



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R02-OAR-2019-0720; FRL-10010-30-Region 2]

Approval of Source-Specific Air Quality Implementation Plans; New Jersey

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a revision to the State of New Jersey's State Implementation Plan (SIP) for the ozone National Ambient Air Quality Standard (NAAQS) related to a source-specific SIP for CMC Steel New Jersey, located at 1 N. Crossman, Sayreville, New Jersey (Facility). The control options in this source-specific SIP address volatile organic compounds (VOC) and nitrogen oxide (NO_x) Reasonably Available Control Technology (RACT) for the Facility's electric arc furnace (Sayreville EAF). The intended effect of this source-specific SIP revision is to allow the Facility to continue to operate under the current, New Jersey Department of Environmental Protection (NJDEP) approved VOC and NO_x emission limits for the Sayreville EAF. The Facility met the statutory criteria and deadline to qualify for continuing to operate under its existing VOC and NO_x emission limits. This action will not increase the hourly emissions of the Sayreville EAF affected source and will not interfere with any applicable requirements of any National Ambient Air Quality Standard. Therefore, this action meets all applicable requirements of the Clean Air Act.

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 Number EPA-R02-OAR-2019-0720, at <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or withdrawn. 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, such as 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>.

FOR FURTHER INFORMATION CONTACT: Linda Longo, Air Programs Branch, Environmental Protection Agency, Region 2 Office, 290 Broadway, 25th Floor, New York, New York 10007-1866, (212) 637-3565, or by email at longo.linda@epa.gov.

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I. Background

The EPA proposes to approve a revision to the State of New Jersey's SIP for attainment and maintenance of the ozone NAAQS. Specifically, this action applies to the regulations under New Jersey Administrative Code (NJAC), Title 7, Chapter 27, Subchapter 16, "Control and Prohibition of Air Pollution from Volatile Organic Compounds" (NJAC 7:27-16) and New Jersey Administrative Code, Title 7, Chapter 27, Subchapter 19, "Control and Prohibition of Air Pollution from Oxides of Nitrogen" (NJAC 7:27-19). The NJDEP reviewed and approved the facility-specific emission limits for VOC and NO_x control plans as well as the associated RACT for the Sayreville EAF operated by the Facility. The two associated facility-specific emission limits for VOC and NO_x are the lowest emission limits with the application of control technology that are reasonably available given the technological and economic feasibility considerations associated with the Sayreville EAF.

CMC Steel New Jersey submitted this source-specific SIP revision requesting authorization to continue to operate under its current approved emission limits – specifically, the VOC emission rate of 57 pounds per hour (lb/hr) and the NO_x emission rate of 31 lb/hr – for the Sayreville EAF. A full summary of EPA's findings for this source-specific SIP revision is included in the technical support document (TSD) that is contained in EPA's docket assigned to this *Federal Register* document.

Ozone Requirements

On March 6, 2015, the EPA established a final rule for implementing the 2008 ozone NAAQS that repealed the 1997 ozone NAAQS and added anti-backsliding requirements to help smooth the transition between the 1997 and the 2008 ozone NAAQS for nonattainment areas. *See* 80 FR 12264 (March 6, 2015). In 1997, the EPA revised the health-based NAAQS for 8-hour ozone, setting it at 0.084 parts per million (ppm) averaged over an 8-hour time frame. *See* 62 FR 38856 (July 18, 1997). In March 2008, the EPA revised the 8-hour ozone NAAQS to 0.075 ppm (2008 ozone NAAQS), and in October 2015, to 0.070 ppm (2015 ozone NAAQS) while retaining the 2008 ozone indicators. *See* 73 FR 16436 (March 27, 2008); 80 FR 65292 (October 26, 2015). Under the Clean Air Act (CAA), after the EPA establishes a new or revised NAAQS, the EPA and the states must take steps to ensure that the new or revised NAAQS are met. One of the first steps, known as the “initial area designations,” involves identifying areas of the country that are not meeting the new or revised NAAQS, as well as the nearby areas that contain emission sources that contribute emissions to the areas’ not meeting the NAAQS. On June 4, 2018, the EPA finalized its attainment/nonattainment designations for most areas across the country with respect to the 2015 8-hour ozone NAAQS. *See* 83 FR 25776 (June 4, 2018). The 2015 ozone NAAQS became effective on August 3, 2018.

The State of New Jersey encompasses two 2008 ozone NAAQS nonattainment areas: the Philadelphia-Wilmington-Atlantic City (PA-NJ-MD-DE), which is classified as marginal; and the New York-Northern New Jersey-Long Island (NY-NJ-CT) also referred to as the New York Metropolitan Area (NYMA), which has been reclassified as serious.¹ The New Jersey portion of

¹ Determinations of Attainment by Attainment Date, Extensions of the Attainment Date, and Reclassifications of Several Areas Classified as Moderate for the 2008 Ozone National Ambient Air Quality Standards, <https://www.federalregister.gov/documents/2019/08/23/2019-17796/determinations-of-attainment-by-the-attainment-date-extensions-of-the-attainment-date-and>

the NYMA is made up of 12 counties: Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union and Warren counties. CMC Steel New Jersey is located in Middlesex County.

On May 4, 2016, the EPA determined that the NYMA failed to attain the 2008 ozone NAAQS by the applicable marginal attainment date of July 20, 2015, and therefore the NYMA was reclassified from “marginal” to “moderate” nonattainment. *See* 81 FR 26697 (May 4, 2016).² As an area that is reclassified to a higher nonattainment classification, the NYMA was required to demonstrate attainment of the 2008 ozone NAAQS by the applicable attainment date of July 20, 2018; however, the NYMA again failed to meet the attainment date. Consequently, on August 23, 2019, the EPA reclassified the NYMA to “serious” nonattainment. CAA sections 172(c)(1), 182(b)(2) and 182(f) require nonattainment areas that are designated as “moderate” or above to adopt RACT.

RACT Requirements

RACT is defined as the lowest emission limit that a source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.³ The RACT analysis requires a two-step process. In the first step, the facility must identify control options that it does not currently implement but that are technologically feasible given its operations. In the second step, the facility must determine

² Determinations of Attainment by Attainment Date, Extensions of the Attainment Date, and Reclassifications of Several Areas for the 2008 Ozone National Ambient Air Quality Standards, <https://www.federalregister.gov/documents/2016/05/04/2016-09729/determinations-of-attainment-by-the-attainment-date-extensions-of-the-attainment-date-and>

³ The EPA has not generally prescribed RACT requirements. As defined in “State Implementation Plans; General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas – Supplement (on Control Techniques Guidelines),” RACT for a source is determined on a case-by-case basis, considering the technological and economic circumstances of the individual source. *See* 44 FR 53761 September 17, 1979.

which of the identified control options is cost effective given its operational needs. The control options that are demonstrated as both technologically feasible and cost-effective are considered RACT.

The entire State of New Jersey is subject to RACT because: 1) the State is under the nonattainment area designations for the 8-hour ozone NAAQS (40 CFR 81.331), and 2) the State of New Jersey is located within the Ozone Transport Region (OTR), a region in which the CAA requires that state SIPs implement RACT requirements. *See* CAA § 184(b)(1)(B). Under the EPA guidelines (the “Phase 2 Rule”), in RACT determinations, states should consider technologies that achieve 30–50 percent reduction within a cost range of \$160–1300 per ton of NO_x removed. *See* 70 FR 71612 (November 29, 2005). On August 1, 2007, the NJDEP finalized RACT revisions to its SIP to address the 8-hour ozone NAAQS, and the EPA approved these revisions on May 15, 2009. *See* “RACT for the 8-hour Ozone NAAQS and other Associated SIP Revisions for the Fine Particulate Matter, Regional Haze, and Transport of Air Pollution,” available at <http://www.nj.gov/dep/baqp/sip/8-hrRACT-Final.pdf> and *see* 74 FR 22837 (May 15, 2009). The NJDEP, taking a more stringent approach, determined that control options with significantly higher costs than those discussed in the Phase 2 Rule would be considered reasonable under the State’s RACT analysis. New Jersey’s RACT rule does not suggest a dollar amount, but the NJDEP has identified a five-factor analysis for determining whether a control option constitutes RACT:

- 1) Past New Jersey costs for retrofitting a given control;
- 2) Average RACT cost (dollars per tons reduced) for a control technology and maximum RACT cost. Once a reasonable number of sources in a source category achieve a lower emission level, other sources should do the same;

3) The seriousness of the Region's ozone air quality exceedance. For nonattainment areas with higher ozone levels, higher costs for controls are reasonable;

4) The seriousness of the need to reduce transported air pollution. As an OTR state, higher costs for RACT are justified; and

5) The NJDEP plan for addressing economic feasibility in RACT rules.

The NJDEP intended to specify RACT at the lowest emission limit that a reasonable number of facilities that are similar to the source under consideration had already successfully implemented for each source category.

II. The EPA's Evaluation of New Jersey's Submittals

In accordance with NJAC 7:27-16.17 and NJAC 7:27-19, NJDEP requested⁴ for CMC Steel New Jersey to submit updated facility-specific VOC and NOx control plans so that the State could determine whether new emission control options for the electric arc furnace had emerged since the Facility's last submission and NJDEP approval in 2009. In response, CMC Steel New Jersey submitted to NJDEP the facility-specific VOC and NOx control plans that are the subject of this source-specific SIP revision. In a letter from NJDEP Commissioner Catherine R. McCabe to the U.S. EPA Region 2 Regional Administrator Peter D. Lopez (dated April 30, 2019), NJDEP requested the EPA's approval of the current revision to the New Jersey SIP for the ozone NAAQS to incorporate CMC Steel New Jersey's facility-specific control plans.

⁴ By email correspondence (dated September 7, 2018), NJDEP requested Gerdau Ameristeel (the former owner of the Facility) to submit updated facility-specific VOC and NOx control plans, because under NJAC 7:27-16.17 and NJAC 7:27-19, respectively, such plans have terms of 10 years. Having been approved in about 2009, the CMC Steel New Jersey's facility-specific control plans under the referenced provisions were near expiration. Note that on December 5, 2018, the NJDEP approved an administrative amendment to the Facility's CAA Title V operating permit to reflect the change in ownership and name from Gerdau Ameristeel to CMC Steel New Jersey. All control options and operating permit limits for the Sayreville EAF remain the same for the new owner CMC Steel New Jersey.

NJDEP's current source-specific SIP revision requests that the EPA evaluate the RACT analysis which would set CMC Steel New Jersey's facility-specific VOC emission rate at 57 lb/hr and its facility-specific maximum allowable NOx emission rate at 31 lb/hr. The Operating Permit contains a maximum potential to emit (PTE) of 78.7 tons per year (TPY) of VOC and maximum PTE of 78.8 TPY of NOx for the Sayreville EAF.⁵ According to the most recent facility emissions inventory, other sources of VOC and NOx emissions at the Facility's melt shop include: a scrap pre-heater, three ladle preheaters, a tundish preheater, and billet cutting torches; each of these enumerated sources contributes well less than 3 lb/hr of VOC emissions and less than 1 TPY of NOx to the overall VOC and NOx emissions from the Facility. Therefore, only the Sayreville EAF source operation is subject to the VOC RACT rule and the NOx RACT rule as set forth in NJAC 7:27-16.17 and NJAC 7:27-19.13, respectively.

The EPA reviewed the NJDEP's April 30, 2019, source-specific SIP revision submittal, which includes the CMC Steel New Jersey RACT analysis, for completeness and approvability. The EPA review included: studying various EPA RACT technical guidance documents, an evaluation of comparable electric arc furnace emission control technologies deployed at facilities nationwide, and consultation with air pollution control experts from the NJDEP and the EPA. Details of the EPA's review are included in the TSD contained in this docket.

Qualifying to Continue to Operate Under Current Approved Emission Limits

The CMC Steel New Jersey VOC and NOx control plans identify the proposed emission limits for the Sayreville EAF. The Facility met NJDEP's statutory criteria and deadline to qualify for continuing to operate under existing VOC and NOx emission limits. Under NJAC: 7:27-

⁵ The electric arc furnace is situated in the Facility's melt shop.

16.17(c)(3), facilities that sought to continue operating with an alternative VOC control plan that was approved prior to May 19, 2009, were required to submit updated proposed VOC control plans to NJDEP for review by August 17, 2009. The initial facility-specific VOC RACT plan for the Sayreville EAF was approved in October 1994, and on August 17, 2009 the Facility timely submitted a revised VOC RACT plan with a VOC emission rate of 57 lb/hr. Similarly, under NJAC: 7:27-19.13(a)(3), facilities that sought to continue to operate under existing NOx control plans that were approved prior to May 1, 2005, were required to submit updated proposed NOx control plans to NJDEP for review by August 17, 2009. The initial facility-specific NOx RACT plan for the Sayreville EAF was approved in May 1995, and on August 17, 2009 the Facility timely submitted a revised NOx RACT plan with a facility-specific maximum allowable NOx emission rate of 31 lb/hr.

RACT Analysis

The Facility's RACT analysis identifies seven VOC control technologies and eight NOx control technologies for a typical electric arc furnace. Three control technologies are currently being implemented at the Sayreville EAF (two VOC and one NOx controls) and one VOC control technology (i.e., a thermal incinerator) was considered technologically feasible but not currently implemented.

The VOC controls currently implemented at the Sayreville EAF are: operating in accordance with the Facility's Scrap Management Plan with which the Facility achieves reduced VOC emissions by ensuring that purchased scrap material are of a consistent and verifiable quality to minimize the amount of nonmetallic/organic material (such as oil, grease, and plastic) that could

result in VOC emissions when heated; and a direct evacuation system (DES) which destroys⁶ VOC emissions. The VOC control technologies that are not technologically feasible for the Sayreville EAF are: catalytic incineration; flares; mixed bed carbon adsorption; and condensers/recapture systems.

The NO_x control currently implemented by the Sayreville EAF is good operating practices, through which the Facility maintains a constant temperature in the preheater chamber (which feeds scrap metal to the EAF) so that scrap metal is melted before it enters the Sayreville EAF thereby avoiding temperature spikes that could generate greater NO_x emissions. The Facility's good operating practices also minimizes its electricity consumption which allows the Facility to avoid indirect NO_x emissions. The NO_x control technologies that are not technologically feasible for the Sayreville EAF are: DES; low NO_x/oxy-fuel burner; low excess air; flue gas recirculation/temperature reduction; selective catalytic reduction; selective non-catalytic reduction; and non-selective catalytic reduction.

The Facility conducted the RACT analysis on the thermal incinerator VOC control technology. The Facility demonstrated that VOC reductions from the thermal incinerator are not cost effective and therefore not RACT. Cost effectiveness is measured in dollars per ton of emissions reductions per year (i.e., the cost per ton of pollutant controlled). The cost effectiveness analysis includes many factors, among which are: consideration of process capital equipment, total plant cost and investment, fixed and variable operating cost, total capital requirement and consumable costs. Because sources vary in many important characteristics (including, among others, age, condition, and size), the actual cost, emission reduction, and cost

⁶ The DES helps destroy VOC emissions by sending the gas stream back through the high temperature preheater chamber.

effectiveness levels that an individual source experiences in meeting the RACT requirements also vary. Costs of meeting RACT also vary by the geographic locations of different sources as well as between emission units within a source. Rather than focusing on a single cost effectiveness figure for controls, EPA recommends that states consider a cost effectiveness range, because the actual cost effectiveness may vary. *See e.g.*, Memorandum from D. Kent Berry (dated March 16, 1994), “Cost effective Nitrogen Oxides (NO_x) Reasonably Available Control Technology (RACT).”

Based on the November 2017 updates to the EPA Air Pollution Control Cost Manual, the maximum costs considered are for a 50,000 standard cubic feet per minute (SCFM) thermal incinerator. Although larger thermal incinerator units can be built, sources rarely use flow rates above 50,000 SCFM. Therefore, CMC Steel New Jersey calculated the cost needed to handle a flow rate of 100,000 SCFM based on the cost of two 50,000 SCFM units. The cost effectiveness of operating two thermal incinerators was calculated by dividing the total annual cost of two thermal incinerators (\$3,647,283) by the amount of VOC emissions that would be removed (74.8 TPY). The VOC reduction was in turn calculated by multiplying the baseline of 78.7 TPY (the PTE from the Facility’s Title V permit) by an assumed thermal incinerator control efficiency of 95-percent, which resulted in a reduction of 74.8 TPY of VOC. The 95-percent control efficiency was selected based on EPA guidance⁷. Furthermore, as explained in Section I above, under EPA rulemaking states should consider in their RACT determinations technologies that achieve 30–50 percent reduction within a cost range of \$160–\$1,300 per ton of NO_x removed.⁸ The cost effectiveness of installing two thermal incinerators on the Sayreville EAF expressed in annual

⁷ Handbook Control Technologies for Hazardous Air Pollutants, EPA/625/6-91/014, June 1991.

⁸ As explained in the TSD, the NO_x Supplement applies to major stationary sources of NO_x the same as major stationary sources of VOC emissions.

costs is \$48,760 per ton VOC reduced. Therefore, NJDEP concluded that the thermal incinerator control technology is not to be RACT due to technological and economical infeasibility under federal and state RACT criteria.

The EPA agrees that thermal incineration technology is not cost effective and is not routinely implemented on electric arc furnaces. This technology's poor performance with electric arc furnaces possibly results from its unsuitability for applications where there are large fluctuations in flow rate or those in which reduced residence time and mixing during increased flow would result in lower destruction efficiency. EPA's review of the available literature reveals that while thermal incineration can handle minor flow rate fluctuations, the system cannot handle excessive flow rate fluctuations, which could require use of a flare. Thermal incinerators also have high fuel consumption demands and are better suited for small process operations, and not those found at the Facility. Finally, thermal incineration forms highly corrosive acid gases whose effects require the operation of post-oxidation acid gas treatment system. To remedy the problems associated with use of a thermal incineration system would add costs to the already high costs of operating thermal incineration units at the Facility.⁹

III. Proposed Action

The EPA finds that the current source-specific SIP revision is approvable because the Facility can meet emission limits set by NJDEP, implement RACT controls, and the Facility's application for facility-specific alternative control plans for VOC and NO_x meet the relevant regulatory requirements. First, based on a thorough review of similar sources, and an analysis of

⁹ See e.g., EPA Air Pollution Control Technology Fact Sheet, Technology: Thermal Incinerator, EPA 452/F-03-022, <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100RQ6F.PDF?Dockey=P100RQ6F.PDF> (last accessed Mar. 19, 2020).

this source-specific SIP revision, the EPA proposes to allow CMC Steel New Jersey to continue to operate under the NJDEP-approved emission limits for the Sayreville EAF. Specifically, the EPA proposes to set the Facility's VOC emission rate at 57 lb/hr and the NOx emission rate at 31 lb/hr. The EPA finds that no VOC and no NOx controls other than those the Facility already has in place can be designated RACT. The VOC controls currently implemented at the Facility (i.e., the DES and the Scrap Management Plan) allow the Facility to meet the 57 lb/hr VOC limit. For NOx, the Facility will continue to implement the Best Management Practices to avoid temperature spikes and minimize electricity use which would allow the Facility to meet the 31 lb/hr NOx limit. Second, the Facility's application meets the statutory requirement for facilities that seek to continue to operate under existing facility-specific control plans for VOC and NOx. The Facility had existing facility-specific control plans that were approved prior to May 19, 2009 and submitted its facility-specific control plan by August 17, 2009, as required under NJAC 7:27-16.17(c)(3) for VOC and under NJAC 7:27-19.13(a)(3) for NOx. As stated, the Facility underwent a change in ownership to CMC Steel New Jersey but made no changes to its equipment. As a result, the Facility is entitled to rely on its previously approved facility-specific control plans under both statutory provisions.

IV. Incorporation by Reference

In this document, we are proposing to include regulatory text in an EPA final rule that includes incorporation by reference. In accordance with requirements of [1 CFR 51.5](#), we are proposing to incorporate by reference the provisions described above in Section III. Proposed Action.

The EPA has made, and will continue to make, these documents generally available electronically through <http://www.regulations.gov> and in hard copy at the appropriate EPA regional office, 290 Broadway, 25th floor, New York, New York, 10007-1866.

V. 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 proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Order 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, this proposed rule does not have tribal implications as specified by Executive Order 13175, because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law. Thus, Executive Order 13175 does not apply to this action.

List of Subjects 40 CFR Part 52

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

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

Dated: June 30, 2020.

Peter Lopez,

Regional Administrator,
Region 2.

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