6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2019-0541; FRL-10000-65-Region 9]

Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; Phoenix-Mesa, Arizona

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing action on a state implementation plan (SIP) revision submitted by the State of Arizona on behalf of the Maricopa Association of Governments (MAG) to meet Clean Air Act (CAA or "the Act") requirements for the 2008 ozone national ambient air quality standards (NAAQS or "standards") in the Phoenix-Mesa ("Phoenix") ozone nonattainment area. The EPA is proposing to approve the portions of the "MAG 2017 8-Hour Ozone Moderate Area Plan" ("MAG 2017 Ozone Plan" or "Plan") that address the requirements for emissions inventories, a demonstration of attainment by the applicable attainment date, reasonably available control measures, reasonable further progress (RFP), motor vehicle emission budgets for transportation conformity, vehicle inspection and maintenance programs, new source review rules, and offsets. The EPA is proposing to disapprove the portion of the MAG 2017 Ozone Plan that addresses the requirements for contingency measures for failure to attain or to make RFP. However, based on a separate proposed action finding that the Phoenix nonattainment area attained the 2008 ozone standard by the applicable attainment date, we are also proposing to determine that the requirement for contingency measures will no longer apply to the Phoenix nonattainment area. Finally, we are

proposing to approve the portions of a SIP revision, the "2014 Eight-Hour Ozone Plan—Submittal of Marginal Area Requirements for the Maricopa Nonattainment Area (June 2014)" ("MAG 2014 Ozone Plan"), on which we previously deferred action.

DATES: Written comments must arrive on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE ***FEDERAL REGISTER***].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2019-0541 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 *http://www.epa.gov/dockets/commenting-epa-dockets*.

FOR FURTHER INFORMATION CONTACT: Nancy Levin, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105. Phone: (415) 972-3848 or by email at *levin.nancy@epa.gov*.

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

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I. Regulatory Context

A. Ozone Standards, Area Designations, and SIPs

Ground-level ozone is formed when oxides of nitrogen (NO_X) and volatile organic compounds (VOC) react in the presence of sunlight. These two pollutants, referred to as ozone precursors, are emitted by many types of pollution sources, including on- and off-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. Ozone exposure also has been associated with increased susceptibility to respiratory infections, medication use, doctor visits, and emergency department

visits and hospital admissions for individuals with lung disease. Ozone exposure also increases the risk of premature death from heart or lung disease. Children are at increased risk from exposure to ozone because their lungs are still developing, and they are more likely to be active outdoors, which increases their exposure.[1] In 1979, under CAA section 109, the EPA established primary and secondary NAAQS for ozone at 0.12 parts per million (ppm) averaged over a 1-hour period.[2]

On July 18, 1997, the EPA revised the primary and secondary NAAQS for ozone to 0.08 ppm, averaged over an 8-hour period ("1997 ozone standard").[3] The EPA set the 1997 ozone standard based on scientific evidence demonstrating that ozone causes adverse health effects at lower concentrations and over longer periods of time than was understood when the pre-existing 1-hour ozone standard was set. The EPA determined that the 1997 ozone standard would be more protective of human health, especially of children and adults who are active outdoors, and individuals with a pre-existing respiratory disease, such as asthma.

On March 12, 2008, the EPA revised the primary and secondary NAAQS for ozone to 0.075 ppm (annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) ("2008 ozone standard").[4] The EPA set the 2008 ozone standard based on scientific evidence demonstrating that ozone causes adverse health effects at lower concentrations and over longer periods of time than was understood when the pre-existing 1997 ozone standard was set. The EPA determined that the 2008 ozone standard would be more protective of human health,

[1] "Fact Sheet-2008 Final Revisions to the National Ambient Air Quality Standards for Ozone" dated March 2008 and 75 FR 2938 (January 19, 2010).
[2] 44 FR 8202 (February 8, 1979).
[3] 62 FR 38856 (July 18, 1997).
[4] 73 FR 16436 (March 27, 2008). Since the 2008 primary and secondary NAAQS for ozone are identical, for convenience, we refer to both as "the 2008 ozone NAAQS" or "the 2008 ozone standard."

especially of children and adults who are active outdoors, and individuals with a pre-existing respiratory disease, such as asthma.

In accordance with section 107(d) of the CAA, the EPA must designate an area "nonattainment" if it is violating the NAAQS or if it is contributing to a violation of the NAAQS in a nearby area. On May 21, 2012, the EPA designated areas of the country with respect to the 2008 ozone standard.[5]

The EPA proposed the 2008 ozone standard SIP Requirements Rule ("2008 Ozone SRR" or SRR) on June 6, 2013[6] and finalized the SRR on March 6, 2015,[7] effective April 6, 2015. The SRR promulgated implementation requirements for the 2008 ozone NAAQS and revoked the 1997 ozone standard.[8] The rule is codified at 40 CFR part 51, subpart AA. The SRR was challenged by various parties, and on February 16, 2018, the U.S. Court of Appeals for the D.C. Circuit published its decision in *South Coast Air Quality Management. District v. EPA*[9] ("*South Coast II*")[10] vacating portions of the 2008 Ozone SRR. The *South Coast II* decision does not affect this proposed action.

On October 1, 2015, the EPA strengthened the primary and secondary 8-hour ozone NAAQS to 0.070 ppm (annual fourth-highest daily maximum 8-hour concentration, averaged

[5] 77 FR 30087 and 40 CFR 81.330.
[6] 78 FR 34178.
[7] 80 FR 12264, codified at 40 CFR part 51, subpart AA.
[8] The SRR revokes the 1997 ozone NAAQS, but not all of the requirements for implementing the 1997 ozone NAAQS.
[9] *South Coast Air Quality Management District v. EPA,* 882 F.3d 1138 (D.C. Cir. 2018) ("*South Coast II*").
[10] The term "*South Coast II*" is used in reference to the 2018 court decision to distinguish it from a decision published in 2006 also referred to as "South Coast." The earlier decision involved a challenge to the EPA's Phase 1 implementation rule for the 1997 ozone NAAQS. *South Coast Air Quality Management Dist. v. EPA,* 472 F.3d 882 (D.C. Cir. 2006).

over 3 years).[11] Today's action only applies to the 2008 ozone standard and does not address requirements of the 2015 ozone standard.

In Arizona, the Arizona Department of Environmental Quality (ADEQ or "State") is the state agency responsible for the adoption and submission of SIP revisions to the EPA. In the Phoenix nonattainment area, MAG develops and adopts air quality management plans to address CAA planning requirements applicable to that region. MAG submits those plans to ADEQ, which in turn adopts and submits the plans to the EPA.

B. The Phoenix 2008 Ozone Nonattainment Area

The EPA designated the Phoenix area as nonattainment for the 2008 ozone standard on May 21, 2012, effective July 20, 2012.[12] The Phoenix nonattainment area, which includes a portion of Maricopa County and a portion of Pinal County, was classified by operation of law as "Marginal" nonattainment[13] and became subject to Marginal nonattainment area requirements under the CAA.[14] On July 2, 2014, ADEQ submitted the MAG 2014 Ozone Plan.

On October 16, 2015, the EPA took direct final action to approve the MAG 2014 Ozone Plan with respect to the requirements of CAA section 182(a)(1) (Base Year Emissions Inventory), 182(a)(2)(A) (Reasonably Available Control Technology Corrections), and 182(a)(2)(B) (Vehicle Inspection and Maintenance Programs), and 182(a)(3)(B) (Emissions Statements).[15] We deferred action with respect to the requirements of CAA sections 176(c) (Transportation Conformity), 182(a)(2)(C) (Permit Programs) and 182(a)(4) (General Offset Requirement).

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[11] 80 FR 65292.
[12] 77 FR 30088.
[13] 40 CFR 81.303.
[14] See section 172, "Nonattainment plan provisions," and subpart 2, "Additional Provisions for Ozone Nonattainment Areas," sections 181 and 182(a).
[15] 80 FR 62457.

On August 27, 2015, the EPA proposed to reclassify the Phoenix nonattainment area as "Moderate" nonattainment for the 2008 ozone NAAQS because the area failed to attain the 2008 ozone standard by the Marginal area attainment deadline of July 20, 2015.[16] The EPA finalized this action on May 4, 2016.[17] As a result of this reclassification to Moderate nonattainment, the Phoenix nonattainment area, already subject to Marginal Area requirements, became subject to additional requirements, including: a reasonably available control measures (RACM) demonstration; an attainment demonstration; an RFP demonstration; contingency measures to provide for RFP and attainment; motor vehicle emission budgets (MVEB or "budgets") for transportation conformity; and Moderate area vehicle inspection and maintenance (I/M) provisions.[18] SIP revisions addressing these requirements[19] were due to the EPA by January 1, 2017.[20]

II. Submission from the State of Arizona to Address 2008 Ozone Requirements in the Phoenix Nonattainment Area

A. Summary of Submission

On December 13, 2016, in response to the area's reclassification to Moderate nonattainment for the 2008 ozone standard, ADEQ adopted the MAG 2017 Ozone Plan, which had previously been adopted by MAG and forwarded to ADEQ for adoption and submittal to the EPA. ADEQ submitted the MAG 2017 Ozone Plan to the EPA as a revision to the Arizona SIP on December 19, 2016.

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[16] 80 FR 51992.
[17] 81 FR 26697.
[18] CAA section 182(b).
[19] We note that the EPA discontinued the "Stage II Vapor Recovery Program" required under CAA section 182(b)(3). 80 FR 70689 (November 16, 2015).
[20] 80 FR 51992, 51999.

The MAG 2017 Ozone Plan submittal consists of documents developed by MAG and the Maricopa County Air Quality District (MCAQD). The plan addresses the requirements for emissions inventories, air quality modeling demonstrating attainment of the 2008 ozone standard by the applicable attainment year, provisions demonstrating implementation of RACM, and a demonstration of RFP, among other requirements.

B. Clean Air Act Procedural Requirements for Adoption and Submission of SIP Revisions

CAA section 110(a)(1) and (2), and 110(l) require states to provide reasonable 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 must 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.

Section 110(k)(1)(B) requires the EPA to determine whether a SIP submittal is complete within 60 days of receipt. Any plan that we have not affirmatively determined to be complete or incomplete will become complete six months after the day of submittal by operation of law. A finding of completeness starts a 12-month clock for the EPA to act on the SIP submittal.[21] ADEQ's submittal documents the public review process followed by MAG and ADEQ in adopting the MAG 2017 Ozone Plan prior to submittal to the EPA as a revision to the SIP.[22] The public hearing was held October 17, 2016, at the MAG offices in Phoenix.[23] In addition, ADEQ's submittal documents the adoption of the MAG 2017 Ozone Plan by the MAG Regional Council and authorization to submit the plan to ADEQ and the EPA on December 7, 2016.[24] On

[21] CAA section 110(k)(2).
[22] Plan Appendix C Exhibit 1 – Public Hearing Process Demonstration.
[23] Id.
[24] Plan Appendix C, Exhibit 2: Certification of Adoption and MAG Authority for Regional Air Quality Planning.

December 19, 2016, ADEQ submitted to the EPA the MAG 2017 Ozone Plan and requested its approval into the Arizona SIP.[25]

Based on the documentation included in ADEQ's submittal, we find that the MAG 2017 Ozone Plan satisfies the procedural requirements of sections 110(a)(1), 110(a)(2) and 110(l) of the Act requiring states to provide reasonable notice and opportunity for public hearing prior to adoption of SIP revisions. The MAG 2017 Ozone Plan became complete by operation of law on June 19, 2017, pursuant to section 110(k)(1)(B).

We previously found that the MAG 2014 Ozone Plan also satisfied the procedural requirements of sections 110(a)(1) and 110(l) of the Act.[26] The MAG 2014 Ozone Plan became complete by operation of law on January 2, 2015, pursuant to section 110(k)(1)(B).

III. Evaluation of the MAG 2017 Ozone Plan

A. Emissions Inventories

1. Statutory and Regulatory Requirements and Guidance

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. The 2008 Ozone SRR requires that the inventory year be selected 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.[27]

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[25] See letter dated December 13, 2016, from Timothy S. Franquist, ADEQ, to Alexis Strauss, EPA, which was submitted electronically to the EPA with the MAG 2017 Ozone Plan on December 19, 2019.
[26] 80 FR 62457, 62458.
[27] 2008 Ozone SRR at 40 CFR 51.1115(a) and the Air Emissions Reporting Requirements at 40 CFR part 51 subpart A.

In addition, CAA section 182(a)(3)(A) and the 2008 Ozone SRR at 40 CFR 51.1115(b) require states to submit a periodic emissions inventory of emissions sources in each ozone nonattainment by the end of each 3-year period after the required submission of the base year inventory for the nonattainment area. Finally, although not expressly required by the CAA, future year emissions inventories are also necessary for photochemical modeling to demonstrate attainment, as well as to demonstrate RFP.

The EPA has issued guidance on the development of base year, periodic, and future year emissions inventories for 8-hour ozone and other pollutants.[28] Emissions inventories for ozone must include emissions of VOC and NO_X and represent emissions for a typical ozone season weekday.[29] States should include documentation explaining how the emissions data were calculated. In estimating mobile source emissions, states should use the latest emissions models and planning assumptions available at the time the SIP is developed.[30]

2. Summary of the State's Submission

The MAG 2017 Ozone Plan includes a base year (2011) inventory,[31] a periodic (2014) inventory, [32] and a future (attainment) year (2017) inventory.[33]

3. The EPA's Evaluation

Based in part on a supplemental "recast" ozone season-day emissions inventory for June-August, we previously approved the 2011 base year inventory submitted with MAG's 2014

[28] "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 MAG 2017 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, November 2005.
[29] 40 CFR 51.1115(a) and (c), and 40 CFR 51.1100(bb) and (cc).
[30] 80 FR 12264, at 12290 (March 6, 2015).
[31] MAG 2017 Ozone Plan, Appendix A, Exhibit 1.
[32] Id. Appendix A, Exhibit 2.
[33] Id. Appendix A to Appendix B, Exhibit 1, ("Modeling Protocol"), section 6.2.

Ozone Plan as meeting the requirements of CAA section 182(a)(1) and 40 CFR 51.1115.[34] We recommended that this revised 2011 ozone season-day emission inventory be included as part of the Moderate area SIP revision.[35] This inventory is included as part of Appendix A, Exhibit 1 in the MAG 2017 Ozone Plan. Based on the evaluation in that previous approval, we find that this revised inventory meets the requirements of CAA section 182(a)(1).

The 2014 periodic inventory generally follows the same approach as the 2011 inventory. Accordingly, we propose to find that it meets the requirements of CAA section 182(a)(3)(A) and 40 CFR 51.1115.

With respect to the 2017 modeling emissions inventory, we have reviewed the growth and control factors and find them acceptable and conclude that the future emissions projections in the MAG 2017 Ozone Plan reflect appropriate calculation methods. For further discussion of the future year 2017 modeling emissions inventory, see section III.C. of this notice ("Attainment Demonstration").

B. Reasonably Available Control Measures Demonstration and Control Strategy

1. Statutory and Regulatory Requirements and Guidance

CAA section 172(c)(1) 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 reasonably available control technology (RACT))[36] and provide for attainment of the NAAQS. The 2008 Ozone SRR requires that, for each nonattainment area required to submit an attainment demonstration, the

[34] 80 FR 62457, 62459.
[35] Id.
[36] 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 the EPA has issued a Control Techniques Guideline. CAA section 182(f) requires that RACT under section 182(b)(2) also apply to major stationary sources of NO_X. ADEQ has submitted separate SIP revisions to address these requirements. We are not addressing the section 182 RACT requirements in today's proposed rule.

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.[37] In the preamble to final SRR, the EPA explained that we would continue to apply existing RACM guidance to the 2008 ozone NAAQS.[38] In particular, the EPA has previously provided guidance interpreting the RACM requirement in the General Preamble for the Implementation of the Clean Air Act Amendments of 1990 and in a memorandum entitled "Guidance on the Reasonably Available Control Measure Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas."[39] Consistent with this existing guidance, we interpret the RACM provision to require a demonstration that the state has adopted all reasonable measures (including RACT) to meet RFP requirements and to demonstrate attainment as expeditiously as practicable and thus that no additional measures that are reasonably available will advance the attainment date or contribute to RFP for the area.[40] States should consider all available measures, including those being implemented in other areas, but are only required to adopt measures that are economically and technologically feasible and will advance the attainment date or are necessary for RFP.[41] Any measures that are necessary to meet these requirements that are not already either federally promulgated, or part of the state's SIP, or otherwise creditable in the SIP, must be submitted in enforceable form as part of the state's attainment plan for the area.

CAA section 172(c)(6) requires that nonattainment area plans include enforceable emissions limitations, and such other control measures, means or techniques (including

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[37] 40 CFR 51.1112(c).
[38] 80 FR 12264, 12282.
[39] See General Preamble, 57 FR 13498 at 13560 (April 16, 1992) and Memorandum dated November 30, 1999, from John Seitz, Director, OAQPS, to Regional Air Directors, titled "Guidance on the Reasonably Available Control Measure Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas."
[40] 80 FR 12264, 12282.
[41] Id.

economic incentives such as fees, marketable permits, and auctions of emission rights), and schedules and timetables for compliance, as may be necessary or appropriate to provide for timely attainment of the NAAQS.[42] Under the 2008 Ozone SRR, all control measures needed for attainment must be implemented no later than the beginning of the attainment year ozone season.[43] The attainment year ozone season is defined as the ozone season immediately preceding a nonattainment area's maximum attainment date.[44]

2. Summary of the State's Submission

MAG addresses RACM requirements in Chapter Four, "Evaluation of Control Measure Requirements in the Clean Air Act." To identify RACM, MAG reviewed existing control measures for ozone precursors in the Phoenix nonattainment area and compared them to the EPA's Menu of Control Measures (MCM)[45] and to VOC and NO_X rules in the Sacramento Metropolitan Air Quality Management District (SMAQMD).[46] In Table 4-1 of the MAG 2017 Ozone Plan, MAG lists 93 existing ozone control measures and the dates that they were approved by the EPA. In the years prior to the adoption of the MAG 2017 Ozone Plan, MAG developed and the EPA approved comprehensive plans to provide for attainment of the NAAQS for carbon monoxide (e.g., Revised MAG 1999 Serious Area Carbon Monoxide Plan)[47] and ozone (e.g., 2000 Ozone Plan for the 1-hour ozone NAAQS, 2007 Ozone Plan for the 1997 ozone NAAQS, and 2009 Redesignation Request and Maintenance Plan for the 1997 ozone

[42] See also CAA section 110(a)(2)(A).
[43] 40 CFR 51.1108(d).
[44] 40 CFR 51.1100(h).
[45] *https://www.epa.gov/air-quality-implementation-plans/menu-control-measures-naaqs-implementation.* The Menu of Control Measures for NAAQS Implementation provides state, local and tribal air agencies with information on existing emissions reduction measures and relevant information concerning the efficiency and cost effectiveness of the measures. The MCM is intended to provide a broad, though not comprehensive, listing of potential emissions for direct $PM_{2.5}$ and ozone precursors, for use as an initial screening step.
[46] The Sacramento metropolitan area is classified as "Severe-15" for the 2008 ozone NAAQS.
[47] 70 FR 11553 (March 9, 2005).

NAAQS).[48] These plans, and other actions, have resulted in the adoption of new rules and amendments to existing rules for stationary, area, and mobile sources, many of which are listed in Table 4-1 of the Plan.

When comparing the existing measures in the Phoenix nonattainment area with the MCM, MAG generally finds the following: (1) MCAQD has adopted rules that have equivalent controls; (2) the controls apply to sources that are not present in the nonattainment area (e.g., cement kilns, Fluid Catalytic Cracking Units, glass manufacturing); and/or (3) the controls are not necessary for attainment or RFP and will not advance the attainment date.[49] When comparing the existing measures with SMAQMD NO_X and VOC rules, MAG finds the following: MCAQD has adopted rules that have equivalent controls (e.g., Rule 348, Aerospace Manufacturing and Rework Operations; Rule 337, Graphic Arts; and Rule 331, Solvent Cleaning) and/or additional controls are not necessary for attainment or RFP and will not advance the attainment date.[50] With respect to the Pinal County portion of the Phoenix nonattainment area, MAG notes the following: there are no major sources of NO_X and VOC; the RACT rules for the only two source categories subject to RACT requirements, gas stations and a metal surface coating operation, are currently being updated; and the few remaining permitted stationary sources in the Pinal County portion of the nonattainment area have negligible emissions in comparison to total anthropogenic emissions in the nonattainment area.[51] MAG also concludes that additional controls beyond those required by existing rules are not necessary for expeditious attainment or RFP because modeling indicates that the existing control measures are sufficient to demonstrate attainment as

[48] 70 FR 34362 (June 14, 2005), 77 FR 35285 (June 13, 2012), 79 FR 55645 (September 17, 2014).
[49] Plan, Table 4-2.
[50] Plan, Table 4-3.
[51] Plan, 4-2 - 4-3.

expeditiously as practicable and to make RFP. In addition, MAG notes that any new or strengthened measures could not be implemented in time to advance the attainment date.

MAG describes the overall control strategy for the Phoenix ozone nonattainment area in Chapter 5 of the Plan. In Table 5-1 of the Plan MAG lists 93 existing and approved federal, state, and local ozone control measures in the Phoenix nonattainment area. Out of these 93 measures, MAG identifies 13 measures with quantifiable emissions reduction benefits.[52] Table 1 lists these 13 measures.

Table 1 – Control Measures Used for Numeric Emissions Reductions Credit

Rule Title	Source Category	Citation for EPA approval
Long-Term Fuel Reformulation: From and After May 1, 1999	Onroad/Nonroad	70 FR 11553 (March 9, 2005)
Phased-In Emission Test Cutpoints	Onroad	70 FR 11553 (March 9, 2005)
One-Time Waiver from Vehicle Emissions Test	Onroad	70 FR 11553 (March 9, 2005)
Tougher Enforcement of Vehicle Registration and Emissions Test Compliance	Onroad	70 FR 11553 (March 9, 2005)
Expansion of Area A boundaries	Onroad/Nonroad/Area	70 FR 11553 (March 9, 2005)
Gross Polluter Option for I/M Program Waivers	Onroad	70 FR 11553 (March 9, 2005)
Coordinate Traffic Signal Systems	Onroad	70 FR 11553 (March 9, 2005)
Develop Intelligent Transportation Systems	Onroad	70 FR 11553 (March 9, 2005)
Federal Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements; Federal Tier 3 Motor Vehicle Emission and Fuel Standards	Onroad	65 FR 6697 (February 2, 2000); 79 FR 23413 (April 28, 2014)
Federal Phase 1 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles; Phase 1 and Phase 2 Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards	Onroad	76 FR 57105 (September 15, 2011); 75 FR 25323 (May 7, 2010); 77 FR 62623 (October 15, 2012)

[52] Plan, 5-12.

Federal Nonroad Equipment Emissions Standards (Control of Emissions of Air Pollution From Nonroad Diesel Engines and Fuel; Control of Emissions of Air Pollution From Nonroad Diesel Engines; Control of Emissions From Nonroad Spark-Ignition Engines and Equipment)	Nonroad	69 FR 38957 (June 29, 2004); 63 FR 56968 (October 23, 1998); 73 FR 59033 (October 8, 2008)
Federal Heavy-Duty Diesel Vehicle Emissions Standards (Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements)	Onroad	66 FR 5001 (January 18, 2001; 77 FR 35285 (June 13, 2012)
Control of Hazardous Air Pollutants From Mobile Sources (including VOCs from portable gas cans)	Onroad/Area	72 FR 8427 (February 26, 2007)

Source: Plan, 5-12 - 5-18.

MAG states that the first 12 measures listed in Table 1 will result in onroad and nonroad emissions reductions.[53] Specifically, MAG states that the measures will produce onroad reductions, on an average ozone season day in 2017, of 25.3 metric tons per day (tpd) of VOC and 54.5 metric tpd of NO_X. MAG states that the nonroad mobile source emissions reductions in 2017 for these 12 measures are 7.6 metric tpd of VOC and 17.3 metric tpd of NO_X. MAG states that the final measure listed in Table 1 (Control of Hazardous Air Pollutants From Mobile Sources) will result in 6.2 metric tpd of VOC reductions on an average ozone season day. MAG notes that MCAQD and the Pinal County Air Quality Control District (PCAQCD) separately prepared RACT analyses to meet the requirements of CAA sections 182(b)(2) and 182(f). However, MAG did not include reductions from RACT rules in the RACM determination and the attainment demonstration (described in section III.B of this notice) because it determined that RACT-related reductions were not necessary for expeditious attainment or for RFP requirements.

3. The EPA's Evaluation

The process followed by MAG in the MAG 2017 Ozone Plan to identify RACM is generally consistent with the EPA's recommendations in the General Preamble. The process

[53] Plan, Chapter 5.

included comparing existing control measures in the Phoenix nonattainment area to a comprehensive list of potential control measures for sources of NO_X and VOC. As part of this process, MAG evaluated potential controls for all relevant source categories. MAG provided justification for rejecting measures that may provide greater emissions reductions, namely that those measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

We have reviewed MAG's determination in the MAG 2017 Ozone Plan that its control measures represent RACM for NO_X and VOC. MAG presented 13 measures for which it is claiming numerical credit towards attainment. We agree with the conclusion that there are no additional reasonably available measures that would advance attainment of the 2008 ozone standards in the Phoenix area by at least one year, because advancing attainment by one year could only have been achieved through implementation of additional controls by January 1, 2016, one year before the attainment plan was due. As explained in section III.C of this notice, we find that MAG has met RFP requirements with existing measures. Because the plan demonstrates expeditious attainment and RFP without new or more stringent control measures, we agree that the area's rules provide for the implementation of RACM for NO_X and VOC. For the foregoing reasons, we propose to find that the MAG 2017 Ozone Plan provides for the implementation of all RACM as required by CAA section 172(c)(1) and 40 CFR 51.1112(c).

C. Attainment Demonstration

1. Statutory and Regulatory Requirements and Guidance

CAA section 182(b)(1)(A)(i) requires RFP plans for Moderate areas to provide for such specific annual reductions in emissions of VOC and NO_X as necessary to attain the NAAQS by the applicable attainment date. The EPA interprets this as a requirement for Moderate areas to submit

an attainment demonstration.[54] Accordingly, under the SRR, Moderate areas are required to submit an attainment demonstration "based on photochemical grid modeling or any other analytical method determined ... to be at least as effective."[55] The demonstration must also meet the requirements of 40 CFR 51.112,[56] which refers to the EPA's "Guideline on Air Quality Models," 40 CFR part 50, Appendix W. The attainment demonstration predicts 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.

As described in section II.B of this notice, the Phoenix area was designated nonattainment effective July 20, 2012, and was reclassified to Moderate nonattainment in 2016. Therefore, the attainment date for the 2008 ozone NAAQS is as expeditious as practicable but no later than July 20, 2018.[57] As explained in the preamble to the SRR, "[t]o demonstrate attainment, the modeling results for the nonattainment area must predict that emissions reductions implemented by the beginning of the last full ozone season preceding the attainment date will result in ozone concentrations that meet the level of the standard."[58] The SRR defines "ozone season" with reference to each state's ozone monitoring season,[59] which for Arizona is year-round.[60] Therefore, the modeling year for Phoenix must be no later than 2017.[61]

The Guideline on Air Quality Models recommends the use of photochemical grid models for ozone attainment demonstrations and encourages states to follow current modeling

[54] 80 FR 12264, 12269.
[55] 40 CFR 51.1108(c).
[56] Id.
[57]40 CFR 51.1103(a).
[58] 80 FR 12264, 12270.
[59] 40 CFR 51.1110(n).
[60] 40 CFR part 58, appendix D, section 4.1(i).
[61] 80 FR 12264, 12270.

guidance.[62] The EPA's recommended procedures for modeling ozone as part of an attainment demonstration are contained in "Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze" ("Modeling Guidance").[63] The Modeling Guidance includes recommendations for a modeling protocol, model input preparation, model performance evaluation, use of model output for the numerical NAAQS attainment test, and modeling documentation. Air quality modeling is performed using meteorology and emissions from a base year, and the predicted concentrations from this base case modeling are compared to air quality monitoring data from that year to evaluate model performance.

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 provide the future design value for comparison to the NAAQS. The Modeling Guidance also recommends supplemental air quality analyses, which may be used as part of a weight of evidence (WOE) analysis. A WOE analysis corroborates the attainment demonstration by considering evidence other than the main air quality modeling attainment test, such as trends and additional monitoring and modeling analyses.

2. Summary of the State's Submission and the EPA's Evaluation

MAG performed the air quality modeling for the plan, which relies on a 2011 base year and demonstrates attainment in 2017.[64] The plan includes a modeling protocol that details and

[62] 40 CFR part 50, appendix W, section 5.3.1.
[63] "Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze", November 2018, EPA 454/R-18-009 ("Modeling Guidance").
[64] As described in section III.A. 3 of this notice, the Plan demonstrates that no additional reasonably available measures would advance attainment of the 2008 ozone standards in the Phoenix area by at least one year ahead of 2017. Therefore, 2017 is the appropriate modeled attainment year.

formalizes the procedures MAG used to prepare the attainment demonstration. The modeling protocol contains all the elements recommended in the Modeling Guidance: an overview of the air quality issue; 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; supplemental analyses needed to develop a WOE analysis; and a list of participants in the analyses, schedules, and deliverables.[65]

The modeling and modeled attainment demonstration are described in Chapter 6 of the MAG 2017 Ozone Plan and in more detail in Appendix B, Exhibit 1 ("Modeling Technical Support Document" or "Modeling TSD"). The modeling analysis uses version 6.2 of the Comprehensive Air Quality Model with Extensions (CAMx) with meteorological input generated using the Weather and Research Forecasting model version 3.7 (WRF). CAMx and WRF are both recognized in the Modeling Guidance as technically sound, state-of-the-art models. We reviewed the areal extent and the horizontal and vertical resolution used in these models and determined they were adequate for modeling Phoenix ozone. MAG chose 2011 as the model base year because it corresponded to the most recent triennial inventory at the time of plan development. Additionally, supplemental analysis in Section IV of the Modeling TSD shows that 2011 had among the highest number of ozone exceedance days and 4th highest daily maximum ozone concentrations in the 2009-2014 period. MAG modeled May through September, which spans the period of highest ozone concentrations in the Phoenix area.

[65] MAG 2017 Ozone Plan, Appendix B, Exhibit 1, ("Modeling Technical Support Document" or "Modeling TSD"), Appendix A.

Section IV of the Modeling TSD describes the meteorological and ozone model performance statistics used to evaluate the modeling. MAG provides statistical metrics for modeled wind speed, wind direction, temperature, and water vapor mixing ratio compared to observations from 13 weather stations in the nonattainment area paired in time and space. Temperature and water vapor mixing ratios show good agreement with observations, with little bias. The modeled wind speed shows an overestimate at low wind speeds and an underestimate at high wind speed. Modeled wind direction shows poorer performance for wind directions from the south-east. MAG asserts that modeling wind speed and direction in Phoenix is difficult due to the complex terrain in the area, but that results are comparable to the benchmarks described in the Modeling Guidance. No phenomenological evaluation, as described in the Modeling Guidance, was provided in the MAG 2017 Ozone Plan. While this type of analysis would have provided additional confidence, the model adequately simulates the temporal and spatial variability in ozone concentrations across the area, suggesting the model captures the meteorological phenomena that are important for ozone formation in the Phoenix area. We agree that the plan's meteorological modeling performance statistics appear satisfactory.

Ozone model performance is described in Section IV-2 of the Modeling TSD and includes a comprehensive operational evaluation including tables of statistics, as recommended in the Modeling Guidance, for 1-hour ozone, daily maximum 8-hour ozone, and 8-hour ozone greater than 60 parts per billion (ppb) for the Phoenix area. Figures IV-5 through IV-10 of the Modeling TSD provide time series plots, scatter plots, spatial maps of mean error and bias, and box plots comparing model performance with previous studies.

MAG set adequacy goals for normalized mean bias (±15 percent) and normalized mean error (35 percent), and results were well within these goals for the five-month modeling period,

except in July where the model underpredicted ozone values greater than 60 ppb (normalized mean bias was -21 percent). The timeseries comparisons show generally good performance, except for a few periods where peak ozone concentrations were underpredicted in July and overpredicted in August. MAG modeling statistics are within or close to the distribution of other published modeling studies. Overall, the operational evaluation shows good model performance. While the addition of some dynamic and diagnostic evaluations as described in the Modeling Guidance would have provided additional confidence, the information provided in the MAG 2017 Ozone Plan supports the adequacy of the modeling for the attainment demonstration.

After determining that model performance for the 2011 base case was acceptable, MAG applied the model to develop RRFs for the attainment demonstration.[66] This entailed running the model with the same meteorological inputs as before, but with adjusted emissions inventories to reflect the expected changes between 2011 and the 2017 attainment year.

MAG carried out the attainment test procedure consistent with the Modeling Guidance. The RRFs were calculated as the ratio of future to base year concentrations. This was done for each monitor using the top 10 ozone days over 60 ppb in the base year simulation. The resulting RRFs were then applied to 2011 weighted base year design values[67] for each monitor to arrive at 2017 future year design values.[68] The highest 2017 ozone design value calculated is 0.0756 ppm, which occurs at the North Phoenix site. Ozone design values are truncated to the third decimal digit, so this value is sufficient to demonstrate attainment of the 2008 ozone standard.[69]

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[66] See Chapter 6, pp. 6-8 – 6-11, and Modeling TSD, Section V-1.
[67] The Modeling Guidance recommends that RRFs be applied to the average of 3-year design values centered on the base year, in this case the design values for 2009-2011, 2010-2012, and 2011-2013. This amounts to a 5-year weighted average of individual year 4th high concentrations, centered on the base year of 2011, and so is referred to as a weighted design value.
[68] Modeling TSD, Section V-1, Table V-2.
[69] 40 CFR part 50, Appendix P, section 2.2.

Finally, the MAG 2017 Ozone Plan modeling includes an unmonitored area analysis to assess the attainment status of locations other than monitoring sites.[70] The Modeling Guidance describes a "gradient adjusted spatial fields" procedure and the EPA software ("Modeled Attainment Test Software" or MATS) used to carry it out.[71] MAG used MATS v2.6.1 and showed that all modeled grid cells in the Phoenix area were predicted to be below the 2008 ozone standard in 2017. This analysis adds assurance that the attainment demonstration provides for attainment at all locations in Phoenix.

In addition to the formal attainment demonstration, the plan also contains a comprehensive WOE analysis.[72] This analysis provides support and corroboration for the modeling used in the attainment demonstration and the credibility of attainment in 2017. Downward trends are demonstrated for measured ozone concentrations, number of days above the ozone standard, measured concentrations of the ozone precursors NO_X and VOC, and emissions of NO_X and VOC. These analyses show the substantial air quality progress made in the Phoenix area and add support to the attainment demonstration. In addition, on June 13, 2019, the EPA proposed to find that the area attained the 2008 ozone NAAQS based on quality-assured 2015-2017 data.[73]

3. Summary of the EPA's Evaluation

For the reasons described in the previous section, and given the extensive discussion of modeling procedures, tests, performance analyses, and the good model performance in the Plan, the EPA finds that the modeling is adequate for purposes of supporting the attainment

[70] Modeling TSD, Section V-2.
[71] Modeling Guidance, Section 4.7.
[72] Modeling TSD, Section VI.
[73] 84 FR 27566.

demonstration. The modeling shows that existing control measures are sufficient for the Phoenix area to attain the 2008 ozone standard by 2017.

D. Reasonable Further Progress Demonstration

1. Statutory and Regulatory Requirements and Guidance

Requirements for RFP for Moderate ozone nonattainment areas are specified in CAA sections 172(c)(2) and 182(b)(1). CAA section 172(c)(2) requires that plans for nonattainment areas provide for RFP, which is defined as such 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 date. CAA section 182(b)(1) specifically requires that ozone nonattainment areas that are classified as Moderate or above demonstrate a 15 percent reduction in VOC between the years of 1990 and 1996. The EPA generally refers to section 182(b)(1) as the rate of progress (ROP) requirement.

In the 2008 Ozone SRR, the EPA provided two options for areas that have an approved 15 percent VOC ROP plan under the 1–hour or 1997 ozone NAAQS for only a portion of the 2008 NAA.[74] The MAG 2017 Ozone Plan employs the option to provide a demonstration of a 15 percent reduction in VOC emissions for the entire nonattainment area under 40 CFR 51.1100(a)(3)(i).[75] 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. 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

[74] 40 CFR 51.1110(a)(3).
[75] MAG 2017 Ozone Plan, 6-16.

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 I/M programs.[76]

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.[77] For the purposes of developing RFP demonstrations for the 2008 ozone standards, the applicable triennial inventory year is 2011.

2. Summary of the State's Submission

MAG selected 2011 as its baseline year for ROP. Table 6-1 of the MAG 2017 Ozone Plan shows 2011 average ozone season anthropogenic VOC emissions of 195.78 metric tpd. MAG multiplies 195.78 tpd by 85 percent (100 percent minus 15 percent) to calculate a 2017 ROP target of 166.41 tpd. The plan estimates 2017 average daily VOC emissions at 165.28 metric tpd, which is equivalent to a 15.6 percent reduction in 2011 base year VOC emissions.[78]

Table 2 - Ozone Season Average Daily Emissions during May – September in 2011 and 2017 for the Phoenix Ozone Nonattainment Area (metric tpd)

VOC emission categories	**2011**	**2017**	**percent reduction 2011-2017**
Point	2.47	3.32	-34.4%
Area	94.46	96.05	-1.7%
Nonroad Mobile	27.89	20.26	27.4%
Onroad Mobile	70.96	45.65	35.7%
Total*	**195.78**	**165.28**	**15.6%**

*Total percent change is a comparison of total 2011 VOC and 2017 VOC emissions, and is not the sum of the percent changes of the VOC emission categories in Table 2.

[76] 40 CFR 51.1110(a)(7).
[77] 40 CFR 51.1110(b). The 2008 Ozone SRR allowed states to use an alternative year, between 2008 and 2012, for the baseline emissions inventory provided that the state demonstrated why the alternative baseline year was appropriate. In *South Coast II*, the U.S. Court of Appeals for the D.C. Circuit vacated this provision.
[78] See MAG 2017 Ozone Plan, Table 6-1, "Ozone Season Average Daily Emissions during May-September in 2011 and 2017 for the Maricopa Eight-Hour Ozone Nonattainment Area (metric tons/day)."

Source: Plan, Table 6-1.

3. The EPA's Review of the State's Submission

MAG demonstrates a 15.6 percent reduction in VOC from 2011 to 2017, which meets the one-time ROP requirement for 15 percent reduction within 6 years from the baseline year. No other RFP demonstration is required for Moderate ozone nonattainment areas. Therefore, we propose to approve the RFP demonstration under sections 172(c)(2) and 182(b)(1)(A) of the CAA and 40 CFR 51.1110(a)(3).

E. Contingency Measures in the Event of Failure to Make Reasonable Further Progress or Attain

1. Statutory and Regulatory Requirements

Under the CAA, SIPs for ozone nonattainment areas classified under subpart 2 as Moderate must include contingency measures consistent with section 172(c)(9). Contingency measures are additional controls or measures to be implemented in the event the area fails to make RFP or attain the NAAQS by the attainment date. The SIP should contain trigger mechanisms for the contingency measures, specify a schedule for implementation, and indicate that the measure will be implemented without significant further action by the state or the EPA.[79]

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 guidance recommendation that contingency measures should provide for emissions reductions approximately equivalent to one year's worth of RFP, thus

[79] See 70 FR 71612 (November 29, 2005). See also 80 FR 12264, 12285.

amounting to reductions of 3 percent of the baseline emissions inventory for the nonattainment area.[80]

It has been the EPA's long-standing 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.

The EPA has approved numerous nonattainment area plan submissions under this interpretation, i.e., SIP revisions 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,[81] and there is case law supporting the EPA's interpretation in this regard.[82] However, in *Bahr v. EPA*, the Ninth Circuit rejected the EPA's interpretation of CAA section

[80] 80 FR 12264, 12285.
[81] See, 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).
[82] See, 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).

172(c)(9) as allowing for approval of already implemented control measures as contingency measures.[83] The Ninth Circuit concluded that contingency measures must be measures that would take effect at the time the area fails to make RFP or attain by the applicable attainment date, not before.[84] 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 the State's Submission

The MAG 2017 Ozone Plan relies upon surplus emissions reductions from already implemented control measures in the 2017 attainment and RFP year to demonstrate compliance with the attainment and RFP contingency measure requirements of CAA section 172(c)(9).[85] The State claims that the projected combined VOC and NO_X emissions reductions between 2017 and 2018 of 3.68 percent (from the 2011 baseline) satisfies the CAA requirements for contingency measures.

Table 3 - Average daily anthropogenic VOC and NO_X emission reductions in 2018 for contingency measure requirements (metric tons/day)

	VOC					NO_X				
	2011	2017	2018	Reduction (2018-2017)	2018 Reduction from 2011	2011	2017	2018	Reduction (2018-2017)	2018 Reduction from 2011
Point	2.47	3.32	3.39	+0.07	2.83%	7.02	13.75	13.76	+0.01	0.14%
Area	94.46	96.05	97.88	+1.83	1.94%	10.96	12.59	12.98	+0.39	3.56%
Nonroad	27.89	20.26	20.07	-0.19	-0.68%	53.58	36.26	34.36	-1.90	-3.55%
Onroad	70.96	45.65	42.74	-2.91	-4.10%	117.15	62.69	58.05	-4.64	-3.96%
Total	195.78	165.28	164.08	-1.20	**-0.61%**	188.71	125.29	119.15	-6.14	**-3.25%**
Combined VOC and NO_X Emissions Reduction Percent in 2018: **3.86%**										

[83] *Bahr v. EPA*, 836 F.3d 1218, at 1235-1237 (9th Cir. 2016).
[84] Id. at 1235-1237.
[85] MAG 2017 Ozone Plan, Chapter 4 and Appendix B, Exhibit 1, V-9 to V-10.

Source: MAG 2017 Ozone Plan, Table V-4, page V-10

3. The EPA's Review of the State's Submission

Arizona is within the geographic jurisdiction of the Ninth Circuit and, therefore, following the *Bahr* decision, cannot rely on already implemented control measures to comply with the contingency measure requirement of CAA section 172(c)(9). Because the MAG 2017 Ozone Plan relies entirely upon such measures to meet the requirements of CAA section 172(c)(9), we are proposing to disapprove the contingency measure element of the plan.

However, we are also proposing to find that contingency measures are no longer required for the Phoenix nonattainment area for the 2008 ozone standard, for the reasons discussed below. Attainment contingency measures under 172(c)(9) are triggered upon the EPA's determination that an area failed to attain a given NAAQS by its applicable attainment date. Section 181(b)(2) requires the EPA to determine whether the area attained the NAAQS by its applicable attainment date. On June 13, 2019, the EPA proposed to determine that the Phoenix nonattainment area attained the Moderate area 2008 ozone NAAQS by the attainment date.[86] We also proposed to find that, upon finalization of that determination, the attainment contingency measure requirement would no longer apply to the Phoenix nonattainment area for the 2008 ozone NAAQS because attainment contingency measures for this NAAQS would never be required to be implemented.[87]

We are now also proposing to find that, upon finalization of that determination of attainment by the attainment date, the RFP contingency measure requirement would no longer apply to the Phoenix nonattainment area for the 2008 ozone NAAQS, for the reasons that follow. The purpose of the RFP requirements under the CAA is to "ensur[e] attainment of the applicable

[86] 84 FR 27566.
[87] Id. at 27569.

[NAAQS] by the applicable date."[88] Consistent with this purpose, under CAA section 182(g), ozone nonattainment areas classified "Serious" or higher are required to meet RFP emission reduction "milestones" and to demonstrate compliance with those milestones, except when the milestone coincides with the attainment date and the standard has been attained. [89] This specific statutory exemption from milestone compliance demonstration submittals for areas that attained by the attainment date indicates that Congress intended that a finding that an area attained the standard – the finding made in a determination of attainment by the attainment date – would serve as a demonstration that RFP requirements for the area have been met. In other words, if a Serious or above area has attained the NAAQS by the attainment date, the RFP milestones have been sufficiently achieved. Accordingly, such a finding would also indicate that RFP contingency measures could not be triggered and are therefore no longer necessary.

In the case of Moderate areas, there are no RFP milestone compliance demonstration requirements.[90] Accordingly, the EPA's long-standing interpretation is that RFP contingency measures for Moderate areas would be triggered only by a finding that the area has failed to attain the standard by the attainment date.[91] In other words, as with Serious and above areas, a determination of attainment by the attainment date for a Moderate area serves as demonstration that RFP requirements for the area have been met and that RFP contingency measures are no longer needed. Thus, the EPA concludes that RFP contingency measures for Moderate areas are

[88] CAA section 171(c).
[89] CAA section 182(g)(2).
[90] CAA section 182(g)(1)(exempting areas classified as Moderate from milestone requirements).
[91] See 57 FR 13498, 13511 (contrasting Moderate areas, for which "contingency measures would be needed when the area fails to attain the standard by the attainment date" with Serious and above areas, for which contingency measures would also be triggered "if the area fails to meet the rate-of-progress requirements for any milestone other than one falling on an attainment year"). See also Memorandum from G.T. Helms, Chief Ozone/Carbon Monoxide Programs Branch, to Air Branch Chief, Regions I-X ("The test for moderate areas will be whether they attained the standard because the attainment date for moderate areas coincides with the milestone demonstration date. Failure to attain will cause an area to be required to implement its contingency measures . . .").

no longer needed if the area has attained the relevant NAAQS. Accordingly, because we have proposed to determine that the Phoenix nonattainment area has attained the 2008 ozone NAAQS by the attainment date, we are now also proposing to determine that RFP contingency measures are no longer required for this standard in this area. Therefore, if we finalize our proposed determination of attainment by the attainment date, neither attainment nor RFP contingency measures would be required for the Phoenix ozone nonattainment area.

Under section 179(a) of the CAA, final disapproval of a submittal that addresses a requirement of part D, title I of the CAA or is required in response to a finding of substantial inadequacy as described in CAA section 110(k)(5) (SIP Call) starts sanctions clocks. The MAG 2017 Ozone Plan, including the contingency measures element, does address requirements of part D. However, if we finalize our determinations that the requirements for attainment and RFP contingency measures no longer apply to the Phoenix nonattainment area for the 2008 ozone NAAQS, then the contingency measure element of the MAG 2017 Ozone Plan would no longer be required to address any part D requirement. Therefore, final disapproval of the contingency measure element of the MAG 2017 Ozone Plan would not trigger sanctions clocks. Similarly, final disapproval would not trigger any obligation for the EPA to promulgate a federal implementation plan (FIP) under CAA section 110(c) because there would be no deficiency for such a FIP to correct. Furthermore, if the State chooses to withdraw the contingency measures prior to our final action on the MAG 2017 Ozone Plan, we would take no final action either to approve or to disapprove those measures.

F. Motor Vehicle Emissions Budgets for Transportation Conformity

1. Statutory and Regulatory Requirements and Guidance

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 MVEBs 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.[92]

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

[92] 40 CFR 93.102(b)(2)(i).

attainment and RFP requirements and reflect all the motor vehicle control measures contained in the attainment and RFP demonstrations.[93]

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.[94]

2. Summary of the State's Submission

The MAG 2017 Ozone Plan establishes conformity budgets based on 2017 onroad mobile source VOC and NO_X emissions in the nonattainment area used to model attainment of the 2008 ozone standard. The conformity budgets are represented by the average daily onroad VOC and NO_X emissions from May 1 to September 30. The budgets are 45.7 metric tpd for VOC and 62.7 metric tpd for NO_X.

MAG developed budgets using the EPA's Motor Vehicle Emission Simulator (MOVES) 2014a model and MAG MOVESLINK2014 tool. At the time of plan preparation, MOVES2014a (released on November 4, 2015) was the EPA's latest approved version of the MOVES model for estimating emissions from on-road vehicles operating in states (other than California). MOVES2014a uses local data such as vehicle miles traveled, vehicle population, meteorological data, and average speed distribution to develop emissions estimates.

3. The EPA's Review of the State's Submission

We have evaluated the submitted budgets in the MAG 2017 Ozone Plan against our adequacy criteria in 40 CFR 93.118(e)(4) as part of our review of the budgets' approvability and

[93] 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*.
[94] 40 CFR 93.118(f)(2).

will complete the adequacy review concurrent with our final action on the ozone plan. We posted the Plan for adequacy review on the EPA's website on September 9, 2019.[95] The EPA is not required under our transportation conformity rule to find budgets adequate prior to proposing approval of them.[96]

The MAG 2017 Ozone Plan budgets are consistent with the RFP demonstration and attainment demonstration, 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).[97] For these reasons, the EPA proposes to approve the budgets in the Plan. We also interpret the budgets in the MAG 2017 Ozone Plan as superseding the transportation conformity discussion in MAG's 2014 Ozone Plan, which we previously deferred action on. Therefore, we propose to find that no further action on that element of the MAG 2014 Ozone Plan is necessary.

If we finalize approval of the budgets in the MAG 2017 Ozone Plan as proposed, they will replace the budgets from the MAG 2007 and 2009 ozone plans that we previously found adequate for use in conformity determinations by transportation agencies in the Phoenix nonattainment area.[98]

G. Vehicle Inspection and Maintenance

1. Statutory and Regulatory Requirements and Guidance

[95] *https://www.epa.gov/state-and-local-transportation/state-implementation-plans-sip-submissions-currently-under-epa*.

[96] 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).

[97] Memorandum to File, Nancy Levin, EPA Region IX, "Adequacy Documentation for Plan Motor Vehicle Emission Budgets in December 2016 Phoenix 2008 Ozone NAAQS Attainment Plan," September 6, 2019.

[98] On June 13, 2012, the EPA published the final rule approving the MAG 2007 Eight-Hour Ozone Plan, including the 2008 emissions budgets for VOC of 67.9 metric tpd and NO_X of 138.2 metric tpd, effective July 13, 2012. On September 17, 2014, the EPA published a final rule approving the MAG 2009 Eight-Hour Ozone Maintenance Plan, including the 2025 emissions budget for VOC of 43.8 metric tpd and NO_X of 101.8 metric tpd, effective October 17, 2014.

The EPA's I/M regulations are codified at 40 CFR part 51, subpart S ("Inspection/Maintenance Program Requirements"), sections 51.350 through 51.373. As explained in the preambles to the proposed and final SRR, no new vehicle I/M programs were required for purposes of the 2008 ozone NAAQS based on the initial designations and classifications for the 2008 ozone NAAQS.[99] However, the preamble to the proposed SRR also noted that if a Marginal 2008 ozone nonattainment area meeting the population cutoff for mandatory I/M were reclassified to Moderate or a higher classification, then an I/M program would be required at that time.[100]

2. Summary of the State's Submission

The Plan notes that the EPA approved ADEQ's basic and enhanced vehicle emissions I/M programs on January 22, 2003, and that in 2016 the State legislature passed Senate Bill 1255, which includes a statutory provision that authorizes the Arizona Vehicle Emissions Inspection (VEI) Program through July 1, 2022.[101] This statutory provision (A.R.S. Section 41-3022.09) was included as part of the submittal. [102]

3. The EPA's Review of the State's Submission

Following our initial approval of ADEQ's VEI program in 1995, the EPA has taken several actions to approve changes to the program.[103] Most recently, in 2013 we approved revisions that exempted motorcycles in the Phoenix metropolitan area from emissions testing and expanded the portion of the Phoenix metropolitan area where the VEI program and other control

[99] 78 FR 34178, 34194-34196, 80 FR 12283.
[100] 78 FR 34178, 34194-34195.
[101] 2017 Ozone Plan, 5-14 – 5-15.
[102] 2017 Ozone Plan, Appendix B, Exhibit 2. S.B. 1255 and associated fact sheet.
[103] See 77 FR 66422, 66422 - 66423 (November 5, 2012) for a summary of these actions.

programs apply ("Area A").[104] We found that with these changes, the ADEQ VEI program would continue to meet minimum federal requirements for vehicle I/M programs.[105] These requirements have not changed since 2013. Therefore, we conclude that the ADEQ VEI program continues to meet the minimum stringency requirements of 40 CFR part 51, subpart S.

With respect to the geographic scope of the VEI program, we note that 40 CFR 51.350(b)(2) requires the program to "nominally cover at least the entire urbanized area, based on the 1990 census." The current Area A includes all of the Phoenix urbanized area, based on the 1990 census.[106] Therefore, the VEI program meets the geographic scope requirements of 40 CFR part 51, subpart S.

Finally, 40 CFR 51.350(b) provides that legislation authorizing an I/M program must not sunset prior to the attainment deadline for the NAAQS. The Plan includes a copy of S.B. 1255, which repealed an existing statutory provision that would have terminated the VEI program on January 1, 2017 (i.e., A.R.S. 41-3017.01) and added a new statutory provision to extend the program through July 1, 2022 (i.e., A.R.S. Section 41-3022.09). The VEI program is, therefore, authorized beyond the attainment date of July 20, 2018. Furthermore, based on the Arizona legislature's past support for the VEI program, we expect the legislature to extend the life of the VEI program once again prior to July 1, 2022. Therefore, we propose to determine that the Plan meets the statutory and regulatory I/M requirements.

H. New Source Review Rules

1. Statutory and Regulatory Requirements and Guidance

Section 182(a)(2)(C) of the CAA requires states to develop SIP revisions containing

[104] 78 FR 30209 (May 22, 2013).
[105] Id. at 30211.
[106] See Map of 2008 Ozone Phoenix NAA and Area A ("AIR19037 – 2008 8hr O3 Phoenix NAA and Area A Stage 2 Vapor Recovery Area.png").

permit programs for each of its ozone nonattainment areas. The SIP revisions are to include requirements for permits in accordance with CAA sections 172(c)(5) and 173 for the construction and operation of each new or modified major stationary source for VOC and NO_X anywhere in the nonattainment area. The 2008 Ozone SRR includes provisions and guidance for nonattainment new source review (NSR) programs.[107]

2. Summary of the State's Submittal

The MAG 2017 Ozone Plan describes the roles of ADEQ, MCAQD and PCAQCD in implementing the preconstruction permit program in the Phoenix nonattainment area.[108] In particular, the Plan explains that ADEQ has permitting jurisdiction for the following stationary source categories: smelting of metal ores, coal-fired electric generating stations, petroleum refineries, Portland cement plants, and portable sources. ADEQ also has permitting jurisdiction over other major source categories in Pinal County, but has delegated implementation of the major source program to PCAQCD, which implements ADEQ's major NSR rules. MCAQD has jurisdiction over other sources in Maricopa County. The Plan also described various SIP revisions submitted by ADEQ to meet nonattainment NSR requirements.

3. The EPA's Review of the State's Submission

On November 2, 2015, the EPA published a final limited approval and limited disapproval of revisions to ADEQ's NSR rules.[109] On May 4, 2018, the EPA approved additional rule revisions to address many of the deficiencies identified in the 2015 action.[110] On April 5, 2019, the EPA approved revisions to MCAQD's NSR rules.[111] Collectively these rule revisions

[107] 80 FR 12264, 12286-12288.
[108] 2017 Ozone Plan.
[109] 80 FR 67319.
[110] 83 FR 19631.
[111] 84 FR 13543.

will ensure that ADEQ's rules provide for appropriate NSR for sources undergoing construction or major modification in the Phoenix nonattainment area. Therefore, the EPA proposes to approve the NSR element of the MAG 2017 Ozone Plan as demonstrating that the NSR requirement has been met for the Phoenix Moderate nonattainment area.

We previously deferred action on the NSR element of the 2014 MAG Ozone Plan, in light of the expected submittal of revised ADEQ and MCAQD NSR rules. Based on our recent approvals of these rules, we now propose to approve this element of the 2014 MAG Ozone Plan as demonstrating that the NSR requirement has been met for Phoenix ozone Marginal NAA.

I. Offset requirements

1. Statutory and Regulatory Requirements and Guidance

CAA Section 173 requires new and modified major sources in nonattainment areas to secure emissions reductions (i.e., "offsets") to compensate for a proposed emissions increase. As explained in the preamble to the SRR, "[o]ffsets are generated by emissions reductions that meet specific creditability criteria set forth by the SIP consistent with EPA regulations."[112] For Moderate areas, section 182(b)(5) of the Act sets a general offset ratio of 1.15 to 1 for total VOC and NO_X emissions reductions as compared to VOC and NO_X emissions increases.

2. Summary of the State's Submittal

The MAG 2017 Ozone Plan references Arizona Administrative Code Rule 18-2-404(J) and Maricopa County Air Pollution Control Regulations, Rule 240, Section 304.6 as fulfilling the requirements of CAA section 182(b)(5).

3. The EPA's Review of the State's Submission

[112] 80 FR 12264, 12288 (citing 40 CFR 51.165(a)(3)(ii)(A)-(J) and part 51 appendix S section IV.C).

The EPA approved Arizona Administrative Code Rule 18-2-404 and Maricopa County Air Pollution Control Regulations, Rule 240 part of our recent actions on the ADEQ and MCAQD NSR rules.[113] Therefore, we propose to approve the offset element of the MAG 2017 Ozone Plan as demonstrating that the Moderate area offset requirements of CAA sections 173 and 182(b)(5) have been met for the Phoenix nonattainment area.

In light of the expected submittal of revised ADEQ and MCAQD NSR rules, we previously deferred action on the offset element of the MAG 2014 Ozone Plan. Based on our recent approvals of these rules, we now propose to approve the offset element of the MAG 2014 Ozone Plan as demonstrating that the Marginal area offset requirements of CAA sections 173 and 182(a)(4) have been met for the Phoenix nonattainment area.

IV. Proposed Action

For the reasons discussed above, under CAA section 110(k)(3), the EPA is proposing to approve as a revision to the Arizona SIP the following portions of the MAG "2017 Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area" submitted by ADEQ on December 19, 2016:

- Base year and periodic emission inventories as meeting the requirements of CAA sections 172(c)(3), 182(a)(1), and 182(a)(3)(A), and 40 CFR 51.1115(a) and 40 CFR 51.1115(b);
- RACM demonstration and control strategy as meeting the requirements of CAA section 172(c)(1) and 172 (c)(6) and 40 CFR 51.1112(c);
- Attainment demonstration as meeting the requirements of CAA section 182(b)(1)(A)(i) and 40 CFR 51.112 and 51.1108(c);

[113] Id., 83 FR 19631.

- ROP plan and RFP demonstration as meeting the requirements of CAA sections 172(c)(2) and 182(b)(1) and 40 CFR 51.1110(a)(3)(i);
- Motor vehicle emissions budgets for the attainment year of 2017 because they are consistent with the RFP demonstration and the attainment demonstration proposed for approval herein and meet the other criteria in 40 CFR 93.118(e);
- Vehicle I/M provisions as meeting the requirements of 40 CFR part 51, subpart S;
- NSR discussion as demonstrating that the requirements of CAA sections 173 and 182(a)(2)(C) have been met; and
- Offset discussion as demonstrating that the requirements of CAA sections 173 and 182(b)(5) have been met.

The EPA is proposing to disapprove the contingency measure element of the MAG 2017 Ozone Plan for failing to meet the requirements of CAA sections 172(c)(9) and 182(c)(9). However, based on our proposed finding of attainment by the applicable attainment date, we are also proposing to determine that the contingency measures requirement will no longer apply to the Phoenix nonattainment area if we finalize the determination of attainment by the applicable attainment date. Therefore, our proposed disapproval, if finalized, would not trigger sanctions or FIP clocks.

Finally, we are proposing to approve the NSR and offset elements of the MAG 2014 Ozone Plan as demonstrating that the Marginal area requirements of CAA section 182(a)(2)(C) and CAA sections 173 and 182(b)(5), respectively, have been met for the Phoenix nonattainment area.

The EPA is soliciting public comments on the proposed actions listed above, our rationales for the proposed actions, and any other pertinent matters related to the issues discussed

in this document. We will accept comments from the public on this proposal for a period of 30 days from publication and will consider comments before taking final action.

V. Statutory and Executive Order Reviews

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

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

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

B. *Executive Order 13711: Reducing Regulations and Controlling Regulatory Costs*

This action is not expected to be an Executive Order 13771 regulatory action because this action is not significant under Executive Order 12866.

C. *Paperwork Reduction Act (PRA)*

This action does not impose an information collection burden under the PRA because this action does not impose additional requirements beyond those imposed by state law.

D. *Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities beyond those imposed by state law.

E. *Unfunded Mandates Reform Act (UMRA)*

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action does not impose additional requirements beyond those imposed by state law. Accordingly, no

additional costs to state, local, or tribal governments, or to the private sector, will result from this action.

F. *Executive Order 13132: Federalism*

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

G. *Executive Order 13175: Coordination with Indian Tribal Governments*

This action does not have tribal implications, as specified in Executive Order 13175, because 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, and will not impose substantial direct costs on tribal governments or preempt tribal law. Thus, Executive Order 13175 does not apply to this action.

H. *Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks*

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not impose additional requirements beyond those imposed by state law.

I. *Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use*

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

J. *National Technology Transfer and Advancement Act (NTTAA)*

Section 12(d) of the NTTAA directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. The EPA believes that this action is not subject to the requirements of section 12(d) of the NTTAA because application of those requirements would be inconsistent with the CAA.

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

The EPA lacks the discretionary authority to address environmental justice in this rulemaking.

List of Subjects in 40 CFR Part 52

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

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

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Dated: September 20, 2019.

Deborah Jordan
Acting Regional Administrator,
Region IX.

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