6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R05-OAR-2018-0572; FRL-9988-22-Region 5]

Air Plan Approval; Ohio; Redesignation of the Cleveland Area to Attainment of the 2012 Annual Standard for Fine Particulate Matter

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: On July 24, 2018, the Ohio Environmental Protection Agency (Ohio) submitted a request for the Environmental Protection Agency (EPA) to redesignate the Cleveland area to attainment of the 2012 annual national ambient air quality standards (NAAQS or standards) for fine particulate matter ($PM_{2.5}$) under the Clean Air Act (CAA). EPA is proposing to grant Ohio's request. EPA is proposing to determine that the Cleveland area has attained the 2012 annual $PM_{2.5}$ standard, based on the most recent three years of certified air quality data. EPA is proposing to approve a revision to the Ohio state implementation plan (SIP) that the Cleveland area meets the requirements for redesignation under the CAA and for the state's maintenance plan for the 2012 annual $PM_{2.5}$ NAAQS through 2030. Ohio's maintenance plan submission includes motor

vehicle emission budgets (MVEBs) for the mobile source contribution of $PM_{2.5}$ and nitrogen oxides (NO_X) to the Cleveland area for transportation conformity purposes; EPA is proposing to approve the MVEBs for 2022 and 2030 into the Ohio SIP. EPA is taking these actions in accordance with the CAA and EPA's implementation regulations regarding the 2012 annual $PM_{2.5}$ NAAQS.

DATES: Comments must be received 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-R05-OAR-2018-0572 at http://www.regulations.gov, or via email to blakley.pamela@epa.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. For either manner of submission, 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. 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://www2.epa.gov/dockets/commenting-epa-dockets.

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SUPPLEMENTARY INFORMATION: Throughout this document whenever "we," "us," or "our" is used, we mean EPA. This supplementary information section is arranged as follows:

I. What actions are EPA taking?

EPA is taking several actions related to the redesignation of the Cleveland area to attainment of the 2012 annual $PM_{2.5}$ NAAQS. EPA is proposing that the Cleveland moderate nonattainment area is attaining the 2012 annual $PM_{2.5}$ NAAQS. EPA is proposing to approve Ohio's 2012 annual $PM_{2.5}$ maintenance plan for the Cleveland area as a revision to the Ohio SIP.

EPA is proposing to find that Ohio meets the requirements for redesignation of the Cleveland area to attainment of the 2012 annual $PM_{2.5}$ NAAQS under section 107(d)(3)(E) of the CAA. EPA is thus proposing to grant Ohio's request to change the designation of the Cleveland area from nonattainment to attainment of the 2012 annual $PM_{2.5}$ NAAQS. EPA's analysis of

these actions are discussed in Section IV of today's rulemaking.

II. What is the background for these actions?

On December 14, 2012, EPA promulgated a revised primary annual $PM_{2.5}$ NAAQS to provide increased protection of public health from fine particle pollution (78 FR 3086; January 15, 2013). In that action, EPA strengthened the primary annual $PM_{2.5}$ standard from 15.0 micrograms per cubic meter ($\mu g/m^3$) to 12.0 $\mu g/m^3$, which is attained when the 3-year average of the annual arithmetic means does not exceed 12.0 $\mu g/m^3$. On December 18, 2014, the EPA Administrator signed a final action promulgating initial designations for the 2012 primary $PM_{2.5}$ NAAQS based on 2011-2013 air quality monitoring data for the majority of the United States. The Cleveland nonattainment area is in northeastern Ohio and includes Cuyahoga and Lorain counties. Ohio's main $PM_{2.5}$ components are primary particles (organic particles, crustal material, and elemental carbon) and NO_x, which were included in the attainment demonstration analysis. Volatile organic compounds (VOCs), sulfur dioxide (SO_2) and ammonia (NH_3) were determined to be insignificant for attainment and New Source Review (NSR) purposes (83 FR 45193), based on a concentration-based contribution analysis and a

sensitivity-based analysis conducted in accordance with the August 26, 2016 Implementation Rule (81 FR 58010).

III. What are the criteria for redesignation to attainment?

The CAA sets forth criteria for redesignating a nonattainment area to attainment. Specifically, section 107(d)(3)(E) of the CAA allows for redesignation provided that: (1) the Administrator determines that the area has attained the applicable NAAQS based on current air quality data; (2) the Administrator has fully approved an applicable SIP for the area under section 110(k) of the CAA; (3) the Administrator determines that the improvement in air quality is due to permanent and enforceable emission reductions resulting from implementation of the applicable SIP, Federal air pollution control regulations, or other permanent and enforceable emission reductions; (4) the Administrator has fully approved a maintenance plan for the area meeting the requirements of section 175A of the CAA; and (5) the state containing the area has met all requirements applicable to the area for purposes of redesignation under section 110 and part D of the CAA.

IV. What is EPA's analysis of the state's request?

EPA is proposing to redesignate the Cleveland area to attainment of the 2012 annual $PM_{2.5}$ NAAQS and to approve Ohio's

maintenance plan. The basis for EPA's action are as follows:

1. Attainment Determination (Section 107(d)(3)(E)(i))

To redesignate an area from nonattainment to attainment, the CAA requires EPA to determine that the area has attained the applicable NAAQS (CAA section 107(d)(3)(E)(i)). For $PM_{2.5}$, an area is attaining the 2012 annual $PM_{2.5}$ NAAQS if it meets the standard, as determined in accordance with 40 CFR 50.13 and appendix N of part 50, based on three complete, consecutive calendar years of quality-assured air quality monitoring data. To attain the 2012 annual $PM_{2.5}$ NAAQS, the 3-year average of the annual arithmetic mean concentration, as determined in accordance with 40 CFR part 50, appendix N, must be less than or equal to 12.0 $\mu g/m^3$ at all relevant monitoring sites in the subject area over a 3-year period. The relevant data must be collected and quality-assured in accordance with 40 CFR part 58 and recorded in the EPA Air Quality System (AQS) database. The monitors generally should have remained at the same location for the duration of the monitoring period required for demonstrating attainment.

EPA reviewed the certified, quality assured/quality controlled $PM_{2.5}$ monitoring data from the Cleveland area for the 2012 annual $PM_{2.5}$ NAAQS from 2015-2017 and determined that the design value for the area is less than the standard of

12.0 µg/m^3 for that period. The $PM_{2.5}$ design values for monitors with complete data are summarized in Table 1:

Table 1 - Monitoring Data for the Cleveland area for 2015–2017 2012 annual $PM_{2.5}$ Standard (µg/m^3)

		Year			Average
Site	County	2015	2016	2017	2015-2017
39-035-0034	Cuyahoga	9.2	7.8	7.8	8.2
39-035-0038		11.8	10.0	9.9	10.6
39-035-0045		11.0	9.4	9.7	10.1
39-035-0060		11.7*	9.6	9.7	10.0
39-035-0065		13.3	10.7	11.2	11.7
39-035-0073		**	**	7.3	–
39-035-1002		9.1	7.8	8.1	8.3
39-093-3002	Lorain	8.2	7.0	7.6	7.6

* data completeness requirements met by substituting data from a secondary monitor resulting in a valid design value
** new monitor started April 1, 2017

EPA is proposing to determine that the Cleveland area is attaining the 2012 annual $PM_{2.5}$ NAAQS. This proposed determination is based upon complete, quality-assured, and certified ambient air monitoring data for the 2015–2017 monitoring period that show the area has monitored attainment of 2012 annual $PM_{2.5}$ NAAQS.

Pursuant to section 179(c) of the CAA, EPA is also proposing to determine that, based on air quality monitoring data for 2015–2017, the Cleveland area is attaining the 2012 annual $PM_{2.5}$ NAAQS.

EPA assessed whether the Cleveland area has attained the 2012 annual $PM_{2.5}$ NAAQS, based on the most recent three years of complete, certified and quality-assured data, and whether the

Cleveland area attained the 2012 annual $PM_{2.5}$ NAAQS by the applicable attainment date of December 31, 2021, based on monitored data from 2015–2017. Under EPA's regulations at 40 CFR 50.7, the annual primary and secondary $PM_{2.5}$ standards are met when the annual arithmetic mean concentration, as determined in accordance with 40 CFR part 50, appendix N, is less than or equal to 12.0 mg/m^3 at all relevant monitoring sites in the area.

EPA has reviewed the ambient air quality monitoring data in the Cleveland area, consistent with the requirements contained at 40 CFR part 50. EPA's review focused on data recorded in the EPA AQS database, for the Cleveland area for $PM_{2.5}$ nonattainment area from 2015 to 2017. EPA also considered preliminary data for 2018, which have not been certified, but which are consistent with the area's continued attainment.

All monitors in the Cleveland area recorded complete data in accordance with criteria set forth by EPA in 40 CFR part 50, appendix N, where a complete year of air quality data comprises four calendar quarters, with each quarter containing data from at least 75 percent (%) capture of the scheduled sampling days. Available data are sufficient for comparison to the NAAQS if three consecutive complete years of data exist.

2. Section 110 and Part D Requirements, and Approval

SIP under Section 110(k) (Section 107(d)(3)(E)(ii) and (v))

EPA has determined that Ohio has met all currently applicable SIP requirements for purposes of redesignation for the Cleveland area under section 110 of the CAA (general SIP requirements), and Part D planning requirements. Ohio's 2016 emissions inventory was approved as meeting the section 172(c)(3) comprehensive emissions inventory requirement on September 6, 2018 (83 FR 45193). Ohio's reasonably available control technology (RACT)/reasonable available control measure (RACM) analysis was submitted as part of the October 14, 2016 attainment demonstration. In its RACT/RACM analysis, Ohio found that existing measures for $PM_{2.5}$, and NO_x for area sources, mobile sources and stationary sources constitute RACT/RACM, and Ohio found that no new additional measures or controls are economically or technically feasible. Ohio's attainment demonstration also included a demonstration that the $PM_{2.5}$ precursors VOC, SO_2 and NH_3 are insignificant for the purpose of attainment planning (including RACT/RACM). Ohio's RACT/RACM analysis was approved on September 6, 2018 (83 FR 45193).

The reasonable further progress (RFP) as required under section 172(c)(2) is defined as progress that must be made toward attainment. This requirement is not

relevant for purposes of redesignation because the Cleveland area has monitored attainment of the 2012 annual $PM_{2.5}$ NAAQS. ("General Preamble for the Interpretation of Title I of the CAA Amendments of 1990"; (57 FR 13498, 13564, April 16, 1992)).

Thus, we are determining that the Ohio submittal meets all SIP requirements currently applicable for purposes of redesignation under part D of title I of the CAA, in accordance with sections 107(d)(3)(E)(ii) and 107(d)(3)(E)(v).

In making these determinations, we have ascertained which SIP requirements are applicable for the purposes of the redesignation, and concluded that the Ohio SIP includes measures meeting those requirements and that they are fully approved under section 110(k) of the CAA.

a. Ohio Has Met All Applicable Requirements for Purposes of Redesignation of the Cleveland Area under Section 110 and Part D of the CAA

i. Section 110 General SIP Requirements

Section 110(a) of title I of the CAA contains the general requirements for a SIP. Section 110(a)(2) provides that the implementation plan submitted by a state must have been adopted by the state after reasonable public notice and hearing, and, among other things, must include enforceable

emission limitations and other control measures, means or techniques necessary to meet the requirements of the CAA; provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to monitor ambient air quality; provide for implementation of a source permit program to regulate the modification and construction of any stationary source within the areas covered by the plan; include provisions for the implementation of part C, Prevention of Significant Deterioration (PSD) and part D, New Source Review (NSR) permit programs; include criteria for stationary source emission control measures, monitoring, and reporting; include provisions for air quality modeling; and provide for public and local agency participation in planning and emission control rule development. Section 110(a)(2)(D) of the CAA requires that SIPs contain measures to prevent sources in a state from significantly contributing to air quality problems in another state.

EPA interprets the "applicable" requirements for an area's redesignation to be those requirements linked with that area's nonattainment designation. Therefore, we believe that the section 110 elements described above that are not connected with nonattainment plan submissions and not linked with an area's attainment status, such as the "infrastructure

SIP" elements of section 110(a)(2), are not applicable requirements for purposes of the redesignation. A state remains subject to these requirements after an area is redesignated to attainment, and thus EPA does not interpret such requirements to be relevant applicable requirements to evaluate in a redesignation. For example, the requirement to submit state plans addressing interstate transport obligations under section 110(a)(2)(D)(i)(I) continue to apply to a state regardless of the designation of any particular area in the state, and thus are not applicable requirements to be evaluated in the redesignation context.

EPA has applied this interpretation consistently in many redesignations for decades. *See* e.g., 81 FR 44210 (July 7, 2016) (final redesignation for the Sullivan County, Tennessee area); 79 FR 43655 (July 28, 2014) (final redesignation for Bellefontaine, Ohio lead nonattainment area); 61 FR 53174-53176 (October 10, 1996) and 62 FR 24826 (May 7, 1997) (proposed and final redesignation for Reading, Pennsylvania ozone nonattainment area); 61 FR 20458 (May 7, 1996) (final redesignation for Cleveland-Akron-Lorain, Ohio ozone nonattainment area); and 60 FR 62748 (December 7, 1995) (final redesignation of Tampa, Florida ozone nonattainment area). *See* also 65 FR 37879, 37890 (June 19, 2000) (discussing this

issue in final redesignation of Cincinnati, Ohio 1-hour ozone nonattainment area); and 66 FR 50399 (October 19, 2001) (final redesignation of Pittsburgh, Pennsylvania 1-hour ozone nonattainment area).

We have reviewed the Ohio SIP and determined that it meets the general SIP requirements under section 110 of the CAA to the extent they are applicable for purposes of redesignation. EPA has previously approved provisions of Ohio's SIP addressing section 110 requirements, at 40 CFR 52.1870.

On December 4, 2015, Ohio made a submittal which addressed the "infrastructure SIP" elements of the 2012 annual $PM_{2.5}$ NAAQS required under CAA section 110(a)(2). EPA approved the 2012 annual $PM_{2.5}$ infrastructure SIPs on February 2, 2018 (83 FR 4845), however, as noted above, the requirements of section 110(a)(2) are statewide requirements that are not linked to the $PM_{2.5}$ nonattainment status of the Cleveland area. Therefore, these SIP elements are not applicable requirements for purposes of review of the state's 2012 annual $PM_{2.5}$ redesignation request.

ii. Part D Requirements

EPA has determined that with the approval of the base year emissions inventory and RACM provisions as discussed in

rulemaking dated September 6, 2018, the Ohio SIP has met the requirements applicable for purposes of redesignation under part D of the CAA for the Cleveland 2012 annual $PM_{2.5}$ nonattainment area. Subpart 1 of part D sets forth the general nonattainment requirements applicable to all nonattainment areas.

(1) Section 172 Requirements

Section 172(c) sets out general nonattainment plan requirements. A thorough discussion of these requirements can be found in the General Preamble for Implementation of Title I (57 FR 13498, April 16, 1992) ("General Preamble"). EPA's longstanding interpretation of the nonattainment planning requirements of section 172 is that once an area is attaining the NAAQS, those requirements are not "applicable" for purposes of CAA section 107(d)(3)(E)(ii) and therefore need not be approved into the SIP before EPA can redesignate the area. In the General Preamble, EPA set forth its interpretation of applicable requirements for purposes of evaluating redesignation requests when an area is attaining a standard. *See* 57 FR 13564. EPA noted that the requirements for reasonable further progress and other measures designed to provide for an area's attainment do not apply in evaluating redesignation requests because those nonattainment planning

requirements "have no meaning" for an area that has already attained the standard. *Id.* This interpretation was also set forth in the Calcagni Memorandum[1].

EPA's long-standing interpretation regarding the applicability of section 172(c)'s attainment planning requirements for an area that is attaining a NAAQS applies in this redesignation of the Cleveland 2012 annual $PM_{2.5}$ nonattainment area as well, except for the applicability of the requirement to implement all RACM under section 172(c)(1). On July 14, 2015, the United States Court of Appeals for the Sixth Circuit (6th Circuit) ruled that, to meet the requirement of section 107(d)(3)(E)(ii), states are required to submit plans addressing RACM/RACT under section 172(c)(1) and EPA is required to approve those plans prior to redesignating the area, regardless of whether the area is attaining the standard. *Sierra Club v. EPA*, 793 F.3d 656 (6th Cir. 2015). Because Ohio is within the jurisdiction of the 6th Circuit, EPA is acting in accordance with the *Sierra Club* decision in this redesignation action.[2] However, in this

[1] September 4, 1992 Memorandum from John Calcagni, Director, Air Quality Management Division (EPA), entitled, "Procedures for Processing Requests to Redesignate Areas to Attainment."

[2] Although the approach being implemented here is inconsistent with the Agency's longstanding national policy, such deviation is required in order to

case, this issue is moot because EPA has already concluded that Ohio has met RACT/RACM requirements for $PM_{2.5}$ in action published September 6, 2018 (83 FR 45193).

Section 172(c)(1) requires the plans for all nonattainment areas to provide for the implementation of all RACM as expeditiously as practicable and to provide for attainment of the primary NAAQS. Under this requirement, a state must consider all available control measures, including reductions that are available from adopting RACT on existing sources, for a nonattainment area and adopt and implement such measures as are reasonably available in the area as components of the area's attainment demonstration. As discussed above, EPA approved Ohio's RACM submission on September 6, 2018 (83 FR 45193). Therefore, Ohio has met its requirements under CAA section 172(c)(1) and section 107(d)(3)(E)(v).

As noted above, the remaining section 172(c) "attainment planning" requirements are not applicable for purposes of evaluating the state's redesignation request. Specifically, the RFP requirement under section 172(c)(2), which is defined as progress that must be made toward attainment, the

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act in accordance with a Circuit Court decision. Consistent with 40 CFR 56.5(b), the Region does not need to seek concurrence from EPA Headquarters for such deviation in these circumstances. *See also* 81 FR 51102 (August 3, 2016).

requirement to submit section 172(c)(9) contingency measures, which are measures to be taken if the area fails to make reasonable further progress to attainment, and section 172(c)(6)'s requirement that the SIP contain control measures necessary to provide for attainment of the standard, are not applicable requirements that Ohio must meet here because the Cleveland area has monitored attainment of the 2012 annual $PM_{2.5}$ NAAQS.

Section 172(c)(3) requires submission and approval of a comprehensive, accurate and current inventory of actual emissions. Ohio submitted a 2011 base year emissions inventory as part of their $PM_{2.5}$ attainment Demonstration on October 14, 2016, and requested that the 2011 inventories be used as the most accurate and current inventory. Ohio's 2011 emissions inventory was approved as meeting the section 172(c)(3) comprehensive emissions inventory requirement on September 6, 2018 (83 FR 45193). Section 172(c)(4) requires the identification and quantification of allowable emissions for major new and modified stationary sources in an area, and section 172(c)(5) and 189(a)(1)(A) requires source permits for the construction and operation of new and modified major stationary sources anywhere in the nonattainment area. EPA approved Ohio's current NSR program for $PM_{2.5}$ on June 25, 2015

(80 FR36477). In addition, the state's maintenance plan does not rely on nonattainment NSR, therefore having a fully approved NSR program is not an applicable requirement; nonetheless, we have approved the state's program.[3]

Section 172(c)(7) requires the SIP to meet the applicable provisions of section 110(a)(2). As noted above, we find that the Ohio SIP meets the section 110(a)(2) applicable requirements for purposes of redesignation.

(2) Section 176 Conformity Requirements

Section 176(c) of the CAA requires states to establish criteria and procedures to ensure that federally-supported or funded activities, including highway and transit projects, conform to the air quality planning goals in the applicable SIPs. The requirement to determine conformity applies to transportation plans, programs and projects developed, funded or approved under title 23 of the U.S. Code and the Federal Transit Act (transportation conformity) as well as to all other federally-supported or funded projects (general conformity) *See* 73 FR 66964, 67043 n.120. EPA approved Ohio's transportation conformity SIP on March 2, 2015 (80 FR 11133)

[3] A detailed rationale for this view is described in a memorandum from Mary Nichols, Assistant Administrator for Air and Radiation, dated October 14, 1994, entitled, "Part D New Source Review Requirements for Areas Requesting Redesignation to Attainment."

and the general conformity SIP on May 26, 2015 (80 FR 29968).

b. Ohio Has a Fully Approved Applicable SIP under Section 110(k) of the CAA

EPA has fully approved the Ohio SIP for the Cleveland area under section 110(k) of the CAA for all requirements applicable for purposes of redesignation, in accordance with section 107(d)(3)(E)(ii). EPA may rely on prior SIP approvals in approving a redesignation request. See Calcagni Memorandum at 3); *Southwestern Pennsylvania Growth Alliance* v. *Browner,* 144 F.3d 984, 989-990 (6th Cir. 1998); *Wall* v. *EPA,* 265 F.3d 426 (6th Cir. 2001). EPA also relies on measures approved in conjunction with a redesignation action. *See*, e.g., 68 FR 25413 (May 12, 2003) (approving I/M program for St. Louis) and 68 FR 25426 (May 12, 2003) (approving redesignation relying in part on I/M program approval). As discussed in the prior section, Ohio has adopted and submitted (and EPA has fully approved) a number of required SIP provisions addressing the 2012 annual $PM_{2.5}$ standards.

EPA has approved Ohio's 2011 emissions inventories for the Cleveland area as meeting the requirement of section 172(c)(3) of the CAA, and approved RACM provisions meeting the requirement of 172(c)(1). No Cleveland area SIP provisions

are currently disapproved, conditionally approved, or partially approved. Therefore, the Administrator has fully approved the applicable requirements for the Cleveland area under section 110(k) in accordance with section 107(d)(3)(E)(ii).

3. Permanent and Enforceable Reductions in Emissions (Section 107(d)(3)(E)(iii))

EPA finds that Ohio has demonstrated that the observed air quality improvement in the Cleveland area is due to permanent and enforceable reductions from Federal measures. In making this demonstration, Ohio has calculated the change in emissions between 2011, one of the years the Cleveland area was monitoring nonattainment, and 2016, one of the years the Cleveland area monitored attainment. The reduction in emissions and the corresponding improvement in air quality over this period can be attributed to a number of regulatory control measures that the Cleveland and contributing areas have implemented in recent years.

a. Permanent and Enforceable Controls Implemented

The following is a discussion of permanent and enforceable measures that have been implemented in the area:

i. Federal Emission Control Measures

Reductions in directly emitted fine particles and fine

particle precursor emissions have occurred statewide and in upwind areas because of Federal emission control measures, with additional emission reductions expected to occur in the future. Federal emission control measures include the following.

Tier 2 Emission Standards for Vehicles and Gasoline Sulfur Standards. These emission control requirements result in lower NO_X and SO_2 emissions from new cars and light duty trucks, including sport utility vehicles. The Federal rules were phased in between 2004 and 2009. EPA has estimated that, by the end of the phase-in period, new vehicles will emit less NO_x with the following percentage decreases: passenger cars (light duty vehicles) - 77%; light duty trucks, minivans and sports utility vehicles - 86%; and, larger sports utility vehicles, vans and heavier trucks - 69% to 95%. EPA expects fleet-wide average emissions to decline by similar percentages as new vehicles replace older vehicles. The Tier 2 standards also reduced the sulfur content of gasoline to 30 parts per million (ppm) beginning in January 2006, reducing both directly emitted sulfates and the precursor SO_2. Most gasoline sold in Ohio prior to January 2006 had a sulfur content of about 500 ppm.

Heavy-Duty Diesel Engine Rule. EPA issued this rule in

July 2000. This rule includes standards limiting the sulfur content of diesel fuel, which went into effect in 2004. A second phase took effect in 2007 which reduced fine particle emissions from heavy-duty highway engines and further reduced the highway diesel fuel sulfur content to 15 ppm. The total program is estimated to achieve a 90% reduction in direct $PM_{2.5}$ emissions and a 95% reduction in NO_X emissions for these new engines using low sulfur diesel, compared to existing engines using higher sulfur content diesel. The reduction in fuel sulfur content also yielded an immediate reduction in sulfate particle emissions from all diesel vehicles.

Nonroad Diesel Rule. In May 2004, EPA promulgated a new rule for large nonroad diesel engines, such as those used in construction, agriculture and mining equipment, to be phased in between 2008 and 2014. The rule also reduces the sulfur content in nonroad diesel fuel by over 99%. Prior to 2006, nonroad diesel fuel averaged approximately 3,400 ppm sulfur. This rule limited nonroad diesel sulfur content to 500 ppm by 2006, with a further reduction to 15 ppm by 2010. The combined engine and fuel rules will reduce NO_X and $PM_{2.5}$ emissions from large nonroad diesel engines by over 90%, compared to current nonroad engines using higher sulfur content diesel. It is estimated that compliance with this

rule will cut NO_X emissions from nonroad diesel engines by up to 90%. This rule achieved some emission reductions by 2008, and was fully implemented by 2010. The reduction in fuel sulfur content also yielded an immediate reduction in sulfate particle emissions from all diesel vehicles.

Nonroad Large Spark-Ignition Engine and Recreational Engine Standards. In November 2002, EPA promulgated emission standards for groups of previously unregulated nonroad engines. These engines include large spark-ignition engines such as those used in forklifts and airport ground-service equipment; recreational vehicles using spark-ignition engines such as off-highway motorcycles, all-terrain vehicles and snowmobiles; and recreational marine diesel engines. Emission standards from large spark-ignition engines were implemented in two tiers, with Tier 1 starting in 2004 and Tier 2 in 2007. Recreational vehicle emission standards are being phased in from 2006 through 2012. Marine diesel engine standards were phased in from 2006 through 2009. With full implementation of the entire nonroad spark-ignition engine and recreational engine standards, an 80% reduction in NO_X is expected by 2020. Most of these emission reductions occurred by the 2015-2017 period used to demonstrate attainment, but additional emission reductions will occur during the maintenance period.

ii. Control Measures in Contributing Areas

NO_X SIP Call. On October 27, 1998 (63 FR 57356), EPA issued a NO_X SIP Call requiring the District of Columbia and 22 states to reduce emissions of NO_X. Affected states were required to comply with Phase I of the SIP Call beginning in 2004, and Phase II beginning in 2007. Emission reductions resulting from regulations developed in response to the NO_X SIP Call are permanent and enforceable.

Clean Air Interstate Rule (CAIR). On March 10, 2004, EPA promulgated the CAIR. The CAIR rule required Electric Generating Units (EGUs) in 28 eastern states and the District of Columbia to significantly reduce emissions of NO_x and SO_2. On July 6, 2011, EPA finalized Cross-State Air Pollution Rule (CSAPR) as a replacement for CAIR. CSAPR became effective on January 1, 2015, for SO_2 and annual NO_x, and May 1, 2015, for ozone season NO_x. EPA estimated CSAPR will reduce EGU SO_2 emissions by 73% and NO_x emissions by 54% from 2005 levels in the CSAPR region, which includes Ohio. Between 2011 and 2015, in Ohio alone, annual NO_x EGU emissions decreased from 103,592 tons per year (TPY) to 67,059 TPY and SO_2 EGU emissions decreased from 575,474 TPY to 177,257 TPY.

On September 7, 2016, EPA promulgated an update to CSAPR that will bring even greater reductions in NO_x emissions. EPA

estimated that the CSAPR update and other changes already underway in the power sector will cut ozone season NO_x emissions from power plants in the eastern United States by 20%, resulting in a reduction of 80,000 tons in 2017 compared to 2015 levels.

Several facilities in the Cleveland have reduced $PM_{2.5}$ and precursor emissions, and Ohio has made the reductions permanent and enforceable. Cleveland Electric Illuminating Co., Lake Shore Plant in Cuyahoga County, permanently shut down December 17, 2015. The Medical Center in Cuyahoga County converted to natural gas by January 13, 2017, shuttering its two coal-fired boilers (B003 and B004) and replacing them with a natural gas boiler (B023) with a federally-enforceable SO_2 limit of 1.18 TPY. Cleveland Thermal LLC in Cuyahoga County retired all coal-fired and oil-fired boilers by January 31, 2017, except two oil-fired boilers retained for auxiliary use. The Avon Lake Power Plant in Lorain County accepted a federally enforceable combined emissions limitation on all SO_2 emitting sources at the facility at 9,600 lbs/hr, effective beginning January 13, 2017, to satisfy the 1-hour SO_2 standard. Oberlin College in Lorain County shut down coal fired boilers on April 22, 2014. These emissions reductions are detailed in Table 2.

Table 2. 2011 and 2016 Emissions Totals for the Cleveland 2012 annual $PM_{2.5}$ NAAQS (tons/year)			
Pollutant	2011	2016	Difference
$PM_{2.5}$	5843.68	4989.39	-854.29
NO_x	46892.19	35414.24	-11477.95
SO_2	39406.99	14724.02	-24682.97
VOC	33402.70	26968.63	-6434.07
NH_3	1606.26	1570.86	-35.4

4. Maintenance Plan Pursuant to Section 175A of the CAA (Section 107(d)(3)(E)(iv))

In conjunction with Ohio's request to redesignate the Cleveland nonattainment area to attainment status, Ohio has submitted a SIP revision to provide for maintenance of the 2012 annual $PM_{2.5}$ NAAQS in the area through 2030.

a. What Is Required in a Maintenance Plan?

Section 175A of the CAA sets forth the required elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment. Under section 175A, the plan must demonstrate continued attainment of the applicable NAAQS for at least ten years after EPA approves a redesignation to attainment. Eight years after redesignation, the state must submit a revised maintenance plan which demonstrates that attainment will continue to be maintained for ten years following the initial 10-year maintenance period. To address the possibility of future NAAQS violations, the maintenance plan must contain contingency measures with a schedule for

implementation as EPA deems necessary to assure prompt correction of any future $PM_{2.5}$ NAAQS violations.

The Calcagni memorandum provides additional guidance on the content of a maintenance plan. The memorandum states that a maintenance plan should address the following items: the attainment emissions inventory, a maintenance demonstration showing maintenance for the 10 years of the maintenance period, a commitment to maintain the existing monitoring network, factors and procedures to be used for verification of continued attainment of the NAAQS, and a contingency plan to prevent or correct future violations of the NAAQS.

As discussed in detail in the section below, the state's maintenance plan submission expressly documents that the area's emissions inventory and modeling show that the area will remain below the attainment year inventories through 2030, more than ten years after redesignation.

b. Attainment Inventory

Ohio developed an emissions inventory for annual $PM_{2.5}$ emissions for 2016, one of the years in the period during which the Cleveland area monitored attainment of the 2012 annual $PM_{2.5}$ NAAQS. The attainment levels of emissions are summarized in Tables 3 through 7, along with future maintenance projections.

c. Demonstration of Maintenance

As discussed above, EPA has determined that the Cleveland area attained the 2012 annual $PM_{2.5}$ NAAQS based on monitoring data for the 3-year period from 2015-2017. In its maintenance plan, Ohio selected 2016 as the attainment emission inventory year. The attainment inventory identifies the level of emissions in the Cleveland area that is sufficient to attain the 2012 annual $PM_{2.5}$ NAAQS. Ohio began development of the attainment inventory by first generating a baseline emissions inventory for the Cleveland area. The year 2011 was chosen as the base year for developing a comprehensive emissions inventory for direct $PM_{2.5}$, NO_x, SO_2, VOC, and NH_3. The projected inventory included with the maintenance plan estimates emissions forward to 2022 and 2030, which satisfies the 10-year interval required in section 175(A) of the CAA.

The emissions inventories address four major types of sources: point, area, on-road mobile, and non-road mobile. The future year emissions inventories have been estimated using projected rates of growth in population, traffic, economic activity, expected control programs, and other parameters. Non-road mobile emissions estimates were based on EPA's non-road mobile model, with the exception of the railroad locomotives, commercial marine, and aircraft. On-

road mobile source emissions were calculated using EPA's MOVES2014a on-road mobile emission model. The 2016 $PM_{2.5}$, NO_x, SO_2, VOC, and NH_3 emissions for Cleveland area, as well as the emissions for other years, were developed consistent with EPA guidance.

Section 175A requires a state seeking redesignation to attainment to submit a SIP revision to provide for the maintenance of the NAAQS in the area "for at least 10 years after the redesignation." EPA has interpreted this as a showing of maintenance "for a period of ten years following redesignation." Calcagni Memorandum, p. 9. Where the emissions inventory method of showing maintenance is used, the purpose is to show that emissions during the maintenance period will not increase over the attainment year inventory. Calcagni Memorandum, pp. 9–10.

As discussed in detail below, Ohio's maintenance plan submission expressly documents that the Cleveland area's overall emissions inventories will remain well below the attainment year inventories through 2030. In addition, for the reasons set forth below, EPA believes that the Cleveland area will continue to maintain the 2012 annual $PM_{2.5}$ NAAQS through 2030. Thus, if EPA finalizes its proposed approval of the redesignation request and maintenance plan, the approval

will be based upon this showing, in accordance with section 175A, and EPA's analysis described herein, that the Ohio's maintenance plan provides for maintenance for at least 10 years after redesignation.

The maintenance plan for the Cleveland 2012 annual $PM_{2.5}$ area includes a maintenance demonstration that:

(i) Shows compliance with and maintenance of the annual $PM_{2.5}$ standard by providing information to support the demonstration that current and future emissions of $PM_{2.5}$ and NO_x, as well as other precursors, remain at or below 2016 emissions levels.

(ii) Uses 2016 as the attainment year and includes future emission inventory projections for 2022 and 2030.

(iii) Identifies an "out year" at least 10 years after EPA review and potential approval of the maintenance plan. Per 40 CFR part 93, $PM_{2.5}$, and NO_x MVEBs were established for the last year (2030) of the maintenance plan.

(iv) Provides, as shown in Tables 3 through 7 below, the estimated and projected emissions inventories, in tons per year, for the Cleveland area, for $PM_{2.5}$, NO_x, SO_2, VOC, and NH_3.

Table 3. Cleveland, Ohio $PM_{2.5}$ Emission Inventories (tons/year)				
Sector	2016 Attainment	2022 Interim	2030 Maintenance	Difference 2016-2030
EGU Point	244.52	244.2	244.06	-0.46
Non-EGU	959.26	947.74	947.74	-11.52
Non-road	483.3	404.76	389.63	-93.67
Area	2618.69	2632.91	2612.65	-6.04
MAR	109.8	97.54	79.43	-30.37
On-road	573.82	353.73	235.28	-338.54
Total	4989.39	4680.88	4508.79	-480.6

Table 4. Cleveland, Ohio NO_x Emission Inventories (tons/year)				
Sector	2016 Attainment	2022 Interim	2030 Maintenance	Difference 2016-2030
EGU Point	2094.74	2130.53	2081.42	-13.32
Non-EGU	3019.4	2472.33	2472.33	-547.07
Non-road	5302.02	4259.67	3888.48	-1413.54
Area	5979.36	6033.34	6034.14	54.78
MAR	3693.28	3391.82	2847.09	-846.19
On-road	15325.44	8201.77	4267.43	-11058.01
Total	35414.24	26489.46	21590.89	-13823.35

Table 5. Cleveland, Ohio SO_2 Emission Inventories (tons/year)				
Sector	2016 Attainment	2022 Interim	2030 Maintenance	Difference 2016-2030
EGU Point	9022.75	9020.59	9020.59	-2.16
Non-EGU	5312.54	1411.93	1411.93	-3900.61
Non-road	9.39	12.63	13.89	4.5
Area	183.9	200.83	200.92	17.02
MAR	94.2	118.21	119.03	24.83
On-road	101.24	88.63	70.59	-30.65
Total	14724.02	10852.82	10836.95	-3887.07

Table 6. Cleveland, Ohio VOC Emission Inventories(tons/year)				
Sector	2016 Attainment	2022 Interim	2030 Maintenance	Difference 2016-2030
EGU Point	15.74	16.76	15.45	-0.29
Non-EGU	1354.24	1202.43	1202.43	-151.81
Non-road	7687.75	6725.32	6625.2	-1062.55
Area	14994.33	14988.5	14913.02	-81.31
MAR	325.14	336.16	313.96	-11.18
On-road	2591.43	1095.4	470.43	-2121
Total	26968.63	24364.57	23540.49	-3428.14

Table 7. Cleveland, Ohio NH_3 Emission Inventories (tons/year)				
Sector	2016 Attainment	2022 Interim	2030 Maintenance	Difference 2016-2030
EGU Point	0.13	0.13	0.13	0
Non-EGU	57.58	44.99	44.99	-12.59
Non-road	11.93	12.97	14.31	2.38
Area	1131.54	1134.31	1134.25	2.71
MAR	1.55	1.54	1.54	-0.01
On-road	368.13	322.31	313.39	-54.74
Total	1570.86	1516.25	1508.61	-62.25

As discussed in the section below, the state's maintenance plan submission expressly documents that the area's emission levels will remain below the attainment year emission levels through 2030.

d. Monitoring Network

Ohio operates eight $PM_{2.5}$ monitors in the Cleveland, Ohio area. Ohio's maintenance plan includes a commitment to

continue to operate an adequate EPA-approved monitoring network to demonstrate ongoing compliance with the NAAQS.

e. Verification of Continued Attainment

Ohio remains obligated to continue to quality-assure monitoring data and enter all data into the Air Quality System in accordance with Federal guidelines. Ohio will use these data, supplemented with additional information as necessary, to assure that the area continues to attain the standard. Ohio will also continue to develop and submit periodic emission inventories as required by the Federal Consolidated Emissions Reporting Rule (67 FR 39602, June 10, 2002) to track future levels of emissions. Both of these actions will help to verify continued attainment in accordance with 40 CFR part 58.

f. Contingency Plan

The contingency plan provisions are designed to promptly correct or prevent a violation of the NAAQS that might occur after redesignation of an area to attainment. Section 175A of the CAA requires that a maintenance plan include such contingency measures as EPA deems necessary to assure that the state will promptly correct a violation of the NAAQS that occurs after redesignation. The maintenance plan should identify the contingency measures to be adopted, a schedule and procedure for adoption and implementation of the

contingency measures, and a time limit for action by the state. The state should also identify specific indicators to be used to determine when the contingency measures need to be adopted and implemented. The maintenance plan must include a requirement that the state will implement all pollution control measures that were contained in the SIP before redesignation of the area to attainment. *See* section 175A(d) of the CAA.

Ohio's contingency plan defines a warning level and action level response. The warning level response will trigger when the $PM_{2.5}$ average of the weighted annual mean of 12.5 µg/m^3 or greater occurs in a single calendar year within the maintenance area. A warning level response will consist of a study to determine whether the $PM_{2.5}$ value indicates a trend toward higher $PM_{2.5}$ values or whether emissions appear to be increasing. The action level response will be prompted whenever a two-year average of the weighted annual means of greater than 12.0 µg/m^3 occurs within the maintenance area. A violation of the standard (three-year average of the weighted annual means of greater than 12.0 µg/m^3) shall also prompt an action level response. If the action level is triggered and is not found to be due to an exceptional event, malfunction, or noncompliance with a permit condition or rule requirement,

Ohio EPA, in conjunction with the metropolitan planning organization or regional council of governments, will determine additional control measures needed to assure future attainment of the NAAQS for annual $PM_{2.5}$. Action level measures that can be implemented in a short time will be selected to be in place within 18 months from the close of the calendar year that prompted the action level. Ohio EPA will also consider the timing of an action level trigger and determine if additional, significant new regulations not currently included as part of the maintenance provisions will be implemented in a timely manner and will constitute our response.

Because it is not possible to determine what control measures will be appropriate at an unspecified time in the future, the list of contingency measures outlined below is not exhaustive.

1) Diesel reduction emission strategies.

2) Alternative fuel (e.g., liquid propane and compressed natural gas) and diesel retrofit programs for fleet vehicle operations.

3) Tighter $PM_{2.5}$, SO_2, and NO_x emissions offsets for new and modified major sources.

4) Impact crushers located at recycle scrap yards –

upgrade wet suppression.

5) Concrete manufacturing – upgrade wet suppression.

6) Additional NO_x RACT statewide.

As required by section 175A(b) of the CAA, Ohio commits to submit to EPA an updated $PM_{2.5}$ maintenance plan eight years after redesignation of the Cleveland area to cover an additional ten-year period beyond the initial 10 year maintenance period.

For the reasons set forth above, EPA is proposing to approve Ohio's 2012 annual $PM_{2.5}$ maintenance plan for the Cleveland area as meeting the requirements of CAA section 175A.

Ohio further commits to conduct ongoing review of its data, and if monitored concentrations or emissions are trending upward, Ohio commits to take appropriate steps to avoid a violation if possible. Ohio commits to continue implementing SIP requirements upon and after redesignation.

EPA finds that Ohio's approved contingency measures, as well as the commitment to continue implementing any SIP requirements, satisfy the pertinent requirements of section 175A.

5. Motor Vehicle Emissions Budget (MVEBs) for $PM_{2.5}$ and NO_X, and Safety Margin for the Cleveland Area

The maintenance plan submitted by Ohio for the Cleveland contain new primary $PM_{2.5}$ and NO_X MVEBs for the area for the years 2022 and 2030. MVEBs are the projected levels of controlled emissions from the transportation sector (mobile sources) that are estimated in the SIP to provide for maintenance of the ozone standard. The MVEBs were calculated using MOVES2014a. Table 8 details Ohio's 2022 and 2030 MVEBs for the Cleveland.

Table 8. MVEBs for the Cleveland 2012 annual $PM_{2.5}$ Maintenance Plan (tons/year)		
Pollutant	2022 MVEB	2030 MVEB
$PM_{2.5}$	406.79	270.57
NO_x	9,432.04	4,907.54

Ohio included "safety margins" as provided for in 40 CFR 93.124(a). A "safety margin", as defined in the transportation conformity rule (40 CFR part 93 subpart A), 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. The attainment level of $PM_{2.5}$ and NO_x emissions for the Cleveland is shown in tables 3 and 4. Tables 9 and 10 show the remaining safety margin for the Cleveland area following the allocation to the $PM_{2.5}$ and NO_x MVEBs.

Table 9. 2022 Safety Margin for Cleveland 2012 annual $PM_{2.5}$ Maintenance Plan (tons/year)			
Pollutant	2022 Safety margin (	Safety margin Allocated to 2022 MVEB	Safety Margin Remaining
$PM_{2.5}$	308.51	53.06	255.45
NO_x	8924.78	1230.27	7694.51

Table 10. 2030 Safety Margin for Cleveland 2012 annual $PM_{2.5}$ Maintenance Plan (tons/year)			
Pollutant	2030 Safety margin	Safety margin Allocated to 2030 MVEB	Safety Margin Remaining
$PM_{2.5}$	480.6	35.29	445.31
NO_x	13823.35	640.11	13183.24

The 2022 and 2030 projected emissions, even with this allocation, will be below the 2016 attainment year emissions for both $PM_{2.5}$ and NO_x. For this reason, EPA finds that the allocation of the safety margin to the MVEBs for the Cleveland area meet the requirements of the transportation conformity regulations at 40 CFR part 93, and are approvable. Once allocated to mobile sources, these portions of the safety margins will not be available for use by other sources.

V. What are the effects of EPA's actions?

EPA is proposing to change the official designation of the Cleveland, Ohio area for the 2012 annual $PM_{2.5}$ NAAQS, found at 40 CFR part 81, from nonattainment to attainment. EPA is proposing to determine that the Cleveland area has attained the 2012 annual $PM_{2.5}$ standard, based on the most recent three

years of certified air quality data. This action also proposes to approve the maintenance plan for the 2012 annual $PM_{2.5}$ NAAQS as revisions to the Ohio SIP for the Cleveland area. Finally, EPA finds adequate and is proposing to approve 2022 and 2030 primary $PM_{2.5}$ and NO_X MVEBs for the Cleveland area. These MVEBs will be used in future transportation conformity analyses for the area.

VI. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this 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 CAA; and

- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the 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).

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Sulfur oxides.

40 CFR Part 81

Environmental protection, Air pollution control, National parks, Wilderness areas.

Dated: December 6, 2018.

Cathy Stepp,

Regional Administrator, Region 5.

[FR Doc. 2018-27746 Filed: 12/21/2018 8:45 am; Publication Date: 12/26/2018]