6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R01-OAR-2023-0188; FRL-11025-03-R1]

Air Plan Approval; New Hampshire; Reasonable Available Control Technology for the 2008 and 2015 Ozone Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving State Implementation Plan (SIP) revisions submitted by the State of New Hampshire. The revisions establish NO_x reasonably available control technology (RACT) requirements for coal-fired cyclone boilers located in the state, portions of New Hampshire's NOx RACT certifications for the 2008 and 2015 ozone standards that pertain to requirements for coal-fired cyclone boilers, and withdrawal from the SIP of two previously issued RACT orders. This action is being taken in accordance with the Clean Air Act (CAA).

DATES: This rule is effective on **[Insert date 30 days after date of publication in the Federal Register]**.

ADDRESSES: EPA has established a docket for this action under Docket Identification No. EPA-R01-OAR-2023-0188. All documents in the docket are listed on the *https://www.regulations.gov* web site. Although listed in the index, some information is not publicly available, i.e., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available at *https://www.regulations.gov* or at the U.S. Environmental Protection Agency, EPA Region 1 Regional Office, Air and Radiation Division, 5 Post Office Square - Suite 100, Boston, MA. EPA requests that if at all possible, you contact the contact listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office's

official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m., excluding legal holidays and facility closures due to COVID-19.

FOR FURTHER INFORMATION CONTACT: Bob McConnell, Environmental Engineer, Air and Radiation Division (Mail Code 5-MD), U.S. Environmental Protection Agency, Region 1, 5 Post Office Square, Suite 100, Boston, Massachusetts, 02109-3912; (617) 918-1046; mcconnell.robert@epa.gov.

SUPPLEMENTARY INFORMATION:

Throughout this document whenever ‘‘we,’’ ‘‘us,’’ or ‘‘our’’ is used, we mean EPA.

Table of Contents

I. Background and Purpose

On July 10, 2023 (88 FR 43483), EPA published a Notice of Proposed Rulemaking (NPRM) for the State of New Hampshire. The NPRM proposed to determine that the State has adopted regulations meeting the requirements for reasonably available control technology (RACT) for the 2008 and 2015 ozone national ambient air quality standards (NAAQS), to approve amendments to a related regulation that New Hampshire revised as part of its RACT certifications for these two NAAQS, to approve a revision to the State’s definition of emergency generator, and removal from the SIP of two previously issued RACT orders affecting coal-fired cyclone boilers operated by Merrimack Station located in Bow, New Hampshire. EPA received a comment letter from the Sierra Club dated August 9, 2023, that opposed New Hampshire’s NOx RACT limits applicable to coal-fired cyclone boilers. We approved the portions of the proposal unaffected by this comment letter in a final rule published on September 6, 2023 (88 FR 60893). In this final

rule, we are approving the remaining portions of these SIP revisions, which include requirements within New Hampshire's Env-A 1300 establishing RACT requirements for coal-fired electrical cyclone boilers, the portions of New Hampshire's NOx RACT certifications for the 2008 and 2015 ozone standards that pertain to requirements for coal-fired cyclone boilers, and we are taking final action to withdraw from the New Hampshire SIP two RACT orders that contain less stringent requirements for cyclone boilers. Please see our July 10, 2023 proposed rule for additional background and a more detailed explanation of our proposed action.

II. Response to Comments

As mentioned, we received one comment letter on our July 10, 2023 proposed approval, which was from the Sierra Club and expressed opposition to the proposed approval of New Hampshire's (NH's) NOx RACT requirements applicable to the coal-fired cyclone boilers operated by Granite Shore Power at its Merrimack Station electrical generating facility located in Bow. Our responses to the comments raised by Sierra Club appear below.

Comment: Sierra Club commented that the emission rate of 0.22 lbs/MMBtu for two coal-fired cyclone boilers at Merrimack Station, herein referred to as units MK1 and MK2, is inadequate as RACT. Sierra Club commented that, since 2018, MK1 and MK2 consistently demonstrated the ability to meet a 24-hour average emission rate at or below 0.20 lbs/MMBtu, which is 10% lower than NH's emissions limit of 0.22 lbs/MMBtu, and thereby asserted that the state's limit is too lenient.

Response: New Hampshire developed its NOx RACT emissions limits for MK1 and MK2 in consideration of a number of factors. One such factor was the observation that the selected emissions limit of 0.22 lbs NOx/MMBtu represented emission reductions of 83% and 91% from uncontrolled levels for MK1 and MK2, respectively,[1] which is a high level of control. Given MK2's larger size and emissions, the emissions weighted average reduction from

[1] NH based its emission reduction calculations on the uncontrolled levels observed during stack tests for MK1 and MK2.

uncontrolled levels for both units combined is 88% based on emissions data for 2022. This level of control is near the upper end of the emission reduction capability of selective catalytic reduction (SCR) control systems as noted within EPA control technology explanatory materials, such as the agency's fact sheet on SCR NOx control technology, which indicates a control range of between 70-90% is achievable from such systems.[2] Additionally, correspondence dated May 25, 2018 from the facility owner, Granite Shore Power, to the New Hampshire DES indicated that a more restrictive normal operating mode emission rate of 0.20 lbs/MMBtu on a 24-hr basis that was originally considered by NH DES was beyond the original emission reduction control capability of the units when they were newly installed. Granite Shore Power reiterated this point in a January 17, 2020 correspondence to the New Hampshire DES concerning regional haze requirements in which they note that the revised NOx RACT limits "represent the most effective use of the SCR, given that the system must be operated year round at or above its design capacity to demonstrate compliance."

In 2018 as New Hampshire was developing its NOx RACT emissions limit for MK1 and MK2, the state reviewed the emissions data from the continuous emissions monitoring systems (CEMS) on the units collected in 2000, when the equipment was newly installed, through 2007. Merrimack Station installed a second SCR control unit in 1999 due to the Ozone Transport Region (OTC) NOx budget program. Previously only one of the Merrimack Station units had SCR, installed circa 1995. This period of time coincides with the period of time that Electric Generating Units (EGUs) in New Hampshire had new emission control obligations under the OTC's NOx Budget program[3]. This program began in 1999 and continued through 2002, at which point most of the EGUs transitioned to the EPA's first ozone season NOx control program, that being the NOx SIP Call.[4] Although EGUs in New Hampshire were not required to

---

[2] Air Pollution Control Technology Fact Sheet: Selective Catalytic Reduction (SCR); EPA-452/F-03-032

[3] EPA approved the program New Hampshire developed to comply with the OTC's NOx Budget program into the NH SIP on November 14, 2000 (see 65 FR 68078).

[4] See EPA's October 27, 1998, (63 FR 57356) final rulemaking action known as the NOx SIP Call.

participate in the EPA's NOx SIP Call program, New Hampshire maintained, as an anti-backsliding measure, the OTC NOx Budget program's ozone season cap for sources located in the state, including MK1 and MK2, beyond 2002. EPA facilitated oversight of New Hampshire's post-2002 NOx Budget program by creating a separate account referred to as the "NH NOx Program" on its Clean Air Markets Program Data (CAMPD) website[5].

New Hampshire's selection of 0.22 lbs NOx/MMBtu, to be met on a 24-hour averaging time basis, is reasonable from a statistical perspective. The emissions limit New Hampshire chose corresponds to the emissions rate representative of the 95th percentile emissions rate for days of operation without a startup or shutdown event. In other words, MK1 and MK2 operated at or below an emission rate of 0.22 lbs NOx/MMBtu 95 percent of the time between 2000 and 2007, which as mentioned above coincided with the time period when the SCR controls were newly installed and MK1 and MK2 were subject to the requirements of the OTC's NOx budget program that began in 1999.

The data Sierra Club show in Table 2 of their comment letter are based on monthly averages, whereas the limits being approved herein for Merrimack Station are short term, 24-hour averages. Shorter term limits are harder to meet and require that the control system be consistently and effectively run. Conversely, a 30-day average can be met despite days on which the controls are not run effectively, or perhaps not run at all, as long as there are enough days of operation below the emission limit to average this out. If the short-term emissions limit NH requires for MK1 and MK2 were set at a lower rate, such as 0.20 or below as Sierra Club suggests, there would be many days with violations due to minor fluctuations in the rate of the chemical reaction that occurs between the catalyst system, ammonia, and oxygen, which accomplishes the reduction in NOx emissions in the effluent from the equipment. NH reviewed historic data and identified periods of time when the facility's controls produced low daily

[5] The NOx emissions data for the New Hampshire's EGU's, including MK1 and MK2, are still maintained on the CAMPD website by retrieving data under the program name "NH NOx Program".

emissions rates. Importantly, during those past time periods, the facility was not required to meet a 24-hour emissions rate. By imposing a new, 24-hour emissions limit, NH had to choose an emissions rate that was feasible, given the normal fluctuations in the boiler and control system operations, that the facility could reasonably be expected to meet every day. Although historic data showed the facility could meet a 0.22 rate 95% of the time, that also means that it did not meet that rate 5% of the time. It now will be required to meet that rate 100% of the time. A description of how SCR control systems operate and the various aspects of the induced chemical reaction that occurs to change the nitrogen oxides released from the combustion process to elemental nitrogen and water vapor is contained within the SCR Air Pollution Control Fact Sheet included in the docket for this final rule.

New Hampshire also considered limits adopted by other states for similar equipment in making its NOx RACT determination, but could not find reasonable comparisons based on coal type, boiler design type, boiler age, and control technology. This point is discussed in further detail below. Lastly, we note that the SCR control systems operated by Merrimack Station were amongst the first such units installed on coal-fired electric utility boilers in the U.S., with MK2's SCR being installed in 1995, and MK1's in 1999. Despite the age of the control equipment, the overall NOx control efficiency as noted above remains at a high level. Additionally, as explained further in the TSD accompanying this final action, by observing the hourly emissions rate data available from EPA's Clean Air Markets Program Database (CAMPD) website it can be clearly seen that achievement of this rate on a 24-hour averaging time basis requires the continuous operation of the SCR controls, as even one or two hours of operation without the controls engaged while heat input is high would jeopardize achievement of the short term, 0.22 lbs/MMBtu emission limit.

Comment: Sierra Club commented that other coal-fired cyclone boilers are required to meet lower emissions limits and included data for other cyclone boilers to support its claim.

Sierra Club also provided data on NOx emission rates at Merrimack Station and asserted that lower NOx emission rates are achievable and should be required by RACT.

Response: EPA agrees that there are other coal-fired cyclone boilers that are required to meet lower emissions limits. However, EPA's review of the characteristics of the coal-fired cyclone boilers identified as such within its Clean Air Markets and National Electric Energy Data System (NEEDS) databases and operating since 2009 indicates that only two units, the now closed Dallman units 31 and 32 in Illinois, have technical specifications similar to the Merrimack units in that they were bituminous coal fired cyclone boilers whose NOx emissions were controlled solely by SCR. However, those units are not directly comparable to MK1 and MK2 for a number of reasons, including their smaller size, newer age of the SCR control equipment, and for comparison to MK2, that unit's inordinately high uncontrolled emission rate of 2.4 lbs. NOx/MMBtu, which is considerably higher than the average emission rate for bituminous coal-fired cyclone boilers of 1.3 lbs/MMBtu as documented within Table 1.1-3 of section 1.1 of EPA's emissions factors reference document, AP-42. Although we did identify several other bituminous coal-fired cyclone boilers within EPA databases, those boilers operated additional NOx control equipment not used by MK1 and MK2, most often overfire air (OFA) systems. The boilers located at the New Madrid and Thomas Hill facilities in Missouri noted by Sierra Club also operate OFA systems in addition to the SCR control system. Granite Shore Power (GSP), Merrimack Station's owner, recently evaluated the feasibility of retrofitting its cyclone boilers with additional NOx emission control equipment including an overfire air system as part of a technical analysis it performed at the request of the New Hampshire Air Resources Division (NH-ARD). The state made this request as it developed its SIP revision for the Regional Haze program. As New Hampshire notes within its May 5, 2022, Regional Haze Plan, GSP concludes that retrofitting MK1 and MK2 was not feasible for the following reason:

"OFA would result in reduced boiler performance, potential boiler modifications to boiler surface areas, increased fouling, boiler tube erosion, and cyclone wear. Any installation is

complicated by, if not impossible, due to the engineering and design challenges of the windbox configuration and screen tubes at Merrimack. In addition, the installation of an OFA system after the installation of an SCR is likely to produce little to no improvement in NOx reductions. Any of these changes would also have the potential to negatively impact the removal capability of the FGD (flue gas desulfurization)[6] and the collection capability of the ESPs (electrostatic precipitators[7]).” As documented within section 4.2.9 of its May 5, 2022, Regional Haze Plan Periodic Comprehensive Revision, New Hampshire reviewed and agreed with Granite Shore Power's assessment that NOx emissions from the coal-fired boilers at Merrimack Station are well controlled and subject to appropriate NOx emissions limits. Large boilers like these vary considerably in their design and operational characteristics, and so retrofits possible for some equipment may not be possible elsewhere.

EPA has reviewed New Hampshire's assessment of the information provided by GSP and agrees with the state's conclusion that requiring installation of new equipment at the Merrimack units, such as OFA, is not economically feasible for purposes of RACT. The facility is scheduled to permanently cease coal-fired boiler operations no later than June 1, 2028 as indicated by a recent agreement between Granite Shore Power, the EPA, the Sierra Club, and the Conservation Law Foundation.[8] Leading up to this cessation in operations, there is a declining need for output from the facility by the region's electrical grid operator, ISO-New England; there has been limited or non-acceptance of offers to produce electricity from this facility in the forward capacity auctions conducted by ISO-New England.[9] Given this limited remaining use of these units, combined with the fact that the facility's current SCR NOx control systems already

---

[6] FGD systems are used to reduce emissions of sulfur dioxide and mercury.
[7] ESP systems are used to reduce emissions of particulate matter.
[8] A copy of the press releases from Conservation Law Foundation, Sierra Club, and Granite Shore Power announcing the closure agreement is included in the docket for the rule.
[9] The results of ISO New England's 17th Forward Capacity Auction, which is for the time period June 1, 2026 through May 31, 2027, indicates that bids to offer power to the New England grid from MK1 and MK2 were not accepted for this time period. See: https://www.iso-ne.com/static-assets/documents/2023/03/fca_17_results_filing.pdf

achieve a high level of control, the cost of new controls per ton of emission reduction achieved is not economically feasible for purposes of RACT.

Comment: Sierra Club commented that other states require lower emissions limits for coal-fired power plants. In its comments, Sierra Club asserted that several other states, including Pennsylvania, New Jersey, Maryland, and Delaware, impose lower emission limits at coal-fired power plants.

Response: EPA agrees that other states require lower emissions limits for coal-fired cyclone boilers. However, as noted above, New Hampshire and EPA have not identified coal-fired boilers that offer an appropriate or equivalent comparison to the units at Merrimack Station. Sierra Club points to lower short-term emission limits adopted by other states for coal-fired boilers, such as Delaware's 0.125 lbs/MMBtu limit based on a 24-hour averaging time, and Maryland's 0.10 lbs/MMBtu limit which is also based on a 24-hour averaging time and includes all modes of operation. However, none of the coal-fired boilers in these states match the type of boiler and fuel type of Merrimack Station's boilers, which as mentioned are bituminous fueled cyclone boilers operating only SCR controls that were installed many years ago. The only coal-fired electric utility boiler in Delaware is located at the Indian River Generating Station in Dagsboro and is a dry-bottom, turbo-fired boiler. Regarding Maryland, the coal-fired boiler located at the AES Warrior Run Cogeneration facility in Cumberland is an atmospheric circulating fluidized bed boiler, the two coal boilers at Brandon Shores are both dry bottom boilers with circular wall burners, and the coal boiler at Wagner Station is a supercritical steam boiler. Therefore, EPA concludes from a technical perspective that limits deemed RACT for these specific units in New Hampshire[10] should be higher than limits in Delaware and Maryland.

Sierra Club also points to RACT limits for coal-fired boilers located in Pennsylvania that EPA recently finalized with a Federal Implementation Plan published in the Federal Register on

[10] RACT is defined, in part, as "the lowest emissions limitation a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility" (44 FR 53762; September 17, 1979)

August 31, 2022,[11] as an example of more restrictive emissions limits in other states relative to what New Hampshire has required for the coal units at Merrimack Station. A number of factors differentiate the units at Merrimack Station compared with those located in Pennsylvania. For example, none of the Pennsylvania units are of the high-emitting, cyclone boiler configuration as both units at Merrimack Station. Additionally, the Merrimack Station boilers are much smaller than the Pennsylvania units. Most of the units addressed in the Pennsylvania RACT FIP are between 600 and 900 MW, whereas the Merrimack units are around 100 MW and 300 MW. As a result of their smaller size, the Merrimack units have considerably lower annual emissions. Over the past five years (2019 through 2023), the total annual NOx emissions from both Merrimack units ranges from 175 to 500 tons/year. As a point of comparison, the Keystone and Conemaugh facilities in Pennsylvania each had average annual NOx emissions over 4500 tpy since 2019. The low annual emissions at Merrimack combined with their very low utilization and required stop of use in 2028 leads to any additional controls at Merrimack being not economically feasible for purposes of RACT.

Comment: Sierra Club commented that recent air pollution transport rules such as the Revised Cross-State Air Pollution Rule Update (RCU) for the 2008 ozone NAAQS and the Good Neighbor Plan (GNP) for the 2015 ozone standard contain more restrictive emission rates than what New Hampshire requires for NOx limits for MK1 and MK2.

Response: The requirements within EPA's transport rules do not offer legitimate comparisons to the emission limits New Hampshire has set as RACT limits for Merrimack Station's coal-fired cyclone boilers for a number of reasons. First, regarding the RCU, EPA did not establish short term emission limits for coal-fired EGU boilers within that rule, but rather only imposed ozone season,[12] mass-based emissions budgets. These budgets were based in part on a statistical analysis showing that coal-fired EGUs equipped with existing SCR are capable of

[11] See 87 FR 53381.
[12] The ozone season encompasses the 153-day period from May 1 to September 30.

achieving an emissions rate of 0.08 lbs/MMBtu *on a fleetwide average and over an entire ozone season*. Additionally, the RCU allows a facility to remain in compliance if the facility holds sufficient emissions allowances to cover the amount of emissions produced. *See* 86 FR 23056, 23090 (April 30, 2021). New Hampshire's RACT emissions limits are structured much differently, requiring that the facility meet a NOx emissions rate of 0.22 lbs/MMBtu on a short-term, 24-hour averaging time basis. Additionally, the historical data New Hampshire analyzed for these particular units indicate that this is near the limit of what SCR at these units is capable of achieving. As explained elsewhere in this notice, emissions limits with short averaging times are more difficult to meet because there is less time to offset emissions that occur while operating above the emissions limit with emissions produced during times of operation below the limit.

Regarding comparisons to the NOx reductions required of electric utility boilers subject to the GNP, a statistical analysis similar to the RCU of fleetwide emissions performance over an entire ozone season informed the identification of emissions rates used to set state-level EGU budgets. Thus, similar to the RCU as mentioned above, these rates do not offer a good comparison to the short-term limits New Hampshire requires for MK1 and MK2. Although the GNP, unlike the RCU, adds an additional, short term, 24-hour average backstop daily rate of 0.14 lbs NOx/MMBtu for coal-fired boilers with SCR[13], there are substantial differences in how EPA established and will implement that backstop rate within the trading program versus how New Hampshire established and implements its NOx RACT limits for Merrimack Station's coal-fired boilers. First, we note that the GNP's 24-hour backstop rate will only apply to emissions during the ozone season that exceed by more than 50 tons a daily average NOx emissions rate of 0.14 lb/MMBtu. New Hampshire's limits apply year-round and do not excuse the first 50 tons, or any amount of emissions, that exceed its emissions limits.[14] Furthermore, the GNP's 24-hour

[13] See footnote 3.

[14] As will be discussed later in this document, New Hampshire imposed separate, mass-based emissions limits for days with a startup or shutdown event.

backstop rate, if exceeded beyond the 50 ton exemption mentioned above, can be complied with via the surrender of emissions allowances at a 3 for 1 surrender ratio; New Hampshire's limits do not offer this type of compliance option. Additionally, we note that EPA determined its 24-hour backstop daily rate based on a review of the average emitting characteristics of most coal fired boilers in operation during 2021. New Hampshire determined the NOx RACT emission rates for the Merrimack Station boilers based on the emitting and operational characteristics of these specific units. In the GNP, the EPA observed that even units considered to be running their controls optimally had some days (most often less than 5% of days) where the rates were higher. However, the emission increases on these days were minimal. EPA used a similar methodology in employing the 95th percentile of observed daily operating emissions rates in selecting the backstop daily emissions rate for SCR-controlled coal boilers in the GNP.[15] As an example, for a unit with a seasonal rate of 0.08 lbs NOx/MMBtu, EPA determined that it would be expected that, on average, about 4.7% of the daily rate values would be higher than 0.14 lb/MMBtu.

Comment: Sierra Club commented that NH's emissions limits for a different coal-fired electrical generating facility in the state, Schiller Station, are only slightly higher than those for Merrimack Station, despite the fact that the Schiller Station units controlled by SNCR, a less effective control strategy, inferring that Merrimack Station's more capable SCR controls are not being as effectively run as they should be.

Response: EPA agrees that New Hampshire has imposed NOx emissions limits on the coal-fired boilers at Schiller Station of 0.25 lbs/MMBtu that are only slightly higher than the limits imposed on the Merrimack Station units, despite the latter operating SCR controls, and the former operating less effective SNCR controls. However, this is not indicative of unduly lax requirements for units MK1 and MK2 relative to the Schiller units, but rather, points to the

[15] See 88 FR 36654, 36792 (June 5, 2023). We note that in contrast to the derivation of the GNP's daily limits, wherein EPA concluded that SCR optimized units (i.e., units that were running their SCR controls effectively) were those able to achieve a 0.08 lbs/MMBtu ozone season emission rate, NH's NOx RACT evaluation points to the high percent reduction from uncontrolled levels as an indicator of effective operation of SCR controls. Using a 0.08 ozone season emission rate as a basis for setting emissions limits for MK1 and MK2 would have been inappropriate because of their much higher uncontrolled emission levels relative to the units governed by the GNP.

higher uncontrolled NOx emission rates for the Merrimack Station units relative to the Schiller units. According to Table 1.1-3 of AP-42, the uncontrolled NOx emissions rate for Merrimack Station's bituminous fueled cyclone boilers is 33 lbs of NOx per ton of coal burned, which is the highest emission rate for any type of coal fired boiler listed within the table.[16] Schiller Station operates two dry-bottom, wall-fired coal boilers, which AP-42 indicates have an uncontrolled emissions rate of 22 lbs of NOx per ton of coal burned, and a fluidized bed boiler, which AP-42 indicates has an uncontrolled emissions rate of between 5.0 to 15.2 lbs of NOx per ton of coal burned. Given the differences in uncontrolled emission rates and NOx control technology of the coal-fired boilers at these facilities, comparisons of the NOx emissions rates do not offer an effective means of gauging the stringencies of the applicable emissions rates. The Merrimack Station units operate the more costly, more effective NOx control equipment compared to what the Schiller Station units run; technical resources that describe the control effectiveness of various NOx emission reduction control techniques rank SCR control systems higher than SNCR control systems.[17]

Comment: Sierra Club commented that in light of recent information showing that SCR control systems can be operated at low-temperature levels that occur during periods of startup and shutdown with no detriment to control efficacy or longevity, New Hampshire does not need to allow the units to emit more on days when these operating modes occur by providing daily emission limits of 4.0 and 11.5 tons per day for MK1 and MK2, respectively.

Response: In the aforementioned response to comments received on its proposed Regional Haze SIP, New Hampshire notes that approximately one fourth of the operating hours in the year prior to the establishment of the NOx RACT emission rates in question were hours spent in startup or shutdown modes when operating conditions, in particular temperature, did not

---

[16] See Table 1.1-3, Emission Factors for SOx, NOx, and CO From Bituminous and Subbituminous Coal Combustion, within section 1.1 of AP-42: https://www.epa.gov/sites/default/files/2020-09/documents/1.1_bituminous_and_subbituminous_coal_combustion.pdf

[17] See, for example, Table 1.1-2, NOx Control Options for Coal-fired Boilers within Section 1.1, Bituminous and Subbituminous Coal Combustion, of AP-42, and EPA's Air Pollution Control Technology Fact Sheets for SNCR and SCR control systems, included within the docket for this action.

permit the operation of the SCR control systems. The state therefore concluded that setting one overall emissions limit that combined the hours spent in startup and shutdown mode, during which the SCR controls would not operate, with the hours spent in steady state operation, during which the SCR controls would operate, would have necessitated issuance of an all-encompassing emissions limit higher than the limit New Hampshire ultimately decided upon for times of steady state operation. By choosing to adopt separate limits for these operating modes, New Hampshire's emissions rate structure requires that MK1 and MK2 meet a lower emissions rate for the majority of the time it is operating, that being operation under steady state conditions with the SCR control equipment functioning. A separate alternate emission limit (AEL) applicable during startup and shutdown modes ensures that the emissions that occur during those times are also subject to an emissions cap as well as recordkeeping requirements to document the dates and time spent in startup or shutdown mode. As noted within the update to section 2 of the technical support document included within the docket for this action, the AEL in conjunction with requirements contained within Env-A 1300 and the facility's Title V operating permit mean that the SCRs must be turned on expeditiously once high levels of coal loading begin in order to avoid exceeding the tons/calendar day limit of the AEL.

Sierra Club refers to a sorbent injection technology that can reduce the operating temperature range of the SCR and potentially reduce NOx emissions at low loads. NHDES reviewed the provided references, which describe the technology as allowing the coal-fired boilers operated by Duke Power's Gibson facility to operate its SCRs at a lower temperature than would otherwise be possible, and also enable the coal boilers to run at low loads while still minimizing emissions. NHDES notes, however, that MK1 and MK2 SCRs are not designed to operate at lower temperatures, nor are the boilers intended to operate at low electrical output loads, and so even if modifications were made such that the SCR control equipment could function at lower temperature there would be little benefit, from an emissions reduction perspective, to installing additional controls to enable this. The small benefit in emissions

reductions for operating the SCR at lower temperatures is partially due to the level and averaging period of the AEL, which significantly limits the time that these boilers can operate with high fuel input without the SCRs, and therefore limits the amount of total emissions because the units would exceed the 4 tons per day emission limit if they operated with high fuel input without the SCRs in operation.[18] Therefore, NHDES concluded that a lowering of the temperature at which the SCR controls could operate during startup and shutdown would not justify the significant capital costs it would take to install the new control technology Sierra Club mentions. New Hampshire notes that in 2021, MK1 and MK2 operated for approximately 2,155 hours and were started up approximately 26 times. Assuming that the sorbent injection technology mentioned in Sierra Club's comments could lower the temperature at which MK1 and MK2 could operate their SCR controls such that they could be used for an additional hour during startup, this would have resulted in a relatively minor, incremental emission reductions[19] by allowing 26 additional hours of SCR operating time out of 2,155 overall boiler operating hours.

We have reviewed Sierra Club's comment that additional emissions control technology be required for startup and shutdown operations, and New Hampshire's rationale for not requiring it, and agree with the state's conclusion that the additional cost of evaluating, installing, and operating control technology to limit emissions during startup and shutdown is unlikely to be economically feasible given the minimal amount of emissions it would curtail. Furthermore, the recordkeeping and reporting requirements of New Hampshire's NOx RACT regulation enable the state to effectively oversee operations at the facility, including operations during startup and shutdown. For example, the state's oversight requirements recently led to the issuance of an August 23, 2023 letter requesting more information regarding four exceedances of the startup emissions limit that occurred between December 8, 2021, and July 7, 2023.[20] A total

[18] For a further explanation and example of this behavior, see the TSD that accompanies this final action.
[19] EPA reviewed the difference in emissions between the last hour of non-SCR operation and the first hour of SCR operation and found that if MK1 could have begun SCR controls 1 hour earlier during each startup in 2021, 3.4 tons of NOx would have been prevented, and for MK2, 8.6 tons would have been prevented.
[20] A copy of New Hampshire's August 23, 2023 letter to Granite Shore Power is included in the docket for this action.

of 16.4 tons of excess emissions occurred on these days, and the state is currently evaluating the appropriate enforcement response to these violations.

Comment: Sierra Club also commented that New Hampshire's requirements are not sufficient for regional haze purposes.

Response: This comment is not germane to the subject matter of this action which pertains to New Hampshire's NOx RACT requirements for coal-fired cyclone boilers and does not address regional haze requirements. Therefore, EPA is not addressing this comment here.

III. Final Action

EPA is approving RACT requirements limiting NOx emissions from coal-fired cyclone boilers powering electrical generating units that are codified within New Hampshire Air Pollution Control Regulation Env-A 1300: Nitrogen Oxides (NOx) RACT, portions of New Hampshire's NOx RACT certifications for the 2008 and 2015 ozone standards that pertain to requirements for coal-fired cyclone boilers, and withdrawal from the SIP of two previously issued RACT orders containing emission limits for this equipment that are less stringent than what is contained within the provisions of Env-A 1300 that we are approving within this action.

IV. Incorporation by Reference

In this rule, the EPA is finalizing regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is finalizing the incorporation by reference of portions of New Hampshire Air Pollution Control Regulation Env-A 1300, Nitrogen Oxides (NOx) RACT; specifically, incorporating by reference Env-A 1303.06(b) and (c) pertaining to the coal-fired cyclone boilers at Merrimack Station, as described in the amendments to 40 CFR part 52 set forth below. The EPA has made, and will continue to make, these documents generally available through *https://www.regulations.gov* and at the EPA Region 1 Office (please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section of this preamble for more information). Therefore, these materials have been approved by EPA for inclusion in the State implementation plan, have been incorporated by

reference by EPA into that plan, are fully federally enforceable under sections 110 and 113 of the CAA as of the effective date of the final rulemaking of EPA's approval, and will be incorporated by reference in the next update to the SIP compilation.[21]

EPA is also finalizing the removal of provisions within Table (d) of 52.1520 pertaining to these coal-fired cyclone boilers by removing Permits "Order ARD-97-001: Source specific NOx RACT Order for Public Service of New Hampshire, Bow, NH; state effective date 4/14/1997" and "Order ARD-98-001: Source-specific NOx RACT order and discrete emission reduction protocols for Public Service of New Hampshire; state effective date 7/17/1998" as described in the amendments to 40 CFR part 52 set forth below.

V. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. 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);
- 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*.);

[21] 62 FR 27968 (May 22, 1997).

- 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); and
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act.

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).

Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, Feb. 16, 1994) directs Federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their actions on minority populations and low-income populations to the greatest extent practicable and permitted by law. EPA defines environmental justice (EJ) as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." EPA further defines the term fair treatment to mean that "no group of people should bear a disproportionate burden of environmental harms and risks,

including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies."

The New Hampshire Department of Environmental Services did not evaluate environmental justice considerations as part of its SIP submittal; the CAA and applicable implementing regulations neither prohibit nor require such an evaluation. EPA did not perform an EJ analysis and did not consider EJ in this action. Due to the nature of the action being taken here, this action is expected to have a neutral to positive impact on the air quality of the affected area. Consideration of EJ is not required as part of this action, and there is no information in the record inconsistent with the stated goal of EO 12898 of achieving environmental justice for people of color, low-income populations, and Indigenous peoples.

The Congressional Review Act, 5 U.S.C. 801 *et seq*., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the *Federal Register*. A major rule cannot take effect until 60 days after it is published in the *Federal Register*. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[Insert date 60 days after date of publication in the Federal Register]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Nitrogen dioxide, Ozone.

Dated: April 18, 2024.

David Cash,
Regional Administrator,
EPA Region 1.

Part 52 of chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52 – APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

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

Subpart EE – New Hampshire

2. In § 52.1520:

a. Amend the table in paragraph (c) by revising the entry for "Env-A 1300";

b. Amend the table in paragraph (d) by removing the entries for "Source specific NOx RACT order for Public Service of New Hampshire, Bow, NH" and "Source-specific NOx RACT order and discrete emission reduction protocols for Public Service of New Hampshire"; and

c. Amend the table in paragraph (e) by revising the entry for "Certifications for RACT for the 2008 and 2015 ozone standards".

The revisions read as follows:

§ 52.1520 Identification of plan.

* * * * *

(c) * * *

EPA-Approved New Hampshire Regulations

State citation	Title/subject	State effective date	EPA approval date [1]	Explanations
**	*	*	*	**
Env-A 1300	NOx RACT	8/15/2018 and 3/20/2023	9/6/2023, 88 FR 60893	Regulation, effective 8/15/2018, containing emissions limits and other requirements for stationary sources of nitrogen oxides approved except for sections pertaining to coal-fired cyclone boilers at Env-A 1303.06(b) and (c). Revisions made to Env-A 1303.02 and 1303.04. effective 3/20/2023.

		8/15/2018	**[Insert date of publication in the Federal Register]** **[Insert Federal Register citation]**	Requirements pertaining to coal-fired cyclone boilers at Env-A 1303.06(b) and (c).
**	*	*	*	**

[1] In order to determine the EPA effective date for a specific provision listed in this table, consult the **Federal Register** notice cited in this column for the particular provision.

(e) * * *

New Hampshire NonRegulatory

Name of nonregulatory SIP provision	Applicable geographic or nonattainment area	State submittal date/effective date	EPA approved date	Explanations
**	*	*	*	**
Certifications for RACT for the 2008 and 2015 ozone standards	Statewide	9/6/2018	9/6/2023, 88 FR 60893	RACT certifications for stationary sources of VOC and NOX approved for purposes of the 2008 and 2015 ozone standards except for NOX RACT requirements pertaining to coal-fired cyclone boilers.
		9/6/2018	**[Insert date of publication in the Federal Register]** **[Insert Federal Register citation]**	NOx RACT certifications for the 2008 and 2015 ozone standards pertaining to coal-fired cyclone boilers.
**	*	*	*	*

[FR Doc. 2024-08713 Filed: 4/29/2024 8:45 am; Publication Date: 4/30/2024]