the modeled high site (El Centro). Thus, based on conservative assumptions, the combined potential emissions reductions would be estimated to result in no more than a 0.50 ppb reduction in the modeled 8-hour ozone concentration and thus would not be sufficient to provide for attainment by the attainment date.

As noted at the outset of this section, the EPA's regulations governing implementation of the 2008 ozone NAAQS require that, for each nonattainment area required to submit an attainment demonstration, the state concurrently submit a SIP revision demonstrating that it has adopted all RACM necessary to demonstrate attainment as expeditiously as practicable and to

meet any RFP requirements.[108] The 2008 Ozone SRR provided that "[t]he determination of whether a SIP contains all RACM requires an area-specific analysis establishing that there are no additional economically and technically feasible control measures (alone or cumulatively) that will advance" attainment.[109] Based on our evaluation, we propose to determine that the two NO_X source categories and pesticides measures analyzed above are not technologically and economically feasible control measures that could have been adopted by the attainment year of 2017, and therefore would not have provided for expeditious attainment of the 2008 ozone NAAQS in Imperial County by the attainment date. Thus, we propose to find that the Imperial Ozone Plan provides for implementation of all RACM for the 2008 ozone NAAQS as required by CAA section 172(c)(1) and 40 CFR 51.1112(c).

G. Demonstration of Attainment but for International Emissions

1. Statutory and Regulatory Requirements

Section 172(c)(1) of the CAA requires that plans for nonattainment areas provide for expeditious attainment of the NAAQS, and section 182(b)(1)(A) requires that such plans for areas classified as Moderate nonattainment for an ozone NAAQS demonstrate attainment by the applicable attainment date for Moderate areas. To implement these requirements for Moderate areas, the 2008 Ozone SRR requires that states submit an attainment demonstration based on photochemical modeling or another equivalent method that is at least as effective as the method required of ozone nonattainment areas classified Serious and above.[110] The attainment demonstration predicts future ambient concentrations for comparison to the NAAQS, making use

[108] 40 CFR 51.1112(c).
[109] 2008 Ozone SRR, 12286.
[110] 40 CFR 51.1108(c); 2008 Ozone SRR, 12268.

of available information on measured concentrations, meteorology, and current and projected emissions inventories of ozone precursors, including the effect of control measures in the plan.

These requirements for the 2008 ozone NAAQS are codified at 40 CFR 51.1108 ("Modeling and attainment demonstration requirements") and, in turn, rely on the requirements of 40 CFR 51.112 ("Demonstration of adequacy"). The latter section requires such a plan to demonstrate that its measures, rules, and regulations are adequate to provide for timely attainment and maintenance of the NAAQS and includes a list of specific requirements for the content of such demonstration.

As described in section I.A of this proposed rule, the EPA designated Imperial County as nonattainment for the 2008 ozone NAAQS and classified the area as Marginal, effective July 20, 2012. On May 4, 2016, the EPA published its determination that Imperial County had not attained the 2008 ozone NAAQS by the July 20, 2015 Marginal area attainment date and reclassified the area as Moderate with an attainment date of no later than July 20, 2018. An attainment demonstration must show attainment of the standards for the ozone season immediately preceding the area's outermost attainment date.[111] As applied to areas in California, where the ozone season is the full calendar year, the State must demonstrate attainment for any Moderate nonattainment area in 2017.

As discussed in section II.B of this proposed rule, for a nonattainment area affected by emissions emanating from outside the U.S., CAA section 179B(a) provides that, notwithstanding any other provision of law, the EPA Administrator shall approve an attainment plan SIP submission if it (1) meets all of the applicable nonattainment area requirements other than the

[111] 40 CFR 51.1100(h) defining "attainment year ozone season" as "the ozone season immediately preceding a nonattainment area's maximum attainment date." Due to California's predominately temperate climate, the term "ozone season" is understood to mean the full calendar year. Therefore, an attainment date of July 20, 2018 requires attainment to be demonstrated by calendar year 2017.

requirement to demonstrate attainment and maintenance of the relevant NAAQS by the applicable attainment date, and (2) establishes to the Administrator's satisfaction that the SIP revision would be adequate to attain and maintain the relevant NAAQS by the applicable attainment date but for emissions emanating from outside of the U.S.[112]

The 2008 Ozone SRR does not establish specific requirements for how states should demonstrate attainment but for emissions emanating from outside the U.S., and instead recommends as "the best approach" that states work with EPA regional offices "on a case-by-case basis to determine the most appropriate information and analytical methods for each area's unique situation."[113]

The EPA's recommended procedures for modeling ozone as part of an attainment demonstration are relevant to such a section 179B demonstration, in terms of their modeling and adequacy criteria and their purpose in predicting future ambient concentrations for comparison to the NAAQS, making use of available information on measured concentrations, meteorology, and current and projected emissions inventories of ozone precursors, including the effect of control measures in the plan. These recommended procedures are contained in the EPA's "Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze," ("Modeling Guidance").[114] The Modeling Guidance includes recommendations

[112] In addition, as explained below in section III of this proposed rule, CAA section 179B(b) provides that for the purposes of the ozone NAAQS, any state that establishes to the Administrator's satisfaction that the state would have attained the NAAQS by the applicable attainment date, but for emissions emanating from outside the U.S., the area shall not be subject to section 181(b)(2), which requires the EPA to determine whether an area attained the standards by its attainment date and reclassify to a higher classification those areas that fail to attain.
[113] 2008 Ozone SRR, 12293.
[114] "Modeling Guidance for Demonstrating Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze," EPA-454/R-18-009, November 2018; available at: *https://www.epa.gov/scram/state-implementation-plan-sip-attainment-demonstration-guidance*. During development of the Imperial Ozone Plan, CARB relied on the draft version of this guidance update: "Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze," December 3, 2014 Draft, EPA OAQPS. Additional EPA modeling guidance can be found in 40 CFR 51 Appendix W ("Guideline on Air Quality Models"), 82 FR 5182 (January 17, 2017); available at *https://www.epa.gov/scram/clean-air-act-permit-modeling-guidance*.

for a modeling protocol, model input preparation, model performance evaluation, use of model output for the numerical NAAQS attainment test, and modeling documentation.

As described in the Modeling Guidance, the modeling process starts with the development of base year emissions and meteorology inputs, which are then used to assess model performance by comparing predicted concentrations from this base case to air quality monitoring data. Once the model performance is determined to be acceptable, future year emissions are simulated with the model. The relative (or percent) change in modeled concentration due to future emissions reductions provides a Relative Response Factor (RRF). Each monitoring site's RRF is applied to its monitored base year design value to project the future design value, which can then be compared to the NAAQS. The Modeling Guidance also recommends supplemental air quality analyses that may corroborate the attainment demonstration by considering evidence other than the main air quality modeling attainment test, such as trends and additional monitoring and modeling analyses.

Neither the 2008 Ozone SRR nor the Modeling Guidance specify that a particular year be used as the base year to demonstrate attainment with the 2008 ozone standards.[115] The Modeling Guidance explains that the most recent year of the National Emission Inventory may be appropriate for use as the base year for modeling, but that other years may be more appropriate when considering meteorology, transport patterns, exceptional events, or other factors that may vary from year to year.[116]

2. Summary of State's Submission

The Imperial Ozone Plan includes a demonstration prepared by CARB and Imperial County APCD that Imperial County would attain the 2008 ozone NAAQS by the Moderate area

[115] See generally, 40 CFR 51.1108; 2008 Ozone SRR, 12268-12271; Modeling Guidance at Section 2.7.1.
[116] Modeling Guidance at Section 2.7.1.

attainment date, but for emissions emanating from outside the United States. Using several lines of evidence, CARB evaluated whether, and the extent to which, ambient ozone levels in Imperial County would be affected by Mexican emissions, including photochemical air quality modeling, back trajectory analysis, and emissions inventory comparisons. The modeling relies on a 2012 base year and projects that, (i) when the Mexican emissions inventory is included in the model, the highest predicted 2017 ozone design value is 79 ppb, which exceeds the 2008 8-hour ozone NAAQS of 75 ppb; and (ii) removal of the anthropogenic emissions inventory from Mexico lowers 2017 predicted ozone design values to below 75 ppb. CARB also conducted additional analyses, described in section III.B of this proposed rule, that scaled CARB's photochemical air quality modeling, scaled separate photochemical air quality modeling performed by the EPA (using monitored data from 2015-2017), and updated CARB's back trajectory modeling.

CARB's modeling and modeled attainment demonstration are described in Chapter 8 of the Imperial Ozone Plan, and in more detail in Appendices F-I. Appendix F provides a description of model input preparation procedures and various model configuration options.[117] The Plan's modeling protocol is in Appendix G[118] and contains all the elements recommended in the Modeling Guidance, including selection of model, time period to model, modeling domain, and model boundary conditions and initialization procedures; a discussion of emissions inventory development and other model input preparation procedures; model performance evaluation procedures; selection of days and other details for calculating RRFs. Appendix H explains the modeling emission inventories.[119] Appendix I discusses the use of anthropogenic

[117] Imperial Ozone Plan, App. F ("Modeling Attainment Demonstration: Photochemical Modeling for the Imperial County Nonattainment Area 8-Hour Ozone State Implementation Plan").
[118] Id., App. G ("Photochemical Modeling Protocol: Photochemical Modeling for the 8-Hour Ozone and Annual/24-hour $PM_{2.5}$ State Implementation Plans").
[119] Id., App. H ("Modeling Emission Inventory for the 8-Hour Ozone State Implementation Plan in the Imperial Nonattainment Area").

emissions inventories, photochemical modeling, and other factors to assess the impact of emissions emanating from Mexico and whether the area would have attained but for Mexican emissions.[120]

For photochemical modeling for the Imperial Ozone Plan's attainment demonstration, CARB and Imperial County APCD used the Community Multiscale Air Quality (CMAQ) model developed by the EPA.[121] The overall CMAQ air quality modeling domain covering the entire State of California has a horizontal grid size resolution of 12 kilometer (km) with 107 x 97 lateral grid cells for each vertical layer and extends from the Pacific Ocean in the west to eastern Nevada in the east and from the U.S.-Mexico border in the south to the California-Oregon border in the north. The smaller nested domain used to model the Imperial County nonattainment area covers southern California (including the South Coast, San Diego, and Salton Sea air basins), has a finer scale 4 km grid resolution, and includes 156 x 102 lateral grid cells.

To prepare meteorological input for CMAQ, CARB and the District used the Weather and Research Forecasting (WRF) model version 3.6.1 from the National Center for Atmospheric Research.[122] The WRF modeling used routinely available meteorological and air quality data collected during 2012.

The peak ozone levels in California for a given year at any monitor tend to occur between May and September. Therefore, the Imperial Ozone Plan's attainment demonstration modeled

[120] Id., App. I ("179B Attainment Demonstration for the 2017 Imperial County State Implementation Plan for the 2008 8-Hour Ozone Standard").
[121] CMAQ model version 5.0.2, released by the EPA in May 2014. Further information on CMAQ is available at: *https://www.cmascenter.org/cmaq/*.
[122] The overall WRF meteorological modeling domain covers California's neighboring states, and major portions of the next outer ring of states, with 36-kilometer (km) resolution (*i.e.*, grid cell size); it has nested domains with 12 km and 4 km resolution, with the latter, innermost covering the entire State of California; and it has 30 vertical layers extending up to 16 km.

the May to September period for both 2012 and 2017 to ensure simulation for the top ozone days in Imperial County.

The ozone model (CMAQ) and meteorological model (WRF) results and performance statistics are described in Appendix F of the Imperial Ozone Plan. Tables of statistics recommended in the Modeling Guidance for 8-hour ozone are provided for each of the three Imperial ozone monitoring sites.[123] Time series plots of the hourly, 1-hour daily maximum, and 8-hour daily maximum ozone data for each of the three monitors located in the Imperial County can be found in the supplementary material.

After CARB and Imperial County APCD confirmed the model performance for the 2012 base case, they applied the model to develop RRFs for the attainment demonstration.[124] CARB and the District conducted four sets of simulations for this purpose: (1) a base year simulation for 2012 to verify that the model reasonably reproduced the observed air quality; (2) a reference year simulation for 2012, which was the same as the base year simulation but excluded event-influenced data such as wildfires;[125] (3) a future year simulation for 2017 with Mexican emissions that were the same as the reference year simulation, except that projected anthropogenic emissions for 2017 were used in lieu of 2012 emissions; and (4) a future year simulation for 2017 without Mexican emissions that was the same as the reference year simulation, except that projected anthropogenic emissions for 2017 were used in lieu of 2012 emissions and Mexican anthropogenic emissions in the modeling domain were removed.

[123] Imperial Ozone Plan, App. F, Table 8.
[124] Id., section 8.2 ("Attainment Demonstration"), and App. F, Section 5.3 ("Relative Response Factors, Future Design Values, and the Impact from Mexico Anthropogenic Emissions").
[125] Certain data modification and exclusion is allowed, as described in the EPA's "Modeling Guidance for Demonstrating Air Quality Goals for Ozone, $PM_{2.5}$ and Regional Haze," November 29, 2018, section 4.1.1 ("Establishing the Base Design Value").

The modeled attainment test carried out by CARB and the District is consistent with the Modeling Guidance. The RRFs were calculated as the ratio of future to base year concentrations. This calculation was done for each monitor using the top 10 ozone days over 60 ppb, i.e., using the base year concentration in the highest of the three by three modeling grid cells centered on the monitor, and the future concentration from the same day and grid cell, with some exclusions, e.g., if there were too few days above 60 ppb.

The resulting RRFs were then applied to 2012 weighted base year design values[126] for each monitor to arrive at 2017 future year design values.[127] The results based on CARB modeling are listed in Table 3 of this proposed rule. The highest predicted 2017 ozone design value (including the Mexican emissions inventory) is 79 ppb at the El Centro site, which exceeds the 2008 8-hour ozone NAAQS of 75 ppb. When the anthropogenic emissions inventory from Mexico (within the modeling domain) is removed, the resulting 2017 ozone design values at each of the three sites (Niland, El Centro, and Calexico) are below 75 ppb. CARB concludes that this supports a demonstration of attainment of the 2008 ozone NAAQS but for emissions from Mexico.[128]

Table 3 – CARB's Estimated 2017 Design Values Based on CARB Modeling

Monitoring Site (AQS ID)	2012 Base Year Design Value (ppb)	Predicted 2017 Design Value with Mexican Emission Inventory (ppb)	Predicted 2017 Design Values without Mexican Emission Inventory (ppb)
Niland (06-025-4004)	70.3	67	64
El Centro (06-025-1003)	81.0	79	68
Calexico (06-025-0005)	76.3	75	62

[126] The Modeling Guidance recommends that RRFs be applied to the average of three 3-year design values centered on the base year. In this case the RRFs were applied to the design values for 2010-2012, 2011-2013, and 2012-2014. This amounts to a 5-year weighted average of individual year 4th high concentrations, centered on the base year of 2012, and so is referred to as a weighted design value.
[127] Imperial Ozone Plan, Table 8-2.
[128] Imperial Ozone Plan, 8-5.

The "CARB Review of the Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard" ("CARB's Staff Report") for the Imperial Ozone Plan includes an analysis of back trajectories modeled using the National Oceanic and Atmospheric Administration's (NOAA) Hybrid Single Particle Lagrangian Integrated Trajectory (HYSPLIT) Model.[129] The analysis focused on exceedance days at the Calexico and El Centro sites for the years 2014, 2015, and 2016. The analysis shows that the majority of exceedance days at each site had back trajectories for at least 4 of the 6 hours leading up to the last hour that exceeded 75 ppb that originated from or went through Northern Mexico, indicating influence from sources in the Mexicali Region.[130]

Finally, the Plan contains additional analysis in Appendix I, which is summarized in section 8.3 of the Plan. The analysis presents trends from 1995-2000 in NO_X and VOC emissions, ozone concentrations, design values, exceedance days, and the top 30 daily maximum 8-hour ozone concentrations.

3. EPA Review of State's Submission

The EPA has evaluated the several lines of evidence presented by CARB and proposes that together they support the conclusion that Imperial County would attain the 2008 ozone NAAQS by the Moderate area attainment date but for emissions emanating from Mexico. We present our evaluation of CARB's photochemical modeling from the Imperial Ozone Plan in this section of this proposed rule. We present our evaluation of CARB's scaling of its own modeling and EPA modeling, back trajectory modeling, and emissions inventory comparison from CARB's additional analyses in section III of this proposed rule, as described further below.

[129] CARB Staff Report, September 22, 2017, App. A ("Supplemental Weight of Evidence Analysis: 2014-2016 Exceedance Day Hysplit Analysis").

[130] According to the Imperial Ozone Plan, the Mexicali Region includes the City of Mexicali and surrounding metropolitan area, has five times the population of Imperial County, and emits about four times the NO_X and VOC of Imperial County. Imperial Ozone Plan, 1-2 and Table 8-1.

Regarding CARB's photochemical modeling from the Imperial Ozone Plan, the EPA reviewed CARB's attainment demonstration and agrees that it supports the conclusion that the 8-hour ozone design values at each ozone monitoring site in Imperial County would have predicted attainment for the 2008 ozone NAAQS of 75 ppb by 2017 but for emissions emanating from Mexico. We include a technical support document (TSD), "Imperial County Ozone Plan and Determination Regarding Attainment," August 2019 ("EPA's 179B TSD for Imperial County Ozone"), which provides further information regarding our evaluation of the Imperial Ozone Plan's demonstration of attainment but for emissions from Mexico, in the docket of this proposed rule.

The Modeling Guidance recognizes both CMAQ and WRF as technically sound, state-of-the-science models. The size of the modeling domain and the horizontal and vertical grid resolution used in these models are sufficient to model ozone in Imperial County.

CARB calculated the model performance statistics using simulated data at Niland, El Centro, and Calexico, respectively, from the modeling in the Imperial Ozone Plan. The modeling performance statistical metrics for hourly, daily maximum 1-hour, and daily maximum 8-hour ozone from this work are consistent with, and in many cases superior to, values reported by other studies in the literature.[131] The mean bias for daily maximum 8-hour ozone ranged from approximately -7 ppb to +13 ppb, while the mean error ranged from around 4 ppb to 22 ppb, and the root mean squared error ranged from approximately 8 ppb to 23 ppb. The 8-hour maximum performance statistics during the 2012 ozone season for each monitor in Imperial County fall within these ranges. Each of these ranges is similar in magnitude to the statistics presented in the

[131] Imperial Ozone Plan, App. F, Figure 15, 34.

Imperial Ozone Plan.[132] The Modeling Guidance cautions against using comparisons to performance benchmarks as pass/fail tests and stresses their use in assessing general confidence and in guiding refinement of model inputs when statistics fall outside benchmark ranges. In summary, the Imperial Ozone Plan's modeling performance statistics appear satisfactory, and support CARB's determination that Imperial County would attain the 2008 ozone NAAQS by the 2017 attainment year but for emissions from Mexico.

In addition to the analysis in CARB's Staff Report for the Imperial Ozone Plan of back trajectories for the exceedance days that occurred during 2014-2016,[133] CARB also provided updated 8-hour trajectories for 2015-2017 in the "Imperial County Clean Air Act Section 179B(b) Retrospective Analysis for the 75 ppb 8-hour Ozone Standard" ("Imperial Ozone Retrospective Demonstration,"), submitted July 3, 2018.[134] This updated analysis includes the three years in the 2015-2017 attainment design value period, and also includes back trajectories for each hour of the high 8-hour ozone period (i.e., 8 back trajectories per exceedance), rather than the 6 back trajectories leading to the last 1-hour that exceeded 75 ppb, as presented in the CARB Staff Report. While both the original and updated analyses serve to investigate the degree to which Mexican emissions may affect Imperial County, we focused our evaluation on CARB's updated analysis given that it addresses the attainment year design value period and a fuller complement of hours per exceedance.[135] Our evaluation of CARB's updated back trajectory

[132] Id., App. F, Table 10 and App. F, page 33. See also, Simon, H., Baker, K. R., and Phillips, S., "Compilation and interpretation of photochemical model performance statistics published between 2006 and 2012," *Atmospheric Environment*, 2012, Vol. 61, 124 to 139.
[133] CARB Staff Report, App. A ("Supplemental Weight of Evidence Analysis: 2014-2016 Exceedance Day Hysplit Analysis). In a general case, back trajectories may not be available as part of a section 179B(a) demonstration because they rely on having monitored data. However, due to the timing of the Imperial Ozone Plan development, monitored data for 2015 and 2016 were available and CARB included back trajectory modeling in its section 179B(a) demonstration.
[134] Imperial Ozone Retrospective Demonstration, App. A.
[135] CARB also noted that 8 hours of data better represented the hours of the day that contributed to 8-hour ozone exceedance. Imperial Ozone Retrospective Demonstration, 9.

analysis is included in sections III.B.3 and III.C of this proposed rule that are part of our overall presentation of the Imperial Ozone Retrospective Demonstration.

The Imperial Ozone Retrospective Demonstration also includes CARB's emissions inventory comparison, which is also relevant to our evaluation of the Imperial Ozone Plan's attainment demonstration. The emissions inventory comparison describes the small scale of Imperial County emissions relative to those from Mexico. These results support the conclusion that Imperial County would attain the 2008 ozone NAAQS by the 2017 attainment year but for emissions from Mexico. Our evaluation of CARB's emissions inventory comparison is included in sections III.B.4 and III.C below as part of our discussion of the Imperial Ozone Retrospective Demonstration.

In addition, Appendix I of the Plan contains other analyses, including trends in ambient air quality and emissions and additional emissions controls and reductions summarized in section 8.3 of the Plan. These analyses support and corroborate the modeling used in the attainment demonstration of attainment in 2017 but for emissions emanating from Mexico. For example, the trends analyses show long-term downward trends that continue through 2015, the latest year available prior to development of the Imperial Ozone Plan.[136]

Also, EPA modeling conducted in support of other actions is useful for estimating the amount of ozone resulting from ozone precursors emitted in Mexico. The EPA modeled interstate air pollution transport across the continental United States with ozone source apportionment technology for the Cross-State Air Pollution Rule (CSAPR) Update.[137] The ozone

[136] Imperial Ozone Plan, App. I, Appendix (to App. I) entitled "Imperial County Nonattainment Area 8-hour Ozone Plan," section 2.3 ("Daily Maximum 8-hour Ozone Air Quality Trends").
[137] 81 FR 74504 (October 26, 2016); "Air Quality Modeling Technical Support Document for the Final Cross State Air Pollution Rule Update," OAQPS, EPA, August 2016, including 2017 modeling results ("CSAPR Update Air Quality Modeling TSD"), and associated spreadsheet with design values and contributions ("CSAPR Update 2008 Ozone Design Values and Contributions Spreadsheet"); and Memorandum from Stephen D. Page, Director,

contribution at each receptor[138] was tracked from different sources, such as individual states, Mexico and Canada, as well as boundary conditions. Two sets of modeling results have been released, one for year 2017 and one for year 2023. Both cases were simulated using a 2011 base year modeling platform, which means the 2011 meteorology and boundary conditions were applied to both future years' (2017 and 2023) cases. The predicted design values with and without Mexican contribution at each Imperial County site are shown in Table 4.[139] When the contribution of Mexican anthropogenic emissions (within the modeling domain) is removed, the resulting 2017 ozone design values at each of the three sites (Niland, El Centro, and Calexico) are below 75 ppb, which supports the Imperial Ozone Plan's demonstration of attainment for the 2008 ozone NAAQS but for emissions from Mexico.

Table 4 – EPA's 2015-2017 Design Value Estimates Based on EPA Modeling

Site	2011 CSAPR Update Base Year Design Value (ppb)	Predicted 2015-2017 Design Value with Mexican Emissions Inventory (ppb)	Contribution from Mexican Emissions (ppb)	Predicted 2015-2017 Design Values without Mexican Emission Inventory (ppb)
Niland	71.3	66.7	6.95	59.8
El Centro	81.0	79.3	12.19	67.1
Calexico	74.0	73	13.9	59.1

In conclusion, the EPA finds that the various lines of evidence described above support the demonstration of attainment by 2017 but for emissions emanating from Mexico. Given the extensive discussion of modeling procedures, tests, and performance analyses called for in the

OAQPS, EPA, "Supplemental Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I)," October 27, 2017, including 2023 modeling results ("Supplemental 2008 Ozone Transport Memo"). Further information on the CSAPR Update rule and the Supplemental 2008 Ozone Transport Memo are available at the following websites, respectively: *https://www.epa.gov/airmarkets/final-cross-state-air-pollution-rule-update*; and *https://www.epa.gov/airmarkets/october-2017-memo-and-supplemental-information-interstate-transport-sips-2008-ozone-naaqs*.

[138] Receptors were regulatory monitors at each ambient air quality monitoring site for ozone.

[139] The CSAPR Update 2008 Ozone Design Values and Contributions Spreadsheet lists Mexican and Canadian contribution as one value for each receptor. However, for purposes of this proposed rule, the EPA assumes that the Canadian influence is negligible at Imperial County receptors given that Imperial County is about 1,700 km from Canada whereas the County borders Mexico. Thus, we express the Mexican and Canadian contribution as "Contribution from Mexican Emissions" in Table 4.

Modeling Guidance and the good performance of CARB's model, the EPA agrees that CARB's modeling supports the demonstration of attainment but for Mexican emissions. CARB's model shows that, in 2017, with Mexican emissions included, the ozone design value at one monitor would exceed the 75 ppb standard, but by removing the contribution of Mexican anthropogenic emissions, the ozone design values at each of the three sites (Niland, El Centro, and Calexico) would be below 75 ppb. Therefore, the EPA agrees that CARB's modeling of the projected year 2017 both with and without anthropogenic emission inventory from Mexico (within the modeling domain) supports the conclusion that Imperial County would attain the 2008 ozone NAAQS but for Mexican emissions.

Regarding CARB's analyses of back trajectories, emissions, and EPA air quality modeling, we incorporate our evaluation and discussion presented in section III of this proposed rule into our evaluation of the State's section 179B(a) demonstration. These lines of evidence, as well as CARB's modeling discussed above, together support the conclusion that Imperial County would attain the 2008 ozone NAAQS in 2017 but for emissions emanating from Mexico.

H. Rate of Progress and Reasonable Further Progress Demonstration

1. Statutory and Regulatory Requirements

Requirements for RFP for Moderate ozone nonattainment areas are specified in CAA section 182(b)(1).[140] CAA section 182(b)(1) requires that ozone nonattainment areas that are classified as Moderate or above demonstrate a 15% reduction in VOC within the first six years of the planning period. The EPA has typically referred to section 182(b)(1) as the Rate of Progress

[140] CAA section 182(b)(1) is the specific requirement regarding RFP in Part D, Subpart 2, and is applicable to ozone nonattainment areas classified Moderate and higher. CAA sections 171(1) and 172(c)(2) in Part D, Subpart 1 address RFP for all nonattainment pollutants. E.g., CAA section 171(1), which defines RFP as annual incremental reductions in emissions of the relevant air pollutant as are required under part D ("Plan Requirements for Nonattainment Areas") or may reasonably be required by the EPA for the purpose of ensuring attainment of the applicable NAAQS by the applicable attainment date.

(ROP) requirement.[141] Except as specifically provided in CAA section 182(b)(1)(C), emissions reductions from all SIP-approved, federally promulgated, or otherwise SIP-creditable measures that occur after the baseline year are creditable for purposes of demonstrating that the RFP targets are met.[142]

As noted in section II.E of this proposed rule, future year emissions inventories are necessary to show the projected effectiveness of SIP control measures and must reflect the most recent population, employment, travel, and congestion estimates for the area. EPA regulations require that the base year emissions inventory be consistent with the baseline year for the RFP demonstration.[143] Furthermore, the 2008 Ozone SRR requires the RFP baseline year to be the most recent calendar year for which a complete triennial inventory was required to be submitted to the EPA.[144] For the purposes of developing RFP demonstrations for the Imperial County nonattainment area for the 2008 ozone standards, the applicable triennial inventory year is 2011.

[141] The 2008 Ozone SRR provides that, for areas classified Moderate or higher for the 2008 8-hour ozone standard, the ROP requirements of CAA section 182(b)(1) will be met if the area has a fully approved 15% ROP plan for the 1979 1-hour or 1997 8-hour ozone standards (provided the boundaries of the ozone nonattainment areas are the same). For more information about how the RFP requirement of section 172(c)(2) applies in such areas, see 84 FR 28157 (June 17, 2019). Imperial County does not have a fully approved 15% ROP plan for either the 1979 1-hour or the 1997 8-hour ozone standards. For the 1979 1-hour ozone NAAQS, the EPA classified Imperial County as a CAA section 185A (or "transitional") area and, thus, it was not subject to the ROP requirement. For the 1997 8-hour ozone NAAQS, the EPA initially designated Imperial County as a Marginal nonattainment area and later reclassified the area to Moderate, triggering the ROP requirement, but subsequently issued a clean data determination, which suspended attainment-related planning requirements, including the ROP requirement. 73 FR 8209 (February 13, 2008); 74 FR 63309 (December 3, 2009). Therefore, the 15% ROP requirement of section 182(b)(1) remains applicable to Imperial County.

[142] Because the EPA has determined that the passage of time has caused the effect of certain exclusions to be de minimis, the RFP demonstration is no longer required to calculate and specifically exclude reductions from measures related to motor vehicle exhaust or evaporative emissions promulgated by January 1, 1990; regulations concerning Reid vapor pressure promulgated by November 15, 1990; measures to correct previous RACT requirements; and, measures required to correct previous inspection and maintenance (I/M) programs. 40 CFR 51.1110(a)(7).

[143] 40 CFR 51.1115(a).

[144] 2008 Ozone SRR, 12272; 40 CFR 51.1110(b); and the Air Emissions Reporting Requirements at 40 CFR part 51 subpart A.

As discussed previously, the *South Coast II* decision vacated the 2008 Ozone SRR's provision allowing states to use an alternative baseline year for RFP.[145]

2. Summary of State's Submission

CARB developed the 2018 SIP Update and submitted it to the EPA on December 5, 2018, in part to address the impacts of the *South Coast II* decision on several plans for ozone nonattainment areas in California that, like the Imperial Ozone Plan, had relied on the provision in the 2008 Ozone SRR that states could use years other than 2011 as the RFP baseline year to demonstrate RFP. The portions of 2018 SIP Update related to Imperial County include an emissions inventory consistent with the new RFP baseline year of 2011, an updated inventory for the RFP milestone year of 2017, and a revised RFP demonstration using 2011 as the RFP baseline year and the updated 2017 RFP milestone inventory.[146]

To develop the 2011 and 2017 inventories, CARB used emissions as reported by larger point sources to the District and, for smaller point sources (stationary area sources), areawide sources and mobile sources, back-casted emissions from the base year inventory of 2012.[147] CARB explains that back-casted emissions rely on the same assumptions regarding growth and emissions reductions from adopted control measures (i.e., "growth parameters and control profiles") that are used to project emissions inventories in future years.[148] CARB also explains that the 2011 RFP baseline emissions inventory and the 2012 base year emissions inventory are consistent with one another, as required by the 2008 Ozone SRR: both inventories use actual emissions as reported to the District by larger point sources, and emissions for other sources

[145] *South Coast Air Quality Management District v. EPA*, 882 F.3d 1138 (D.C. Cir. 2018).
[146] 2018 SIP Update, section II ("SIP Elements for Imperial County"), 11-13, and App. A ("Nonattainment Area Inventories"), A-3 to A-6.
[147] 2018 SIP Update, 5, 11.
[148] Id. at 5.

(stationary area sources, areawide sources, and mobile sources) in the 2011 baseline inventory are back-casted from the 2012 base year inventory.[149]

Table 5 presents a summary of the 2011 RFP baseline inventory and the updated 2017 RFP milestone inventory.

Table 5 – Summary of Ozone Precursor Summer Emissions for 2011 and 2017

	2011		2017	
Source Category	NO_X (tpd)	VOC (tpd)	NO_X (tpd)	VOC (tpd)
Stationary Sources	1.7	1.3	1.3	1.2
Area Sources	0.7	8.4	0.2	5.7
On-road Mobile Sources	11.3	4.5	6.5	3.1
Non-road Mobile Sources	9.2	5.2	7.1	3.5
Total for Imperial County	23.0	19.5	15.2	13.5

Source: 2018 SIP Update, Table II-1 (noting that numbers may not add up due to rounding) and App. A, A-3 to A-6.

The 2018 SIP Update's RFP demonstration calculates future year VOC targets from the 2011 baseline, consistent with CAA 182(b)(1), which requires a 15% reduction in VOC within six years of the RFP baseline year for a Moderate ozone nonattainment area as shown in Table 6.

Table 6 – Rate of Progress Demonstration

	VOC (tpd, unless otherwise noted)	
	2011	2017
1. Baseline VOC	19.5	13.5
2. Transportation conformity safety margin [a]		0.8
3. Baseline VOC + safety margin (Line 1 + Line 2)		14.3
4. Required VOC emission reduction, % [b]		15%
5. Target VOC Level (Line 1 (2011) – Line 4 (2017) x Line 1 (2011))		16.6
6. Apparent Surplus in VOC emission reductions (Line 5 – Line 3) [c]		2.3
7. Apparent Surplus in VOC emission reductions, % (Line 6 / Line 1 (2017))[c]		11.7%
RFP Met?		YES

[149] Id.

Note: This table is adapted from the 2018 SIP Update, Table II-2 and CARB's Technical Clarification Letter, Attachment A.
[a] CARB Technical Clarification Letter, Attachment A.
[b] While the 2018 SIP Update characterizes the % change as (VOC or NO_X), in fact, the required change is just for VOC, per our discussion of the ROP requirement herein.
[c] The CARB Technical Clarification Letter identifies 2.2 tpd and 11.4% as the apparent surplus in VOC emission reductions. The difference between the values in the CARB Technical Clarification Letter and this table is due to rounding. Numbers listed here in Table 6 are calculated as shown in the table.

CARB concludes that the RFP demonstration for Imperial County in the 2018 SIP Update meets the CAA's applicable requirements for RFP.

3. EPA Review of State's Submission

We have reviewed the portions of the 2018 SIP Update relating to Imperial County, including the 2011 baseline and 2017 emissions inventories and the updated RFP demonstration that uses a 2011 baseline year, and CARB's Technical Clarification Letter for consistency with CAA and regulatory requirements and EPA guidance. Based on our review of the emissions inventory documentation in the 2018 SIP Update, as well as the Imperial Ozone Plan, we find that CARB and the District used the most recent planning and activity assumptions, emissions models, and methodologies in developing the RFP baseline and milestone year inventories.

Regarding the 2008 Ozone SRR's requirement that the base year inventory be consistent with the baseline year for the RFP demonstration, we note that 2012 is the year used for the base year inventory, while 2011 is the year used for the baseline inventory for the RFP demonstration. However, both the 2012 base year inventory and 2011 RFP baseline inventory use actual emissions reported by larger point sources, and, for other sources (e.g., stationary area sources, areawide sources, and mobile sources), the 2011 RFP baseline inventory is back-casted from the 2012 base year inventory, and therefore based on the same data. Therefore, we find that selection of 2012 as the base year for the emissions inventory is consistent with the 2011 baseline year for the RFP demonstration for this nonattainment area as required by 40 CFR 51.1115(a).

In addition to the 2011 RFP baseline inventory, the 2018 SIP Update also includes an inventory for the RFP milestone year of 2017. Similar to the 2011 RFP baseline inventory, the 2017 RFP milestone inventory includes actual emissions reported for 2017 for certain stationary sources and forecasted emissions for other sources using updated activity data, where available. The 2017 RFP milestone inventory from the 2018 SIP Update (13.5 tpd of VOC) is smaller than the 2017 emissions inventory from the Imperial Ozone Plan (16.85 tpd of VOC). These emission inventory updates are directionally consistent with the observed 2015-2017 design value of 77 ppb as compared to the modeled 2015-2017 design value of 79 ppb and suggest that Imperial County made greater progress towards attaining the 2008 ozone NAAQS than was originally predicted, even though the area did not actually attain the standards.

We also reviewed the calculations in Table II-2 of the 2018 SIP Update and CARB's Technical Clarification Letter, Attachment A, as presented in Table 6 of this proposed rule, and find that CARB and the District used an appropriate calculation method to demonstrate RFP. Specifically, we reviewed the 2011 and 2017 emissions inventories included in the 2018 SIP Update, as discussed in the preceding paragraphs of this evaluation subsection; the inclusion of a safety margin in the 2017 VOC motor vehicle emission budgets and whether the area still achieves sufficient emissions reductions to demonstrate RFP with such safety margin;[150] and the comparison of the VOC emissions reductions against the 15% ROP requirement. As shown in Table 6, the RFP demonstration shows a 26.7% reduction in VOC emissions from 2011 to 2017 (i.e., 15% required reduction plus 11.7% surplus reduction). Such reductions satisfy the ROP requirement for Imperial County for the 2008 ozone NAAQS.

[150] A safety margin is "the amount by which the total projected emissions from all sources of a given pollutant are less than the total emissions that would satisfy the applicable requirement for reasonable further progress, attainment, or maintenance." 40 CFR 93.101. A safety margin allows future transportation projects to increase on-road mobile source emissions provided they satisfy applicable requirements (e.g., support a demonstration of RFP in Imperial County in 2017) and the emissions from such future projects are calculated using the same method.

For these reasons, we propose to determine that the State has demonstrated RFP in the applicable milestone year of 2017, consistent with CAA requirements and EPA guidance. We therefore propose to approve the RFP demonstrations under section 182(b)(1) of the CAA and 40 CFR 51.1110(a)(4)(i).

I. Motor Vehicle Emission Budgets

1. Statutory and Regulatory Requirements

Section 176(c) of the CAA 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 timely attainment of the standards. Conformity to the SIP's goals means that such 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 in nonattainment and maintenance areas coordinate with state and local air quality and transportation agencies, the EPA, the FHWA, and the FTA to demonstrate that an area's regional transportation plans and transportation improvement programs 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 emission budgets (MVEBs or "budgets") contained in all control strategy SIPs. Budgets are generally established for specific years and specific pollutants or precursors. Ozone plans should identify budgets for

on-road emissions of ozone precursors (NO_X and VOC) in the area for each RFP milestone year and the attainment year, if the plan demonstrates attainment.[151]

For budgets to be approvable, they must meet, at a minimum, the EPA's adequacy criteria in 40 CFR 93.118(e)(4). To meet these requirements, the budgets must be consistent with the attainment and RFP requirements and reflect all the motor vehicle control measures contained in the attainment and RFP demonstrations.[152]

The EPA's process for determining adequacy of a budget consists of three basic steps: (1) providing public notification of a SIP submission; (2) providing the public the opportunity to comment on the budget during a public comment period; and, (3) making a finding of adequacy or inadequacy.[153]

2. Summary of State's Submission

The Imperial Ozone Plan includes NO_X and VOC budgets for Imperial County for 2017 and states that they are consistent with the emissions inventory used in the Plan's section 179B(a) demonstration.[154] The budgets were calculated by SCAG using updated vehicle miles traveled estimates and speed distribution data in the SCAG's 2016 RTP/SCS and updated emission rates and planning assumptions from EMFAC2014.[155] They reflect average summer weekday emissions consistent with the 2017 RFP milestone year for the 2008 ozone NAAQS. The 2017 on-road mobile source emissions are 6.53 tpd of NO_X and 3.13 tpd of VOC, and the

[151] 40 CFR 93.102(b)(2)(i).
[152] 40 CFR 93.118(e)(4)(iii), (iv) and (v). For more information on the transportation conformity requirements and applicable policies on MVEBs, please visit our transportation conformity web site at: *http://www.epa.gov/otaq/stateresources/transconf/index.htm*.
[153] 40 CFR 93.118(f)(2).
[154] Imperial Ozone Plan, 10-3. We note that the 2018 SIP Update simply states that the 2017 budgets in the Imperial Ozone Plan are still applicable. 2018 SIP Update, 13.
[155] At the time the Imperial Ozone Plan was developed, EMFAC2014 was CARB's latest version of the EMFAC model for estimating emissions from on-road vehicles operating in California that had been approved into the California SIP. 80 FR 77337. It was the appropriate model to use for SIP development purposes, as noted in the EPA's implementation rule for the 2015 ozone NAAQS. 83 FR 62998, 63022, n. 54 (December 6, 2018).

2017 budgets in the Imperial Ozone Plan are 7 tpd of NO_X and 4 tpd of VOC. In CARB's Technical Clarification Letter, CARB identifies the difference between the 2017 on-road mobile source emissions and the 2017 budgets as a safety margin of 0.4 tpd of NO_x and 0.8 tpd of VOC.[156]

CARB also asked that the EPA limit the duration of the approval of the 2017 budgets in the Imperial Ozone Plan and includes an explanation for why the budgets have become, or will become, outdated or deficient.[157] In short, CARB has requested that we limit the duration of the approval of the budgets in anticipation, in the near term, of the EPA's approval of EMFAC2017, which is an updated version of the model (EMFAC2014) used for the budgets in the Imperial Ozone Plan.[158] EMFAC2017 updates vehicle mix and emissions data of the currently approved version of the model, EMFAC2014.

CARB explains that, upon approval of EMFAC2017, the budgets from the Imperial Ozone Plan, for which we are proposing approval in today's action, will become outdated and will need to be revised using EMFAC2017 within the grace period established in our approval of EMFAC2017. This in turn would allow for the EPA to use the adequacy process to review and replace the budgets proposed for approval in this notice so that they can be used in future conformity determinations for the SCAG regional transportation plan and program, as applied to Imperial County. In addition, CARB states that, without the ability to replace the budgets using the budget adequacy process, the benefits of using the updated data may not be realized for a

[156] CARB's Technical Clarification Letter, Attachment A. We note that the hundredths place of the 2017 emissions amounts are rounded up to the nearest whole number (i.e., 6.53 tpd + 0.4 tpd = 6.93 tpd, rounded to 7 tpd NO_x; and 3.13 tpd + 0.8 tpd = 3.93 tpd, rounded up to 4 tpd VOC).
[157] Letter dated December 5, 2018 from Richard Corey, Executive Officer, CARB, to Mike Stoker, Regional Administrator, EPA Region IX, 2, and CARB's Technical Clarification Letter, 1-2.
[158] The EPA has approved EMFAC2017 for use in SIP development and transportation conformity decisions in California. 84 FR 41717.

year or more after the updated SIP (with the EMFAC2017-derived budgets) is submitted, due to the length of the SIP approval process.

3. EPA Review of State's Submission

We have evaluated the budgets in the Imperial Ozone Plan against our adequacy criteria in 40 CFR 93.118(e)(4) as part of our review of the budgets' approvability and will complete the adequacy review concurrent with our final action on the ozone plan.[159] The EPA is not required under its transportation conformity rule to find budgets adequate prior to proposing approval of them.[160]

As discussed in section II.H of this proposed rule, the 2011 RFP baseline and 2017 RFP emissions inventories, including the figures for mobile sources, were back-casted and forecasted, respectively, from the 2012 base year emissions inventory. For the reasons discussed in section II.H of this proposed rule, we are proposing to approve the RFP demonstration in the 2018 SIP Update, including the safety margins identified in CARB's Technical Clarification Letter. While only the VOC emissions reductions are required for ROP, the Imperial Ozone Plan's demonstration of attainment but for emissions emanating from Mexico relies on reductions of both NO_X and VOC emissions. As described in our summary of the State's submission, the 2017 budgets, including safety margins, are shown in Table 7, below.

Table 7 – 2017 Motor Vehicle Emission Budgets for Imperial County for the 2008 Ozone NAAQS

	2017	
	NO_X (tpd)	VOC (tpd)
On-road Mobile Sources	6.53	3.13
Safety Margin	0.4	0.8
Motor Vehicle Emission Budget	7	4

[159] Memorandum from Karina O'Connor, Air Planning Office, EPA Region IX, "Adequacy Documentation for Plan Motor Vehicle Emission Budgets in September 2017 Imperial Ozone Plan," May 24, 2019.

[160] 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).

(rounded to nearest whole number)		

Source: 2018 SIP Update, Table II-2 and CARB's Technical Clarification Letter, Attachment A.

The EPA has determined that these budgets are consistent with emissions control measures in the SIP and RFP for the 2008 ozone NAAQS. They are clearly identified and precisely quantified, and meet all other applicable statutory and regulatory requirements, including the adequacy criteria in 40 CFR 93.118(e)(4) and (5). In addition, we conclude that CARB has identified an appropriate safety margin for the 2017 NO_X and VOC MVEBs and demonstrated how such budgets remain consistent with demonstrating RFP, as discussed in section II.F of this proposed rule. For these reasons, the EPA is proposing to approve the 2017 budgets in the Imperial Ozone Plan for transportation conformity purposes for the 2008 ozone NAAQS. Also, we anticipate completing the budget adequacy process upon our final rule.

Under our transportation conformity rule, as a general matter, once budgets are approved, they cannot be superseded by revised budgets submitted for the same CAA purpose and the same period of years addressed by the previously approved SIP until the EPA approves the revised budgets as a SIP revision. In other words, as a general matter, such approved budgets cannot be superseded by revised budgets found adequate, but rather only through approval of the revised budgets, unless the EPA specifies otherwise in its approval of a SIP by limiting the duration of the approval to last only until subsequently submitted budgets are found adequate.[161]

In this instance, CARB has requested that we limit the duration of our approval of the budgets in the Imperial Ozone Plan only until the effective date of the EPA's adequacy finding for any subsequently submitted budgets. Generally, we will consider a state's request to limit an approval of an MVEB only if the request includes the following elements:[162]

[161] 40 CFR 93.118(e)(1).
[162] 67 FR 69141 (November 15, 2002), limiting our prior approval of MVEB in certain California SIPs.

- 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.

We find that CARB's explanation for why the budgets will become outdated and why limiting the duration of the approval of the budgets is appropriate. This information provides us with a reasonable basis on which to limit the duration of the approval of the budgets.

We note that CARB has not committed to update the budgets as part of a comprehensive SIP update, but as a practical matter, CARB must submit a SIP revision that includes updated demonstrations as well as the updated budgets to meet the adequacy criteria in 40 CFR 93.118(e)(4);[163] and thus, we do not need a specific commitment for such a plan at this time. For the reasons provided above, and in light of CARB's explanation for why the budgets will become outdated and should be replaced upon an adequacy finding for updated budgets, we propose to limit the duration of our approval of the budgets in the Imperial Ozone Plan until new budgets have been found adequate.

J. Contingency Measures

1. Statutory and Regulatory Requirements

Under the CAA, ozone nonattainment areas classified under subpart 2 as Moderate must include in their SIPs contingency measures consistent with section 172(c)(9).[164] Contingency

[163] Under 40 CFR 93.118(e)(4), the EPA will not find a budget in a submitted SIP to be adequate unless, among other criteria, the budgets, when considered together with all other emissions sources, are consistent with applicable requirements for RFP and attainment. 40 CFR 93.118(e)(4)(iv).

[164] Contingency measures in ozone nonattainment areas classified under CAA Title I, subpart 2 as Serious or higher must also be consistent with CAA section 182(c)(9). However, this requirement does not apply to the Imperial County nonattainment area, which is classified as Moderate for the 2008 ozone NAAQS.

measures are additional controls or measures to be implemented in the event the area fails to meet RFP requirements or to attain the NAAQS by the attainment date. The SIP should contain trigger mechanisms for the contingency measures, specify a schedule for implementation of the measures, and indicate that the measures will be implemented without significant further action by the state or the EPA.[165]

Neither the CAA nor the EPA's implementing regulations establish a specific amount of emissions reductions that implementation of contingency measures must achieve, but the 2008 Ozone SRR reiterates the EPA's recommendation that contingency measures should provide for emissions reductions approximately equivalent to one year's worth of RFP, thus amounting to reductions of 3% of the baseline emissions inventory for the nonattainment area.[166]

It has been the EPA's longstanding interpretation of section 172(c)(9) that states may rely on existing federal measures (e.g., federal mobile source measures based on the incremental turnover of the motor vehicle fleet each year) and state or local measures in the SIP already scheduled for implementation that provide emissions reductions in excess of those needed to meet any other nonattainment plan requirements, such as meeting RACM/RACT, RFP, or expeditious attainment requirements. The key is that the statute requires that contingency measures provide for additional emissions reductions that are not relied on for RFP or attainment and that are not included in the RFP or attainment demonstrations as meeting part or all of the contingency measure requirements. The purpose of contingency measures is to provide continued emissions reductions while the state revises the SIP to meet the missed milestone or attainment date.

[165] 2008 Ozone SRR, 12285.
[166] Id.

The EPA has approved numerous nonattainment area plan SIP submissions under this interpretation, i.e., SIPs that use as contingency measures one or more federal or state control measures that are already in place and provide reductions that are in excess of the reductions required to meet other requirements or relied upon in the modeled attainment demonstration,[167] and there is case law supporting the EPA's interpretation in this regard.[168] However, in *Bahr v. EPA*, the Ninth Circuit rejected the EPA's interpretation of CAA section 172(c)(9) as allowing for approval of already implemented control measures as contingency measures.[169] The Ninth Circuit concluded that contingency measures must be measures that would take effect at the time the area fails to make RFP or to attain by the applicable attainment date, not before.[170] Thus, within the geographic jurisdiction of the Ninth Circuit, states cannot rely on already implemented control measures to comply with the contingency measure requirements under CAA section 172(c)(9).

2. Summary of State's Submission

Imperial County APCD and CARB adopted the Imperial Ozone Plan after the *Bahr v. EPA* decision. Nevertheless, the Plan relies upon surplus emissions reductions from already implemented control measures in the 2017 RFP year to demonstrate compliance with the RFP contingency measure requirements of CAA sections 172(c)(9).[171] With respect to the attainment

[167] E.g., 62 FR 15844 (April 3, 1997) (direct final rule approving an Indiana ozone SIP revision); 62 FR 66279 (December 18, 1997) (final rule approving an Illinois ozone SIP revision); 66 FR 30811 (June 8, 2001) (direct final rule approving a 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 a Connecticut ozone SIP revision).
[168] E.g., *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).
[169] *Bahr v. EPA*, 836 F.3d 1218, 1235-1237 (9th Cir. 2016).
[170] Id.
[171] Imperial Ozone Plan, 5-1 to 5-2.

contingency measure requirements, the Imperial Ozone Plan stated that such measures are not required.[172]

In the 2018 SIP Update, CARB revised the RFP demonstration for the 2008 ozone standards for Imperial County. Based on that demonstration and the fact that 2017 had passed, CARB concludes that Imperial County successfully met applicable RFP requirements in 2017 and, therefore, the RFP contingency measure requirement in CAA section 172(c)(9) is irrelevant for Imperial County for the 2008 ozone NAAQS.[173]

3. EPA Review of State's Submission

The EPA has reviewed the Imperial Ozone Plan and the 2018 SIP Update and proposes that the contingency measure requirement of CAA section 172(c)(9) for RFP is moot, as described below. Regarding the contingency measure requirement of section 172(c)(9) for failure to attain by the applicable attainment date, we propose that such measures would no longer be required if the EPA were to finalize our proposed approval of the section 179B demonstrations for Imperial County for the 2008 ozone NAAQS, as also described below.

The contingency measure portion of the Imperial Ozone Plan, based on the Plan's RFP demonstration from a 2008 RFP baseline emission inventory through the 2017 RFP emission inventory, relies upon emissions reductions that are surplus to those needed to demonstrate RFP. As noted in our summary of the statutory and regulatory requirements for contingency measures, states in the Ninth Circuit cannot rely on already implemented control measures to comply with the contingency measure requirements under CAA sections 172(c)(9), and thus we do not propose to approve such an approach for Imperial County for the 2008 ozone NAAQS.

[172] Imperial Ozone Plan, Table 11-1.
[173] Imperial Ozone Plan, 13.

However, as described in section II.H of this proposed rule, we reviewed the revised 2017 RFP emissions inventory and RFP demonstration for Imperial County in the 2018 SIP Update. Given that the revised RFP demonstration is based upon actual emissions reported for 2017 for stationary point sources, and forecasted emissions for other sources using updated activity data, consistent with the Imperial Ozone Plan's section 179B(a) demonstration, using the appropriate metric (summer emissions of ozone precursor pollutants) and that the area achieved greater than 3% annual emissions reductions in VOC, we agree with CARB that Imperial County has met applicable RFP requirements for 2017. Because the area met RFP for 2017, and because no RFP demonstration is required for a year beyond 2017 for Imperial County for the 2008 ozone NAAQS, the event that would otherwise trigger implementation of RFP contingency measures did not occur and will not occur in the future. Accordingly, we propose that the RFP contingency measure requirement is moot as applied to Imperial County for purposes of the 2008 ozone NAAQS.

With respect to attainment contingency measures, CARB and Imperial County APCD state that attainment contingency measures are not required due to the area's attainment but for the impacts of international emissions. We agree that such measures are not required for Imperial County for the 2008 ozone NAAQS as follows.

Attainment contingency measures under CAA section 172(c)(9) are triggered upon the EPA's determination that an area failed to attain a given NAAQS by its applicable attainment date. However, section 179B(b) provides that where a state demonstrates to the EPA that the area would have attained the ozone NAAQS by the applicable attainment date but for emissions emanating from outside the U.S., the area is not subject to the reclassification provisions in

section 181(b)(2) and will not be reclassified to a higher nonattainment level.[174] It is therefore consistent with section 179B(b) to conclude that the EPA's approval of a demonstration of attainment but for international emissions under section 179B(b) means that the EPA is not required to make determinations of attainment by the attainment date for that area. Therefore, contingency measures would not be triggered for the area's failure to attain by the attainment date, provided that the EPA has approved the area's demonstration that it would have attained by the applicable attainment date but for emissions emanating from outside the U.S. Given these considerations, the EPA interprets the CAA not to require contingency measures for failure to attain in an area with an approved section 179B demonstration.

As described in sections II.G and III of this proposed rule, the EPA proposes to approve the Imperial Ozone Plan, the 2018 SIP Update (with respect to Imperial County), and the Imperial Ozone Retrospective Demonstration under section 179B(b) that Imperial County would have attained the 2008 ozone NAAQS by July 20, 2018, but for emissions from Mexico. Thus, if the EPA were to finalize this proposed action, there would be no requirement for the EPA to determine whether the area attained the NAAQS, and therefore no requirement for the state to submit attainment contingency measures. Accordingly, we propose that the attainment contingency measure requirement does not apply to Imperial County for the 2008 ozone NAAQS.

K. Other Requirements

The Imperial Ozone Plan notes that the Moderate area requirements of CAA section 182(b)(3) ("Gasoline vapor recovery") no longer apply since the promulgation of the Onboard

[174] The EPA's long held view is that CAA section 179B(b)'s reference to section 181(a)(2) was made in error, and that Congress actually intended to refer to section 181(b)(2). 83 FR 62998, 63009, n.24; "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," 57 FR 13498, 13569 n.41 (April 16, 1992).

Refueling Vapor Recovery Rule, and that the requirements of section 182(b)(4) ("Motor vehicle inspection and maintenance") do not apply to Imperial County because its population is below the 200,000 persons threshold.[175] The EPA agrees with CARB's assessment and proposes that these two requirements do not apply in Imperial County for the 2008 ozone NAAQS.

III. Imperial County Ozone Determination of Attainment but for International Emissions

A. Statutory and Regulatory Requirements

Section 181(b)(2)(A) of the CAA requires that within 6 months following the applicable attainment date, the EPA Administrator shall determine whether an ozone nonattainment area attained the ozone standards based on the area's design value as of that date.[176] In the event an area fails to attain the relevant ozone NAAQS by the applicable attainment date, CAA section 181(b)(2)(A) requires the Administrator to make the determination that the area failed to attain the ozone standards and requires the area to be reclassified by operation of law to the higher of (i) the next higher classification for the area, or (ii) the classification applicable to the area's design value as of the determination of failure to attain.

Section 179B(b), however, provides that if a state demonstrates to the EPA that an area would have attained the ozone NAAQS by the applicable attainment date, but for emissions emanating from outside the U.S., the area is not subject to the reclassification provisions in section 181(b)(2) and will not be reclassified to a higher nonattainment level. The EPA interprets section 179B(b) to involve an analysis of the relationship between past exceedances (i.e., those used in determining attainment) and international emissions.

[175] Imperial Ozone Plan, 1-1, n. 4. See also, 59 FR 16262 (April 6, 1994) (known as the Onboard Refueling Vapor Recovery Rule) and 40 CFR 51.350(a)(8) (population threshold for applicability of motor vehicle inspection and maintenance requirements).

[176] We note that CAA section 181(a)(5) gives the Administrator the discretion to grant a 1-year extension of the attainment date specified in CAA section 181(a) upon application by any state if certain criteria are met. However, CARB is not seeking such an extension for Imperial County but rather invokes the provisions of section 179B(b).

B. Summary of State's Submission

CARB submitted the Imperial Ozone Retrospective Demonstration to the EPA on July 3, 2018.[177] CARB states that despite air quality improvement in Imperial County due to wide-ranging controls on NO_X and VOC sources, the area would not attain the 2008 ozone NAAQS by the July 20, 2018 attainment deadline.[178] In the Imperial Ozone Retrospective Demonstration, CARB presents an analysis that estimated the ozone levels in Imperial County, without the influence of emissions in the Mexicali Region, for 2017. The Imperial Ozone Retrospective Demonstration is based on a number of factors, including two modeling exercises: (1) photochemical modeling in the Imperial Ozone Plan, discussed in section II.G of this proposed rule; and (2) the EPA's interstate air pollution transport modeling for the 2008 ozone NAAQS, including the CSAPR Update modeling results for 2017 and supplemental modeling results for 2023.[179] CARB also presented a back trajectory analysis for each day in 2015, 2016, and 2017 when the ozone level was above 75 ppb at any of the three monitoring sites. CARB presented additional supporting information, including a comparison of the emissions inventory for ozone precursors in Imperial County to the emissions inventory to the Mexicali Municipality, the ozone design value trends from 1996 to 2017, and a discussion of the conditions that influence ozone formation in Imperial County.

1. Imperial Ozone Plan Attainment Demonstration Modeling

To show the effect of emissions emanating from Northern Mexico on ozone levels in Imperial County in 2017, CARB relied in part on modeling conducted for the attainment demonstration in the Imperial Ozone Plan. Specifically, CARB performed an exercise using

[177] Letter dated July 3, 2018, from Richard Corey, Executive Officer, CARB, to Michael Stoker, Regional Administrator, EPA Region 9.
[178] Imperial Ozone Retrospective Demonstration, 1
[179] 81 FR 74504; CSAPR Update Air Quality Modeling TSD; and CSAPR Update 2008 Ozone Design Values and Contributions Spreadsheet; and Supplemental 2008 Ozone Transport Memo.

existing modeling results to estimate the effect of Mexican emissions within the Southern California Modeling domain (i.e., a subset of the Mexican emissions sources nearest Imperial County) and applied those estimates to 2015-2017 design values.

As discussed in section II.G of this proposed rule, the attainment demonstration for the Imperial Ozone Plan includes two modeling scenarios (or cases) for the year 2017. Case one was a "base" run that used projected 2017 anthropogenic emissions for both the U.S. and Mexicali Municipality within the modeling domain, while all other model inputs were based on the year 2012. Case two was a "sensitivity" run, where the only difference from the base run was that Mexican anthropogenic emissions (within the modeling domain) were zeroed out. The sensitivity run analysis estimated the ozone contribution from Mexican emissions to Imperial County monitoring sites based on the change in the predicted design values due to the removal of the Mexican anthropogenic emissions (within the modeling domain). CARB then applied the estimated ozone reduction from the removal of the Mexican emissions as generated by the sensitivity run analysis to the measured 2015-2017 design value at each of the monitoring sites. The results are shown here in Table 8.

Table 8 – CARB's 2015-2017 Design Values Estimates Based on Scaling Exercise from CARB Modeling

Monitoring Site	Measured 2015-2017 Design Value (ppb)	Estimated 2015-2017 Design Value without Anthropogenic Mexican Emissions (ppb)	Change in Design Value
Niland	63	60.7	3.7 %
El Centro	76	65.9	13.3 %
Calexico	77	64.3	16.5 %

Source: Imperial Ozone Retrospective Demonstration, Table 2.

2. CARB's Estimate of Ozone Transport Based on the EPA's Air Quality Modeling

As part of the CSAPR Update rule, the EPA conducted air quality modeling to project ozone concentrations at individual monitoring sites in 2017 and to estimate state-by-state

contributions to those 2017 concentrations.[180] The EPA used the Comprehensive Air Quality Model with Extensions (CAMx),[181] including state-level ozone source apportionment modeling using the OSAT/APCA technique.[182] This exercise involved tracking the ozone contribution at each receptor from different sources (e.g., individual states, Mexico and Canada), as well as boundary conditions. As noted in section II.G.3 of this proposed rule, the EPA has released two sets of modeling results, one for year 2017 and one for year 2023.[183] Both cases were simulated using a 2011 base year modeling platform, which means the 2011 meteorology and boundary conditions were applied to both future year cases (2017 and 2023).

CARB's Imperial Ozone Retrospective Demonstration lists the measured 8-hour ozone design value for 2015-2017 at each Imperial County site.[184] It also lists the estimated contribution to ozone in Imperial County resulting from Mexican anthropogenic emissions based on the CSAPR Update 2017.[185] The Mexican contributions to the design values at the Niland, El Centro, and Calexico sites are estimated to be 11%, 15%, and 17% respectively.[186] Then, CARB estimated the 2015-2017 design values without the influence Mexican emissions for each site by reducing the measured ozone design value by the percentage estimated by the interstate transport modeling developed as part of the CSAPR Update for that site. The results are shown in Table 9.

[180] 81 FR 74504; Air Quality Modeling Technical Support Document for the Final Cross State Air Pollution Update (CSAPR Update AQM TSD); and CSAPR Update 2008 Ozone Design Values and Contributions Spreadsheet; and Supplemental 2008 Ozone Transport Memo.
[181] For the final CSAPR Update rule, the EPA used CAMx version 6.20 (Ramboll Environ, 2015), which was the latest public release version of CAMx available at the time the air quality modeling was performed. CSAPR Update AQM TSD, 2, n.5.
[182] Id. at 15.
[183] Results for 2017 are available at: *https://www.epa.gov/sites/production/files/2017-05/documents/aq_modeling_tsd_final_csapr_update.pdf*. Results for are 2023 available at: *https://www.epa.gov/airmarkets/october-2017-memo-and-supplemental-information-interstate-transport-sips-2008-ozone-naaqs*.
[184] Imperial Ozone Retrospective Demonstration, Table 4.
[185] The Canadian influence is assumed to be negligible.
[186] Imperial Ozone Retrospective Demonstration, Table 3. Due to a major update of the Mexican emission inventory used in the 2023 modeling, the modeling results show higher ozone contributions from Mexico at all Imperial County sites in 2023. This larger contribution is likely due to an increase in Mexican emissions with the update to the inventory, as well as a reduction in local Imperial County emissions between 2017 and 2023.

Table 9 – CARB's 2017 Design Value Estimates Based on Scaling EPA's CSAPR Update Modeling

Monitoring Site	Measured 2015-2017 Design Value (ppb)	Estimated 2015-2017 Design Value without Anthropogenic Mexican Emission Inventory (ppb)	Change in Design Value
Niland	63	56.1	11.0 %
El Centro	76	64.4	15.3 %
Calexico	77	63.7	17.3 %

Source: Imperial Ozone Retrospective Demonstration, Table 4.

3. CARB's Back Trajectory Model Analysis

CARB provided a trajectory analysis for each day that exceeded the ozone standards at the Calexico and El Centro monitoring sites for the years 2015, 2016, and 2017. There were no days that exceeded the 2008 Ozone NAAQS at the Niland monitoring site in that period. CARB used the NOAA HYSPLIT model for its back trajectory modeling and identified the hours of each exceedance day with the maximum 8-hour average ozone value. CARB then used the HYSPLIT model to draw an 8-hour back trajectory for each of the 8 hours of data that contributed to the maximum 8-hour ozone value where each line drawn represents the back trajectory for one hour at the air quality monitor.[187]

CARB listed each site and each exceedance day for which at least 5 out of 8 of the eight-hour back trajectories originated from or went through the Mexicali region of Mexico ("CARB's 5 of 8 Back Trajectory Test").[188] CARB determined that for Calexico, 11 of the 14 days were likely to have an influence from sources in the Mexicali region since they each had 5 or more hours with back trajectories passed through the Mexicali region. For El Centro, CARB determined that 8 of the 12 days were likely influenced by sources in the Mexicali region. CARB then excluded the 8-hour monitoring values for the days for which there was a likely influence from Mexico (i.e., 11 days for Calexico and 8 days for El Centro) and calculated new design

[187] Id., App. A.
[188] Id., Table 6.

values for each site. CARB listed the maximum 8-hour average ozone values on all exceedance days at each site, resulting in 2015-2017 design values of 73 ppb in both cases, as shown here in Table 10.

Table 10 – CARB's Predicted 2015-2017 Design Values Excluding Days with Likely Mexican Influence Based on CARB's 5 of 8 Back Trajectory Test

Year	Calexico		El Centro	
	4th High (ppb)	4th High Excluding Mexico Influenced Days (ppb)	4th High (ppb)	4th High Excluding Mexico Influenced Days (ppb)
2015	77	74	77	72
2016	74	73	74	73
2017	82	74	79	75
2015-2017 Design Value	77	73	76	73

Source: Imperial Ozone Retrospective Demonstration, Table 7.

4. CARB's Additional Supporting Information

The comparison of the emissions inventory shows that the Mexicali Municipality and the NO_X emissions (summer planning inventory) are 3.8 times greater than those of Imperial County, and the ROG emissions are 3.1 times greater, as shown in Table 11.

Table 11 – CARB's 2012 Imperial County and Mexicali Municipality Emissions Inventory

Source	Imperial County				Mexicali Municipality			
	NO_X (tpd)	NO_X (%)	ROG (tpd)	ROG (%)	NO_X (tpd)	NO_X (%)	ROG (tpd)	ROG (%)
Stationary	2	8%	1	7%	15	18%	14	24%
Area-wide	1	3%	9	44%	10	12%	27	46%
On-Road Mobile	10	46%	4	22%	56	66%	17	29%
Other Mobile	9	43%	5	27%	4	4%	0.4	1%
Total	22	100%	19	100%	85	100%	59	100%

Source: Imperial Ozone Retrospective Demonstration, Table 1.[189]

CARB also included a figure displaying the 8-hour ozone design value trend, which shows a decrease from 0.112 ppm 1996 to 0.079 ppm in 2010, and fairly consistent values from 2010 to 2017, with a design value of 0.077 ppm for 2015-2017.[190]

[189] See also Imperial Ozone Plan, Table 8-1. Mexicali emissions based on the EPA's 2011 Version 6.3 Platform inventory. The 2011 Version 6.3 Platform is based on the 2011 NEI version 2 and includes projected future years of 2017, 2023, and 2028. The 2011 Version 6.3 Platform supported the CSAPR Update, a rule related to interstate transport for the 2008 ozone NAAQS.

C. EPA Review of State's Submission

The EPA has reviewed CARB's analyses and agrees that, despite CARB and Imperial County APCD's measures to reduce NO_X and VOC emissions, the 8-hour ozone design values at each ozone monitoring site in Imperial County would have been below the 2008 ozone NAAQS of 75 ppb for the 2015-2017 design value period, but for emissions emanating from Mexico. We include the EPA's 179B TSD for Imperial County Ozone, which provides further information regarding our evaluation of the Imperial Ozone Retrospective Demonstration, in the docket of this proposed rule.

First, we reviewed CARB's analysis of the contribution to ozone from Mexican emissions based on CARB's modeling for demonstrating attainment as part of the Imperial Ozone Plan. This scaling exercise first estimated the contribution of Mexican anthropogenic emissions to ozone formation on the measured 2015-2017 ozone design values by assuming that the contribution to the 2015-2017 observed design values was the same proportion as the contribution to the projected 2017 year in the attainment demonstration. The scaling exercise then subtracted this estimated contribution to ozone formation of Mexican anthropogenic emissions from the measured 2015-2017 ozone design values, which resulted in an Imperial County maximum design value of 65 ppb.[191]

The EPA believes the modeling that served as a basis for estimating the contribution was sound. As discussed in section II.G.3 of this proposed rule, CARB and the District implemented the modeling procedures, tests, and performance analyses consistent with the EPA's Modeling Guidance, discussed that modeling in detail, and found that the model performed well. Also, CARB modeled attainment of the 2008 ozone NAAQS but for emissions from Mexico by

[190] Imperial Ozone Retrospective Demonstration, Figure 3, 5.
[191] Imperial Ozone Plan, Table 8-2.

modeling the year 2017, both with and without the anthropogenic emissions inventory from Mexico (within the modeling domain); given the availability of data to perform such analyses, this is a reasonable method of assessing the degree to which Mexican emissions affect ozone concentrations in Imperial County, together with other lines of evidence.

Second, we reviewed CARB's estimation of the contribution to ozone from Mexican emissions based on modeling results from the EPA's interstate air pollution transport modeling developed to estimate ozone design values in the Moderate area attainment year of 2017 for the 2008 ozone NAAQS. We note that this is a similar yet distinct analysis from the analysis described in section II.G.3 of this proposed rule. This scaling exercise on the actual 2015-2017 design values use EPA's CSAPR Update modeling to remove the estimated effect of Mexican emissions and resulted in a maximum design value of 64 ppb for Imperial County. The EPA's CSAPR Update modeling considered multiple aspects of the transport of ozone, including consideration of measured and modeled ambient ozone concentrations; estimated NO_X and VOC emissions inventories for the continental U.S., Mexico, Canada, and boundary conditions; application of state of the science modeling tools for regional air pollution analysis and appropriate model validation; existing and planned emissions control regimes; and meteorology. While the EPA did not design that modeling specifically to assess the degree to which Mexican emissions may affect ozone concentrations in Imperial County, CARB's method of employing the CSAPR Update data among several other lines of evidence is reasonable and estimates that the effect of the Mexican emissions (11% to 17%) would be in a similar range as CARB's analysis of its own modeling (3.7% to 16.5%).

Thus, each of the two modeling exercises indicates that the measured 2015-2017 design values with the predicted impact from Mexican emissions removed would be below the 2008

ozone NAAQS for all three monitoring sites. These analyses make use of detailed and appropriate modeling techniques and data sets and support CARB's conclusion that Imperial County would have attained the 2008 Ozone NAAQS by the 2017 attainment year but for emissions emanating from Mexico.

Third, we reviewed CARB's back trajectory analyses, wherein CARB studied each day that exceeded the 2008 ozone NAAQS at the Calexico and El Centro monitoring sites for the years 2015, 2016, and 2017, and determined which days at the Calexico and El Centro sites were likely to have been influenced by sources in the Mexicali region. As a complement to Table 10 of this proposed rule, we summarized the count of exceedance days that were likely influenced by Mexican emissions based on CARB's 5 of 8 Back Trajectory Test and the count of such days likely to be influenced to a lesser degree by Mexican emissions (4 or less of 8 back trajectories). These counts are shown in Table 12.

Table 12 – EPA's Count of Days Influenced by Mexican Emissions Based on CARB's 5 of 8 Back Trajectory Test

Year	Calexico		El Centro	
	Count of Days with Likely Influence from Mexico (5 of 8 Test)	Count of Days with Less Likely Influence from Mexico	Count of Days with Likely Influence from Mexico (5 of 8 Test)	Count of Days with Less Likely Influence from Mexico
2015	4	0	6	0
2016	2	1	1	1
2017	8	2	5	3

The EPA finds that CARB's methodology for assessing the potential effect of Mexican emissions on recorded ozone exceedances in Imperial County is a reasonable means, among several lines of evidence, for identifying exceedance days and the highest 8-hour period within each such day and examining the origin and pathway of air traveling each hour to the Imperial County monitoring sites within that 8-hour period.

In addition to reviewing the approach and results of CARB's 5 of 8 Back Trajectory Test, the EPA considered a more stringent test that would only remove an exceedance day if 75% (6 of

8) of the back trajectories originated in or passed through Mexico ("EPA's 6 of 8 Back Trajectory Test") as this would reflect a more conservative approach to examining how many days may have been affected by emissions from sources in the Mexicali region.

The EPA reanalyzed the data and determined that 8 of the 14 days for Calexico and 5 of the 12 days for El Centro were likely to have an influence from sources in the Mexicali region.[192] As CARB had done, the EPA excluded the days for which there was a likely influence from Mexico (i.e., 8 days at Calexico and 5 days for El Centro) and calculated new design values for each site. This more stringent analysis resulted in an Imperial County design value of 75 ppb, as shown here in Table 13, supporting the conclusion that Imperial County would have attained the 2008 ozone NAAQS by the 2017 attainment year but for emissions emanating from Mexico. This estimated design value is higher than the estimated design value from the modeling exercises discussed herein because many of the days with fewer than 6 trajectories emanating from Mexico are likely to have some contribution from Mexico. This approach is also conservative because there is likely Mexico influence on all days and this method only removes days where the Mexico influence is expected to be largest.

Table 13 – EPA's Predicted 2015-2017 Design Values Excluding Days with Likely Mexican Influence Based on EPA's 6 of 8 Back Trajectory Test

Year	Calexico		El Centro	
	4th High (ppb)	4th High Excluding Mexico Influenced Days (ppb)	4th High (ppb)	4th High Excluding Mexico Influenced Days (ppb)
2015	77	74	77	73
2016	74	74	74	73
2017	82	75	79	79
2015-2017 Design Value	77	74	76	75

For comparison, we also include a count of exceedance days that were likely influenced by Mexican emissions based on EPA's 6 of 8 Back Trajectory Test and the count of such days

[192] For the days identified for El Centro with trajectories as having a likely influence from Mexico, the EPA has conducted additional trajectory analyses to further assess the influence of the Mexicali emissions. This information is provided in the EPA's 179B TSD for Imperial County Ozone.

likely to be influenced to a lesser degree by Mexican emissions (5 or less of 8 back trajectories). These counts are shown in Table 14.

Table 14 – EPA's Count of Days Influenced by Mexican Emissions Based on EPA's 6 of 8 Back Trajectory Test

Year	Calexico		El Centro	
	Count of Days with Likely Influence from Mexico (6 of 8 Test)	Count of Days with Less Likely Influence from Mexico	Count of Days with Likely Influence from Mexico (6 of 8 Test)	Count of Days with Less Likely Influence from Mexico
2015	4 [193]	0	4	2
2016	0	3	1	1
2017	7	3	0	8

The additional information provided by the State also supports the conclusion that Imperial County would have attained the 2008 ozone NAAQS by the attainment date of July 20, 2018, but for emissions emanating from Mexico. In brief, the emission inventory data presented indicate that the Mexicali Municipality emits three times the amount of ozone precursors emitted in Imperial County, such emissions could have had a substantial effect on Imperial County ozone concentrations, and Imperial County ozone concentrations would have been lower in the absence of Mexican emissions. In addition, the proximity of the Mexican border to the monitoring sites (1 mile from Calexico and 9 miles from El Centro) and the shared topography and meteorology of Imperial Valley also support the potential of Mexican emissions having a substantial and immediate effect on ozone concentrations in Imperial County.

In conclusion, the EPA evaluated the information provided by CARB and applied a more conservative test using CARB's back trajectory method. CARB's modeling estimates of Mexican contribution based on modeling data from the Imperial Ozone Plan attainment demonstration and the EPA's CSAPR Update modeling, and the EPA's application of a more conservative test using CARB's back trajectory method to analyze exceedance days in the 2015-

[193] September 23, 2015 has 5 of the 6 trajectories (83%) for which data was available originating in Mexico. Thus, we included this exceedance day in the count of days with likely influence from Mexico.

2017 design value period together support the conclusion that Imperial County would have attained the standards but for the impacts of emissions from Mexico. Furthermore, the emissions inventory, showing that the ozone precursor emissions for Mexicali Municipality are over three times those emitted in Imperial County, and the proximity and shared airshed of the Calexico and El Centro monitor to these emissions, also support the conclusion that the Mexican emissions affected the ozone concentrations at these sites.

Thus, based on our evaluation of these several lines of evidence and analyses that together support the same conclusion, the EPA proposes to determine, under CAA sections 179B(b) and 181(b)(2)(A), that Imperial County would have attained the 2008 ozone NAAQS by the Moderate area attainment date of July 20, 2018, but for emissions emanating from Mexico.

IV. Proposed Action

For the reasons discussed in this notice, under CAA section 110(k)(3), the EPA is proposing to approve, as a revision to the California SIP, the Imperial Ozone Plan and the Imperial County portion of the 2018 SIP Update related to:

- Emissions statement certification as meeting the requirements of CAA section 182(a)(3)(B);
- Base year emissions inventory as meeting the requirements of CAA sections 172(c)(3) and 182(a)(1) and 40 CFR 51.1115 with respect to attainment planning;
- RACM demonstration as meeting the requirements of CAA section 172(c)(1) and 40 CFR 51.1112(c);
- RFP demonstration as meeting the requirements of CAA section 182(b)(1) and 40 CFR 51.1110(a)(4)(i); and

- Motor vehicle emission budgets for the 2017 RFP milestone year because they are consistent with the RFP demonstration and the demonstration of attainment but for international emissions that are proposed for approval herein and meet the other criteria in 40 CFR 93.118(e).

We also propose that finalization of this action would render the RFP contingency measure requirement of CAA section 172(c)(9) moot and that attainment contingency measures would no longer be required, as discussed in section II.J of this proposed rule.

Given our proposal that the Imperial Ozone Plan meets all requirements for the Imperial County Moderate ozone nonattainment area, other than the requirement to demonstrate attainment, and our evaluation of the State's lines of evidence that together support the conclusion that Imperial County would attain the 2008 ozone NAAQS by the July 20, 2018 attainment date but for emissions emanating from Mexico, the EPA proposes to approve the Imperial Ozone Plan's section 179B attainment demonstration as meeting the requirements of CAA sections 172(c)(1), 182(b)(1)(A), and 179B(a) and 40 CFR 51.1108.

Concurrently, we are proposing to determine, consistent with our evaluation of the Imperial Ozone Plan, the 2018 Update, and Imperial Ozone Retrospective Demonstration, that the Imperial County nonattainment area would have attained the 2008 ozone NAAQS by the Moderate area attainment date of July 20, 2018, but for emissions emanating from outside of the United States, under CAA sections 179B(b). Therefore, if finalized, the EPA's obligation under section 181(b)(2)(A) to determine whether the area attained by its attainment date would no longer apply and the area would not be reclassified.

The EPA is soliciting public comments on the issues discussed in this document. We will accept comments from the public on this proposal for the next 30 days and will consider comments before taking final action.

V. Statutory and Executive Order Reviews

With respect to our proposal on the Imperial Ozone Plan and the 2018 SIP Update, under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this proposed action merely proposes to approve state plans as meeting federal requirements and does not impose additional requirements beyond those imposed by state law.

With respect to our proposed determination that Imperial County attained the 2008 ozone NAAQS by July 20, 2018 but for emissions from Mexico, the purpose of this rule is to determine whether Imperial County attained the 2008 ozone standards by its Moderate area attainment date, which is required under the CAA for purposes of implementing the 2008 ozone standards.

For these reasons, this proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);

- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, with respect to our proposal on the Imperial Ozone Plan and the 2018 SIP Update, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed rule does 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).

However, with respect to our proposed determination that Imperial County attained the 2008 ozone NAAQS by July 20, 2018, but for emissions from Mexico, this action has tribal implications. Nonetheless, it will neither impose substantial direct compliance costs on federally recognized tribal governments, nor preempt tribal law. Two tribes have areas of Indian country within or directly adjacent to the Imperial County: Quechan Tribe of the Fort Yuma Indian Reservation and the Torres Martinez Desert Cahuilla Indians. The EPA intends to communicate with potentially affected tribes located within or directly adjacent to the boundaries of Imperial County on this proposed action.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Volatile organic compounds.

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

Dated: September 30, 2019.

Deborah Jordan,
Acting Regional Administrator,
Region IX.

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