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MEMORANDUM

DATE: March 21, 2023

TO: Environmental Committee

FROM: Carolyn Slaughter, Senior Director, Environmental Policy

SUBJECT: Summary of EPA's Final Rule: Good Neighbor Federal Implementation Plan for the 2015 Ozone National Ambient Air Quality Standards

Executive Summary

On March 15, 2023, EPA Administrator Michael Regan signed the final rule entitled, "[Federal 'Good Neighbor Plan' for the 2015 Ozone National Ambient Air Quality Standards](#) (Final Rule or Good Neighbor FIP)." The rule addresses 23 states' Good Neighbor obligations to eliminate significant contribution or interference with maintenance with the 2015 Ozone National Ambient Air Quality Standards (NAAQS) in other states. Clean Air Act (CAA) [Section 110\(a\)\(2\)\(D\)\(i\)\(I\)](#), called the Good Neighbor provision, prohibits states from emitting pollutants that "contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to any such national primary or secondary ambient air quality standard."¹ The Final Rule addresses states' compliance with the 2015 Ozone NAAQS of 70 parts per billion (ppb) for the primary and secondary 8-hour standards. The Final Rule is awaiting publication in the *Federal Register*. The Final Rule's effective date will be 60 days from publication.

I. Background

On April 6, 2022, EPA published the [proposed Good Neighbor FIP](#). The proposal provided for significant nitrogen oxide (NO_x) reductions during the ozone season for electric generating units (EGUs) and certain industrial stationary sources (non-EGUs). Impacted industry sectors, power generators, states, transmission organizations, and environmental advocates commented on the proposed rule.

The Final Rule implements an allowance-based trading program by revision of the established Cross-State Air Pollution Rule (CSAPR) for power plants in states subject to the rule. It provides for ozone season (May 1-September 30) NO_x reductions from EGUs beginning in 2023 and select industrial stationary sources by 2026. EPA did not change the industry sectors

¹ [Federal 'Good Neighbor Plan' for the 2015 Ozone National Ambient Air Quality Standards](#) (Final Rule or Good Neighbor FIP)

covered by the FIP from those proposed.² EPA aligned the program with the August 3, 2024, attainment date for areas classified as moderate nonattainment, with further NOx reductions prior to the August 3, 2027, attainment date for areas classified as serious nonattainment for the 2015 Ozone NAAQS.

II. Impacted States

The Final Rule addresses ozone transport contributions from 23 states: Alabama, Arkansas, California, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, West Virginia, and Wisconsin. Power sector emissions are addressed for all of these states except for California. EPA's air quality model found that these states significantly contribute to nonattainment or interfere with maintenance of the NAAQS in downwind states.

The Final Rule did not finalize the proposed error correction for Delaware's ozone transport SIP,³ nor did it take final action on the proposed FIPs for Tennessee and Wyoming. The Final Rule also indicates that EPA may later find that six more states (Arizona, Iowa, Kansas, New Mexico, Tennessee, and Wyoming) are significantly contributing to one or more nonattainment or maintenance receptors. EPA did not make any final determinations with respect to these states but will address them in a subsequent action or actions after further review of the 2023 updated air quality and contribution modeling and analysis.⁴

The Final Rule also issues FIPs for Pennsylvania and Virginia, which failed to submit Good Neighbor SIPs. A prior action on February 13, 2023 disapproved (wholly or partially) Good Neighbor SIP submittals for Alabama, Arkansas, California, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Jersey, New York, Ohio, Oklahoma, Texas, Utah, West Virginia, and Wisconsin. The FIP also applies to Indian country within the footprint of contributing states.⁵

EPA departed from the proposed rule and found that Delaware is not linked above the significant contribution level for the NAAQS and only certain areas in Oregon contribute greater than 1 percent of the NAAQS in areas in California. EPA deferred making a finding for Oregon at this time.⁶

Finally, EPA confirmed that it previously made final findings with respect to the following states that contribute *below 1 percent of the NAAQS* and therefore are *not* impacted by this rule. States that are not upwind contributors with final determinations are: Alaska, Colorado,

² Final Rule at 29.

³ EPA found that the original approval of Delaware's SIP submission was not in error. EPA decided to withdraw the proposed error correction and proposed FIP for Delaware. Final Rule at 130.

⁴ Final Rule at 19.

⁵ Final Rule at 12-13.

⁶ Final Rule at 24.

Connecticut, the District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Maine, Massachusetts, Montana, Nebraska, New Hampshire, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, Vermont, and Washington.⁷

Memo Table 1: Good Neighbor FIP Affected States, CSAPR Group Status Changes

State	Current CSAPR Status	Final Rule	FIP / SIP Status	Transport Linkage Date ⁸
Alabama	Group 2	Group 3	Issuing new FIP	2023
Arkansas	Group 2	Group 3	Amending FIP	2026
California	Not Covered	Non-EGU only		2026
Illinois	Group 3	Group 3	Amending FIP	2026
Indiana	Group 3	Group 3	Amending FIP	2026
Kentucky	Group 3	Group 3	Amending FIP	2026
Louisiana	Group 3	Group 3	Amending FIP	2026
Maryland	Group 3	Group 3	Amending FIP	2026
Michigan	Group 3	Group 3	Amending FIP	2026
Minnesota	Not Covered	Group 3	Issuing new FIP	2023
Mississippi	Group 2	Group 3	Amending FIP	2026
Missouri	Group 2	Group 3	Issuing new FIP	2026
Nevada	Not Covered	Group 3	Issuing new FIP	2026
New Jersey	Group 3	Group 3	Amending FIP	2026
New York	Group 3	Group 3	Amending FIP	2026
Ohio	Group 3	Group 3	Amending FIP	2026
Oklahoma	Group 2	Group 3	Amending FIP	2026
Pennsylvania	Group 3	Group 3	Amending FIP	2026
Texas	Group 2	Group 3	Amending FIP	2026
Utah	Not Covered	Group 3	Issuing new FIP	2026
Virginia	Group 3	Group 3	Amending FIP	2026
West Virginia	Group 3	Group 3	Amending FIP	2026
Wisconsin	Group 2	Group 3	Amending FIP	2023

See Final Rule at 13-14.

A. Transition Provision

EGUs within the borders of each newly added state will join Group 3 trading program on one of two possible dates during the program’s 2023 ozone season. The EPA expects that the effective date of this rule will fall after the start of the Group 3 trading program’s 2023 control

⁷ Final Rule at 218-19.

⁸ The linkage date impacts the stringency of power sector future requirements, which is significant when reviewing state budgets for years 2026 and beyond. States not linked in 2026 do not have to comply with those future requirements.

period on May 1, 2023, because the effective date of the rule will be 60 days after the date of the Final Rule’s publication in the *Federal Register*. The EPA is addressing this circumstance by determining the amounts of emissions budgets for the 2023 control period on a full season basis in the rulemaking and by also including provisions in the revised regulations to prorate the 2023 full season amounts as needed to ensure that no sources become subject to new or more stringent regulatory requirements before the Final Rule’s effective date. Variability limits, assurance levels, and unit-level allocations for the 2023 control period will all be computed using the appropriately prorated emissions budgets amounts.

For state with sources that currently do not participate in any CSAPR trading program for seasonal NO_x emissions— Minnesota, Nevada, and Utah – these sources will begin to participate in the Group 3 trading program as of the rule’s effective date.

In the case of the states (and Indian country within the states’ borders) whose sources currently participate in the Group 3 trading program – Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania, Virginia, and West Virginia – the sources will continue to participate in the Group 3 trading program for the 2023 control period, with prorated emissions budgets designed to ensure that the changes in 2023 emissions budgets and assurance levels will not substantively affect the sources’ requirements prior to the rule’s effective date.

In the case of the states (and Indian country within the states’ borders) whose sources currently participate in the Group 2 trading program – Alabama, Arkansas, Mississippi, Missouri, Oklahoma, Texas, and Wisconsin – the sources will begin to participate in the Group 3 trading program as of May 1, 2023, with prorated emissions budgets designed to ensure that the transition from the Group 2 trading program to the Group 3 trading program will not substantively affect the sources’ requirements prior to the rule’s effective date.

III. EPA’s Framework and Air Quality Analysis (Steps 1 and 2)

A. EPA’s Framework

EPA employs the same interstate transport framework used for CSAPR, the CSAPR Update and Revised CSAPR Update to identify upwind emissions that constitute significant contributions for states. The steps are: (1) identifying downwind receptors projected to be in future nonattainment; (2) determining the upwind states to link as contributors to downwind air quality issues; (3) identifying upwind emissions in linked states that significantly contribute to downwind nonattainment; and (4) implementing emissions reductions for states with emissions that significantly contribute to downwind nonattainment.⁹

For Step 1, EPA undertook air quality modeling to forecast ozone levels in 2023 and 2026. Step 2 involved modeling state contributions and applying the 1 percent contribution threshold (70 ppb). Step 3 involved applying a multi-factor test to contributing states to consider cost, availability of emission reductions, and air quality impacts to downwind receptors. Finally,

⁹ Final Rule at 22.

in Step 4, EPA identified enforceable measures to achieve emission reductions in 23 states for EGUs and/or non-EGUs.¹⁰

B. Air Quality Modeling (Step 1)

The Final Rule is hinged entirely on the validity of EPA’s air quality analysis. That analysis determines which states have Good Neighbor obligations. EPA used the Ozone Air Quality Assessment Tool (AQAT) for its analysis and included photochemical grid modeling.¹¹ Commenters criticized many aspects of the model. EPA updated its air quality model from the version in the proposed rule (2016v2) to a new version (2016v3). EPA claims that the update responds to the comments received. EPA notes that there are changes in outcomes for some state receptor linkages due to these updates.¹²

EPA bases its analysis on projected air quality in 2023 and 2026 to identify receptors of concern in upwind states.^{13,14} EPA applied baseline EGU emissions using the Integrated Planning Model (IPM), Summer 2021 v.6 *updated* reference case using the EGU inventory from the National Electric Energy Data System (NEEDS) Summer 2021 version.¹⁵ The Final Rule uses the same model as the proposed rule, but EPA “made substantial updates to reflect public comments on near-term fossil fuel market price volatility and updated fleet information reflecting Summer 2022 U.S. Energy Information Agency (EIA) 860 data, unit-level comments, and additional updates to the [NEEDS] inventory.”¹⁶ The reference case accounts for updates and committed retirements “through summer 2022.”¹⁷ However, the Final Rule reports using the NEEDS fall 2022 version for EGU inventories which includes “announced” retirements and under-construction new builds known as of *early* summer 2022.¹⁸ EPA also used IPM year 2030 outputs for 2032.¹⁹ Lastly, EPA attempted to include impacts from the Inflation Reduction Act (IRA) in its analysis by conducting a sensitivity analysis and running the results through AQAT. The IRA did not impact which states are linked.²⁰

¹⁰ *Id.* at 22-31.

¹¹ The D.C. Circuit’s recent decision in *MOG v. EPA*, No. 21-1146 (D.C. Cir. Mar. 3, 2023) reviewed the Revised CSAPR Update Rule’s use of AQAT and found it acceptable to use given EPA’s time constraints. Final Rule at 30 n.20.

¹² Final Rule at 71-72.

¹³ The proposed rule modeled 2032, which the Final Rule dropped. Final Rule at 23.

¹⁴ Final Rule at 144.

¹⁵ *Id.* at 161-62.

¹⁶ *Id.* at 161.

¹⁷ *Id.*

¹⁸ EPA’s EGU base case is from the NEEDS update from Fall 2022, located at:

<https://www.epa.gov/airmarkets/national-electric-energy-data-system-needs-v6> We note that the comment deadline for the proposed rule was June 2022. It is unclear whether EPA included all of the EGU inventory comments based on incongruous statements in the Final Rule. See 161-62.

¹⁹ *Id.* at 162.

²⁰ *Id.* at 167.

C. Determining which states are upwind contributors (Step 2)

Step 2 involves application of the contribution threshold. The Final Rule applies a 1 percent threshold of the 2015 Ozone NAAQS or 70 ppb.²¹ EPA rejects commenters' assertions that a higher threshold should be applied. Commenters identified EPA's 2018 memorandum on contribution thresholds in which EPA suggested the use of higher thresholds to link states as upwind contributors.²² The Final Rule states that this memorandum is not agency guidance and the flexibilities included are just "ideas."²³ Although EPA concedes that there "was some similarity in the amount of total upwind contribution captured (on a nationwide basis) between 1 percent and 1 ppb," the Rule finalizes the same contribution threshold (1%) as the proposed rule.^{24,25}

IV. How EPA Proposes to Lower NOx Emissions (Steps 3 and 4)

EPA's Step 3 methodology is a multi-factor test used in prior CSAPR rules that evaluates increasing levels of uniform NOx control stringency. Final Rule at 225. The considerations include cost, available emissions reductions, downwind air quality impacts, and other factors to aid EPA in determining the appropriate level of NOx stringency. EPA developed EGU emissions baselines through engineering analyses without IPM (Step 2).²⁶ These data are modified to account for planned retirements and new builds in base cases.²⁷ EPA claims that this approach limits Step 3 to "known changes."^{28,29}

EPA identified the control stringencies based on unit-type. EPA evaluated selective catalytic reduction (SCR) (including optimization and turning on idled SCRs), state-of-the-art NOx combustion technologies, selective non-catalytic reduction (SNCR) (including optimizing and turning on idled SNCRs), new SCRs, new SNCRs, and generation shifting.³⁰ The finalized technology requirements are below.

Memo Table 2: EGU Unit Technology Requirements

Unit Type	Technology Requirement
Coal Steam Unit less than 100 MW	New SNCR
Coal Steam Unit 100 MW or greater	Retrofit of SCR
Circulating Fluidized Bed (CFB) Units	New SNCR

²¹ Final Rule at 201.

²² [Tsirigotis Memorandum, "Analysis of Contribution Thresholds," Aug. 31, 2018.](#)

²³ Final Rule at 66, 68.

²⁴ Kentucky, Nevada, and Oklahoma had contribution values between 0.70 ppb and 1 ppb. *Id.* at 206.

²⁵ *Id.* at 68-69, 203.

²⁶ Final Rule at 163.

²⁷ *Id.*

²⁸ EPA justifies the use of both IPM and engineering analyses, which was a topic of commenters regarding the conflicting nature of these two approaches. *See generally*, Final Rule at 163-66. EPA finds that using IPM for Step 1 and Step 2 does not impact the linked state outputs.

²⁹ *Id.*

³⁰ Final Rule at 229-341.

Unit Type	Technology Requirement
Oil/Gas Steam Unit greater than 100 MW with historical emissions of 150 NOx tons during Ozone Season	SCR

See Final Rule at 27-28 *compare* Proposed Rule at 31 (Final is same as proposal).

The Step 3 analysis also informed the timeframes for NOx emission reductions commensurate with application of controls, as follows:

Memo Table 3: EGU Uniform NOx Control Stringency Evaluation Results

Final Rule Year	EGU Technology Option Considered by EPA	Proposed Rule NOx Rate Assumption	Final Rule NOx Rate Assumption
2023 Ozone Season	Existing SCRs and SNCRs: Full operation / optimization of idled installed controls	SCR: 0.08 lb/mmBTU SNCR: 25% NOx reduction on average	Same for SCRs (0.08) and SNCR (25% reduction on average)
2024 Ozone Season	State-of-the-Art NOx combustion controls (low NOx burners, over-fired air)	NOx combustion controls: 0.146-0.199 lb/mmBTU	0.199 lb/mmBTU for dry bottom wall-fired & tangentially-fired units
2026-2027 Ozone Season ³¹ <i>*If state is linked in 2026</i>	New SCRs ³² and new SNCRs ³³	New SCR: 0.05 lb/mmBTU (coal); 0.03 lb/mmBTU (oil/gas) New SNCR: 25% NOx reduction	Same for SCR and SNCR

See Final Rule at 229-341(technology rates and discussion of implementation schedule for controls).

EPA considered generation shifting as a technology. Final Rule at 267. EPA determined that it was not appropriate as a primary mitigation strategy. However, EPA did use generation shifting in its preset budget calculations for 2023 and 2024.³⁴ EPA reasoned that dynamic budgeting (applied in Step 4) serves the same role as generation shifting by reflecting the marketplace. Dynamic budgeting does not take effect in 2023-2024.³⁵

³¹ EPA extended the SCR installation time period in the Final Rule from 36 months to 48 months in response to comments. Final Rule at 256. The Rule provides: “EPA will require half of the reductions associated with SCR installation in 2026 and the other half in 2027.” *Id.* See *infra* further discussion of this change in state budgets.

³² EPA finds that a new SCR requires 36-48 months for installation. *Id.* at 250.

³³ EPA finds that a new SNCR requires at least 16 months, but EPA aligned SNCR installation with SCR to provide sources with a choice. *Id.*

³⁴ *Id.*

³⁵ *Id.* at 268-69.

EPA identifies preset state budgets for 2023 through 2029.³⁶ The budgets were developed by establishing a baseline inventory and then adjusting the data to reflect assumed emission changes based on the implementation of NOx control strategies. The Rule provides that EPA “generally uses” ozone season (OS) data from the 2021 control period and recent data provided to EPA and to commenters.^{37, 38} Unlike the CSAPR Update Rule, EPA did not apply generation shifting to the later budgets.³⁹

Beginning in 2026, EPA adjusts preset state emissions budgets to reflect 50 percent of the SCR retrofit emissions reduction potential for each large coal-fired unit (i.e., greater than 100 MW) (sum of the unit’s baseline rate and its controlled emission rate divided by two).⁴⁰ By 2027, the emissions rates assigned to the same units will reflect the fully-assumed new SCR retrofit rate (0.050 lb/mmBTU). In this way, EPA provides sources more time to accomplish SCR retrofits with a phase-in approach.

EPA notes that emissions budgets are difficult to predict from 2026 and after, due to predicted changes in the nationwide fleet and incentives offered by the IRA.⁴¹ From 2026-2029, dynamic state budgets apply if *higher* than the preset budgets.⁴² Dynamic budgets will be published a year prior to control period at issue. For example, for 2026, EPA will use baseline and heat input data⁴³ from 2020-2024 and release the 2026 OS dynamic budget in March of 2025.⁴⁴ In 2030 and after, EPA will use dynamic budgets solely. *Id.* at 382. EPA anticipates that all large coal-fired EGUs will have installed post-combustion controls by 2030.⁴⁵

EPA provides state-level preset budgets for 2026-2029 control periods, which “serve as floors that will only be supplanted by dynamic budgets calculated for those control periods if such a dynamic budget yields a higher amount of tons than the corresponding preset budget established in this action.”⁴⁶ The Final Rule’s Table I.B-1 provides these state budgets.⁴⁷ The Final Rule provide unit-level budgets for 2026 and beyond.

³⁶ Final Rule at 381.

³⁷ The Final Rule states: “For units that had no known changes, the EPA uses the actual emissions heat input, and emissions rates reported for 2021 as the baseline starting point for calculating the 2023 state emissions budgets.” *Id.* at 434. EPA then made adjustments based on what the unit’s assumed emissions rates should be (e.g., 0.08 for units with installed SCRs), *but heat input is held constant at 2021 levels of operation.* *Id.* This is the same single-year historical baseline approach in the Revised CSAPR Update. *Id.* at 439. EPA describes efforts to address anomalies in utilization for the 2021 baseline period. *See id.* at 440.

³⁸ *Id.* at 433.

³⁹ *Id.* at 382-83.

⁴⁰ *Id.* at 435.

⁴¹ Final Rule at 379-81.

⁴² *Id.* at 382.

⁴³ EPA notes that the heat input data will organically reflect generation shifting. *Id.* at 383.

⁴⁴ *Id.* at 383-84.

⁴⁵ *Id.* at 451.

⁴⁶ *Id.* at 384.

⁴⁷ *Id.* at 35 (Table I.B-1).

Table I.B-1: Preset CSAPR NO_x Ozone Season Group 3 State Emissions Budgets (tons) for 2023 through 2029 Control Periods*

State	2023 State Budget	2024 State Budget	2025 State Budget	2026 State Budget**	2027 State Budget**	2028 State Budget**	2029 State Budget**
Alabama	6,379	6,489	6,489	6,339	6,236	6,236	5,105
Arkansas	8,927	8,927	8,927	6,365	4,031	4,031	3,582
Illinois	7,474	7,325	7,325	5,889	5,363	4,555	4,050
Indiana	12,440	11,413	11,413	8,410	8,135	7,280	5,808
Kentucky	13,601	12,999	12,472	10,190	7,908	7,837	7,392
Louisiana	9,363	9,363	9,107	6,370	3,792	3,792	3,639
Maryland	1,206	1,206	1,206	842	842	842	842
Michigan	10,727	10,275	10,275	6,743	5,691	5,691	4,656
Minnesota	5,504	4,058	4,058	4,058	2,905	2,905	2,578
Mississippi	6,210	5,058	5,037	3,484	2,084	1,752	1,752
Missouri	12,598	11,116	11,116	9,248	7,329	7,329	7,329
Nevada	2,368	2,589	2,545	1,142	1,113	1,113	880
New Jersey	773	773	773	773	773	773	773
New York	3,912	3,912	3,912	3,650	3,388	3,388	3,388
Ohio	9,110	7,929	7,929	7,929	7,929	6,911	6,409
Oklahoma	10,271	9,384	9,376	6,631	3,917	3,917	3,917
Pennsylvania	8,138	8,138	8,138	7,512	7,158	7,158	4,828
Texas	40,134	40,134	38,542	31,123	23,009	21,623	20,635
Utah	15,755	15,917	15,917	6,258	2,593	2,593	2,593
Virginia	3,143	2,756	2,756	2,565	2,373	2,373	1,951
West Virginia	13,791	11,958	11,958	10,818	9,678	9,678	9,678
Wisconsin	6,295	6,295	5,988	4,990	3,416	3,416	3,416
Total	208,119	198,014	195,259	151,329	119,663	115,193	105,201

Although these budgets are floors, most sources should prepare for a significant drop in budgets beginning in 2026, which further dwindles by 2029.⁴⁸ (Table VI.B.4.c-1: CSAPR NO_x Ozone Season Group 3 Preset State Emissions Budgets for the 2023 through 2029 Control Periods (tons)).⁴⁹

⁴⁸ See also *id.* at 452-53.

⁴⁹ Unit-level allocations are available for 2023-2025 at: <https://www.epa.gov/system/files/documents/2023-03/Unit-level%20allocations%20and%20underlying%20data%20for%20the%20final%20rule.xlsx>. The Unit-Level Allocation TSD (page 13) confirms that 2026 unit-level allocations are not available presently: <https://www.epa.gov/system/files/documents/2023-03/Allowance%20Allocation%20under%20the%20Final%20Rule%20TSD.pdf> (“Unit-level allocations for control periods in 2026 and later years will be calculated in the year before each control period using the methodology described in this document and set forth in the revised Group 3 trading program regulations at 40 CFR 97.1010(c) and 97.1011.”).

The Final Rule outlines the methodology for establishing unit-level allocations for Group 3 existing units.⁵⁰ It differs from the Revised CSAPR Update Rule, but it is similar. EPA will use a unit’s historical heat input and total NOx emissions data for the five most recent ozone seasons.⁵¹ EPA will compute an average heat input value based on the three highest non-zero heat input values over the five years. EPA will cap large coal-fired units with a maximum controlled baseline beginning with control periods in which the state budgets reflect assumed use of SCR.^{52,53} For units that cease operation, they will receive OS allocations for two full control periods of non-operation.⁵⁴ Prior CSAPR regulations provided allocations for three additional years (totaling five years when summing the two years of non-operation).⁵⁵

For the 2023 control period, allocations are “illustrative.”⁵⁶ Specifically, EPA expects that the effective date of the Final Rule may occur after the beginning of the control period. EPA has prepared procedures for prorating emissions budgets.⁵⁷

Step 4 defines the emissions reductions to eliminate significant contribution. The following table lays out EPA’s schedule for NOx reductions and enhancements, discussed *infra*. The state allowance budgets are based on the assumption that these technologies are in place.

Memo Table 4: Group 3 Allowances – Final FIP Approach

Ozone Season	Group 3 Seasonal NOx Budget Change	Daily NOx Rate for Large EGUs (not CFBs)?	Dynamic Budget Setting?	Annual Bank Recal?	Notes
2023	Preset Budgets (Table I.B-1).	No	No	No	Preset budget, prorated based on rule effective date; Generation shifting used in preset
2024	NOx budgets vary; State budgets vary, but most only have moderate changes	Yes – for EGUs with SCRs (0.14 lb/mmBTU)	No	Yes (at 21%)	Generation shifting used in preset

⁵⁰ Final Rule at 519.

⁵¹ *Id.* at 521.

⁵² In other words, 2024 for existing SCR units, and 2027 for all other units except CFBs. EPA describes the unit-allocation procedure in more detail, *see* Final Rule at 520-24.

⁵³ *Id.*

⁵⁴ *Id.* at 520.

⁵⁵ *Id.*

⁵⁶ Final Rule at 523, 539-46.

⁵⁷ *Id.*

Ozone Season	Group 3 Seasonal NO _x Budget Change	Daily NO _x Rate for Large EGUs (not CFBs)?	Dynamic Budget Setting?	Annual Bank Recal?	Notes
2025	Same preset as 2024 for many states or a minimal decrease	Yes (SCR units only)	No	Yes (at 21%)	
2026	State NO _x preset budgets are 23% lower than 2025 budget	Yes (SCR units only)	Yes, only if greater than preset	Yes (at 21%)	Preset state emissions budgets to reflect <i>50 percent</i> of the SCR retrofit emissions reduction potential.
2027	State NO _x preset budgets are 20% lower than 2026 budget	Yes – existing SCR units/ newly installed SCRs in 2nd OS	Yes, only if greater than preset	Yes (at 21%)	Preset state emissions budgets reflect the <i>full</i> assumed SCR retrofit rate.
2028	State NO _x preset budgets are 4% lower than 2027 budget	Yes – existing SCR units/ newly installed SCRs in 2nd OS	Yes, only if greater than preset	Yes (at 21%)	
2029	State NO _x preset budgets are 8% lower than 2028 budget	Yes – existing SCR units/ newly installed SCRs in 2nd OS	Yes, only if greater than preset	Yes (at 21%)	
2030	No preset budget, likely; Dynamic budgets are likely to drive budgets down based on past utilization and fleet retirements	Yes for all larger EGUs (First time <i>ALL</i> EGUs)	Yes	Yes (at 10.5%)	EPA assumes all upgrades will be made, or units will retire. The preset percentage is 21% for control periods through 2029 and then 10.5% from

Ozone Season	Group 3 Seasonal NO _x Budget Change	Daily NO _x Rate for Large EGUs (not CFBs)?	Dynamic Budget Setting?	Annual Bank Recal?	Notes
					2030 and after.

Note 1: Preset percentage comparisons to prior year based on EPA calculations in Final Rule, p. 33.

Note 2: Dynamic Budget Setting and Daily Emissions Rates discussed, *supra*.

V. Group 3 Enhancement Concepts to Maintain Control Stringency

EPA retained a number of enhancement concepts to ensure stringency of the Group 3 program.

Memo Table 5: Enhancement Concepts at a Glance

Concept in Proposed Rule	Final Rule	Comments
1. Dynamic Budgets	Yes, in 2026	EPA kept this concept in lieu of generation shifting; In the Proposed Rule, this concept was to apply in 2025.
2. Unit-Specific Backstop Daily Emissions Rate of 0.14 lb/mmBTU	Yes, in 2024 for units with SCRs and for non-SCR units, the earlier of OS 2030 or the control period after an SCR is installed.	The rate was not modified; EPA extended the dates for non-SCR units and kept SCR units at 2024.
3. Annual Bank recalibration at 21% for 2024-29	Yes, in 2024	EPA maintained the 2024 timeline but raised the target percentage from 10.5% to 21% until 2029. 2030 uses 10.5%.
4. Unit-Specific Secondary Emissions Limitation	Yes	Yes

1. Dynamic Budget Setting. EPA keeps the proposed concept called “dynamic budget-setting.” EPA will look annually at state budgets and re-compute them based on the fleet composition and total ozone season heat input by all of the units in the state.⁵⁸ EPA changed the dynamic budget

⁵⁸ See revisions to 40 CFR § 97.1010 (Final Rule at 891-94).

calculation to include multiple years in response to comments.⁵⁹ Specifically, dynamic budgets will be based on a rolling three-year average of reported heat input data at the state level and a rolling highest-three-of-five-year average of reported heat input data at the unit level.⁶⁰ This concept begins to apply to budgets in OS 2026. Dynamic budgets will be publicly announced during the prior year (e.g., 2025). The Final Rule provides that “the dynamically determined budgets apply only if they are higher than preset budgets established in the rule.”⁶¹ Dynamic budgeting optionality extends through the 2029 control period.⁶² Beginning in 2030, the program switches exclusively to dynamic budgets.^{63,64}

2. Daily Emission Rates for Coal-fired EGUs 100 MW or Greater. EPA adds a daily NOx emissions rate of 0.14 lb/mmBTU for large coal-fired EGUs *with SCRs already installed* during the ozone season (May-September) beginning in 2024.⁶⁵ For other larger coal-fired EGUs without SCRs (excluding CFBs), the daily rate will apply no later than the 2030 control period.⁶⁶ Non-SCR units will be required to comply with the new rate in the “second control period in which new SCR controls are operated at a unit,” if that date is sooner than 2030. *Id.* at 477. If the daily rate is exceeded, the Final Rule applies a 3 for 1 allowance surrender ratio if the exceedance of the daily average is more than 50 tons. *Id.* at 390. The 50-ton cushion is new. *Id.* at 398. EPA also comments that common stack units must comply with the daily emissions rate based on combined NOx emissions rates.⁶⁷ EPA justifies a 2024 start date for SCR units to allow sources to install and certify additional monitoring systems and update data handling software to compute and report additional hourly and daily data for compliance.⁶⁸

3. Allowance Bank Recalibration. Beginning in the 2024 control period (August 1, 2024 and each subsequent August 1),⁶⁹ allowance banks will begin to be annually recalibrated to “prevent the quantity of allowances carried over from each control period to the next from exceeding the target bank level, which would be revised to represent a preset percentage of the sum of the state emissions budgets for each control period.” Final Rule at 370, 387 and 461. The preset

⁵⁹ *Id.* at 385.

⁶⁰ *Id.* at 427.

⁶¹ Final Rule at 370.

⁶² *Id.*

⁶³ *See, generally* Final Rule at 427-432 for a discussion with examples on how the dynamic budgets will be calculated.

⁶⁴ *Id.* at 426.

⁶⁵ Final Rule at 390, 473.

⁶⁶ *Id.* at 391, 481.

⁶⁷ EPA acknowledges that common stack units, in which one unit is controlled by an SCR but the other is not, may suffer from overstatement of NOx mass emissions through apportionment. For further discussion, *see id.* at 535. EPA suggests that those units may choose to upgrade the monitoring equipment to avoid this overstatement. *Id.* EPA rejects concerns regarding cost of this monitoring upgrade. *Id.* at 488.

⁶⁸ *Id.* at 396-97.

⁶⁹ This is two months after the June 1 compliance deadline. *Id.* at 461.

percentage is 21% for control periods 2024 through 2029 and then 10.5% (half of the sum of states' minimum variability limits) from 2030 and after.⁷⁰

4. Unit-Specific Assurance Level Exceedances. EPA finalized the secondary emissions limitation based on unit-specific performance when the state's assurance level for a control period is exceeded.⁷¹ It requires surrender of allowances based on a given unit's emissions. This limitation applies to units equipped with post-combustion controls (SCR or SNCR) and that operated at least 10% of the hours in the control period.⁷² This emissions limit applies only when the state assurance level is exceeded. For those units, the limitation is computed as 50 tons plus "the product of (1) the unit's heat input for the control period times (2) a NOx rate of 0.10 lb/mmBtu or, if higher,⁷³ 125 percent times the lowest seasonal average NOx emissions rate achieved by the unit in a previous control period when the unit participated in a CSAPR trading program . . . and operated in at least 10 percent of the hours in the control period."⁷⁴ EPA applies a 50-ton margin to avoid small violations.⁷⁵

VI. How EPA Addresses Reliability Concerns

EPA identifies several changes from the original proposal to address reliability. These changes are:

- The daily backstop rate is delayed until 2030 or the second period in which the unit operates SCR controls. This deferral is intended to provide EGUs time for planning and investment if the EGU chooses to retire a unit instead of installing controls (*id.* at 409-10);
- Annual bank recalibration target percentages are revised to adopt a higher target percentage (21%) as opposed to 10.5%. EPA indicates that this will promote greater flexibility and market liquidity (*id.* at 411);
- Preset state emissions budgets are provided for 2025-2029, not just 2023 and 2024. These presets provide predictability by establishing minimum quantities of allowances. EPA acknowledges that pre-set budgets could "underpredict" a state's well-controlled emissions (*id.* at 412);
- Dynamic budgets take into account multiple years of heat input data. This reduces uncertainty (*id.* at 413);
- A new 50-ton daily average exceedance threshold will apply before the 3-for-1 surrender ratio for the daily backstop rate takes effect (*id.* at 413); and

⁷⁰ *Id.* at 463.

⁷¹ *Id.* at 398-99.

⁷² *Id.* at 498.

⁷³ This rate is calculated by 0.08 lb/mmBTU plus a 25% margin. *Id.* at 499.

⁷⁴ *Id.* at 500; *see also id.* at 398-99.

⁷⁵ *Id.* at 399, 499.

- Units that must install SCRs now have a 2026-2027 phase-in. State budgets in 2026 have more allowances in most states (*id.* at 413).

Based on these changes, EPA concludes: “[T]his action does not pose any material risk of adverse impact to electric system reliability.”^{76,77}

EPA identifies a future discretionary proposal for adding an auction mechanism to the Group 3 trading program. The auction would increase market liquidity but would also include changes to maintain program stringency. The Final Rule does not disclose details about this future rulemaking proposal other than to say that the auction would be a slightly modified implementation of Step 4 for EGUs.⁷⁸

⁷⁶ *See, generally* Final Rule at 414-18 (discussing commenters’ suggestions to address reliability concerns and explaining why EPA rejected options such as the “safety valve” applied in the Revised CSAPR Update Rule, regular re-modeling, RTO/ISO consultations, and RTO-administered auctions).

⁷⁷ *Id.* at 414.

⁷⁸ Final Rule at 418 n. 307; 539 n.365.