



Edison Electric
INSTITUTE

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General Counsel, Corporate Secretary,
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June 21, 2022

Administrator Michael Regan
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

RE: EEI Comments on EPA-HQ-OAR-2021-0668

Submitted via regulations.gov

Dear Administrator Regan:

The Edison Electric Institute (EEI) appreciates the opportunity to submit comments to the Environmental Protection Agency (EPA) on the proposed rule, *Federal Implementation Plan Addressing Regional Ozone Transport Pollution for the 2015 Ozone National Ambient Air Quality Standard*. 87 Fed. Reg. 20,036 (Apr. 6, 2022).

EEI is the association that represents all U.S. investor-owned electric companies. EEI members provide electricity for more than 220 million Americans and operate in all 50 states and the District of Columbia. As a whole, the electric power industry supports more than seven million jobs in communities across the United States. EEI member companies invest more than \$120 billion annually to make the energy grid smarter, cleaner, more dynamic, more flexible, and more secure in order to provide affordable and reliable electricity to customers. EEI's members are committed to getting the energy they provide as clean as they can as fast as they can, keeping affordability and reliability front and center.

EEI members are well-positioned to continue to lead the nation's clean energy transformation through the deployment of new clean resources and its supporting infrastructure as they retire older coal-based and less-efficient natural gas-based generating units, along with significant investment in a broad range of affordable, carbon-free technologies and approaches. EPA should recognize the benefits of providing operational and regulatory flexibility to EEI's members in order to ensure that the clean energy transformation continues in a way that is positive for customers, positive for the economy, and equitable for the communities we serve. To that end, EEI's comments focus on four key themes that emphasize our industry's clean energy leadership:

- **It is appropriate for EPA to continue to utilize a trading program for the power sector.** The Agency's selection of a trading program for the power sector is well founded and appropriate, as the sector has successfully implemented

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trading programs related to NOx emissions for decades and can continue to do so effectively, especially with several potential additional regulatory flexibilities.

- **Electrification can play a pivotal role in compliance.** As the power sector makes tremendous strides in reducing its own emissions, EPA should leverage that progress to help other sectors reduce emissions that contribute to ozone formation, through use of clean, efficient electric energy.
- **The Agency should finalize a rule that requires reductions from the industrial sector.** EPA is correct to include requirements for all significant contributors to interstate ozone transport.
- **EPA should make several beneficial implementation adjustments to the trading program to provide additional flexibility.** The Agency should incorporate several additional flexibilities and adjustments to the proposed program—discussed further herein—to ensure that the trading program can both accomplish its environmental goals and successfully allow the sector to engineer compliance solutions that benefit customers and the economy.

We look forward to continuing to work with EPA as it moves forward to finalizing the proposed rule. Questions on these comments may be directed to [Alex Bond](#), [Eric Holdsworth](#) or [John Kinsman](#).

Sincerely,

A handwritten signature in black ink, appearing to read "Emily Sanford Fisher". The signature is fluid and cursive, with a large initial "E" and "F".

Emily Sanford Fisher
General Counsel, Corporate Secretary, and Senior Vice President, Clean Energy

**COMMENTS OF THE EDISON ELECTRIC INSTITUTE ON THE U.S.
ENVIRONMENTAL PROTECTION AGENCY’S PROPOSED FEDERAL
IMPLEMENTATION PLAN ADDRESSING REGIONAL OZONE TRANSPORT
POLLUTION FOR THE 2015 OZONE NAAQS**

Docket No. EPA-HQ-OAR-2021-0668

June 21, 2022

The Edison Electric Institute (EEI) appreciates the opportunity to comment on the U.S. Environmental Protection Agency (EPA or Agency) *Federal Implementation Plan Addressing Regional Ozone Transport Pollution for the 2015 Ozone National Ambient Air Quality Standard*. 87 *Fed. Reg.* 20,036 (Apr. 6, 2022). EPA’s proposal addresses interstate transport requirements for the 2015 ozone National Ambient Air Quality Standards (NAAQS). EPA proposes Federal Implementation Plans (FIPs) for 26 states to regulate nitrogen oxides (NOx) emissions under Clean Air Act (CAA) section 110(a)(2)(d)(i)(I). EPA’s proposal is intended to provide a “full remedy” for interstate transport obligations for the 2015 ozone NAAQS.

EEI is the association that represents all U.S. investor-owned electric companies. EEI members provide electricity for more than 220 million Americans and operate in all 50 states and the District of Columbia. As a whole, the electric power industry supports more than seven million jobs in communities across the United States. EEI member companies invest more than \$120 billion annually to make the energy grid smarter, cleaner, more dynamic, more flexible, and more secure in order to provide affordable and reliable electricity to customers. EEI’s members are committed to getting the energy they provide as clean as they can as fast as they can, keeping affordability and reliability front and center.

I. Executive Summary

EEI members are well-positioned to continue to lead the nation's clean energy transformation. EEI's member companies see a clear path to continued emissions reductions over the next decade using current technologies, including nuclear power, natural gas-based generation, energy demand efficiency, energy storage, and deployment of new renewable energy—especially wind and solar—as older coal-based and less-efficient natural gas-based generating units retire. As described below, EEI's members are investing in a broad range of affordable, carbon-free technologies and approaches with the goal of finding the most cost-effective ways to deliver resilient clean energy. As part of the industry's ongoing clean energy transformation, ensuring that regulatory regimes recognize the benefits of providing operational and regulatory flexibility is essential to ensuring the clean energy transformation continues in a way that is positive for customers, positive for the economy, and equitable for the communities we serve. To that end, these comments focus on several key areas for EPA to consider beyond EEI's ongoing clean energy leadership:

EPA is correct to utilize a trading program for the power sector. EPA's selection of a trading program for the power sector is well founded and appropriate, as the sector has successfully implemented trading programs related to NO_x emissions for decades and can continue to do so with several potential additional regulatory flexibilities. EPA should continue to utilize regulatory flexibilities and market-based mechanisms in order to address interstate transport obligations for EGUs—doing so allows electric companies to deliver both least cost outcomes and significant emissions reductions. Indeed, the power sector has been the most successful implementer of these types of programs, and—as it has done with the proposed rule here—EPA

should continue to adopt these types of flexible approaches to power sector regulation here and in future rulemakings.

Electrification can play a pivotal role in compliance. As the power sector makes tremendous strides in reducing its own emissions, EPA should leverage that progress to help other sectors reduce emissions that contribute to ozone formation, through use of clean, efficient electric energy. Electric companies are building the infrastructure needed to support increased electrification of other sectors and supporting electrification to leverage the reductions from the power sector to reduce emissions from other source categories is a tremendous opportunity EPA should fully explore.

The Agency should finalize a rule that requires reductions from the industrial sector. EPA is correct to propose requirements for several industrial sectors and should include them in any final rule and has more than ample record evidence to support finalizing these requirements. The Agency is correct to assess the potential for cost-effective NO_x and VOC emissions reductions from all significant contributors to interstate transport related to ozone, and to then move forward with requiring reductions from those sectors. It is certain that cost-effective NO_x reductions opportunities exist for stationary sources outside of the power sector that combined make up three-quarters of the national total for stationary source NO_x emissions.

EPA should make several beneficial implementation adjustments to the trading program to provide additional flexibility. EPA should incorporate several additional flexibilities and adjustments to the proposed program to allow for the successful implementation of both the

emissions trading program and the ongoing clean energy transformation of the electric sector. These include potential alterations to EPA's proposed maximum daily rate for individual EGUs; implementation issues surrounding the Agency's novel dynamic budgeting; multi-unit averaging; expanded banking and conversion of banked allowances; and, other potential implementation changes. It is essential that EPA make these changes to ensure that the trading program can both accomplish its environmental goals and successfully allow the sector to engineer compliance solutions that are positive for customers, positive for the economy, and equitable for the communities we serve.

II. EEI Members are Leading the Way on Energy Storage and the Clean Energy Transformation.

EEI members are in the middle of a profound, long-term transformation in how electricity is generated, transmitted, and used. This transformation is being driven by a wide range of factors, including relatively lower prices for natural gas, particularly as compared to historic high prices, and renewable energy resources, energy efficiency and demand-side management, technological improvements, changing customer, investor and owner expectations, federal and state regulations and policies, and the increasing use of distributed energy resources. EEI members are well-positioned to continue to lead the nation's clean energy transformation. With the right policies and technologies, a 100 percent clean energy future can be more than a goal, it can be a reality. Across the industry, companies are investing in a broad range of affordable, carbon-free technologies and approaches with the goal of finding the most cost-effective ways to deliver resilient clean energy.

The mix of resources used to generate electricity in the United States has changed dramatically over the last decade and is increasingly cleaner. 2016 marked the first year that natural gas

exceeded coal as the main source of electricity generation in the United States. In 2021, natural gas powered about 38 percent of the country’s electricity, compared to coal-fired generation at about 22 percent.¹ Renewables² generated approximately 21 percent of total generation.³ In total, approximately 40 percent of America’s electricity came from clean carbon-free resources in 2021, including nuclear energy, hydropower, solar, and wind.⁴

Energy storage is a key asset in helping the grid integrate increasing amounts of renewables and offering resilience and reliability. Electric companies are the largest users and operators of the approximately 25 gigawatts (GW) of operational storage in the country—representing 96 percent of active energy storage projects.⁵ Over the period of 2015 to 2020, there was a 544 percent increase in advanced energy storage devices.⁶

¹ See Energy Information Administration (EIA), *Electric Power Monthly: with Data for December 2021* 12 (Feb. 2022), https://www.eia.gov/electricity/monthly/current_month/february2022.pdf.

² Renewables here are defined as wind, hydroelectric, solar, biomass, and geothermal energy.

³ See n. 3, *supra*.

⁴ See *id.*

⁵ See EEI, *Harnessing the Potential of Energy Storage* (June 2021), https://www.eei.org/-/media/Project/EEI/Documents/Issues-and-Policy/Energy-Storage/Harnessing_Energy_Storage_Factsheet.pdf?la=en&hash=F1AB8CC768C880975C5AD28DA798B2AAF01DA2FF.

⁶ See *id.*

Renewable energy deployments will continue. By 2025, EIA projects approximately 125 GW of renewables capacity will be online.⁷ Further, EIA projects that in the United States the share of renewables in the electricity generation mix will more than double by 2050.⁸ EIA projects that wind will continue to be responsible for most of the growth in renewables generation through 2024, accounting for more than two-thirds of those increases in electricity generation during that period and that solar will dominate deployments thereafter until 2050.⁹

These changes have profoundly decreased the sector's carbon dioxide (CO₂) emissions, the primary greenhouse gas emissions associated with electricity production. Preliminary full-year estimates are that electric power sector emissions were 36 percent below 2005 levels as of the end of 2021, as low as they were in 1984.¹⁰ These reductions will continue. Fifty EEI members

⁷ See EIA, Annual Energy Outlook 2022: Reference Case Projections Tables – Table 16. Renewable Energy Generating Capacity and Generation (Mar. 3, 2022), <https://www.eia.gov/outlooks/aeo/data/browser/#/?id=16-AEO2022&cases=ref2022&sourcekey=0>.

⁸ See EIA, Annual Energy Outlook 2022: With Projections To 2050 – Narrative 17 (Mar. 3, 2022), https://www.eia.gov/outlooks/aeo/pdf/AEO2022_Narrative.pdf. EIA estimates are intentionally conservative, focusing on policies currently on the books and not other potential drivers of increased renewable energy deployment, including a suite of clean energy tax credits currently being considered by Congress. These credits will drive reductions in the costs of a range of clean energy sources, increasing both deployment and emissions reductions relative to the EIA base case. See, e.g., Michael Greenstone, et al., Assessing the Costs and Benefits of Clean Electricity Tax Credits, Build Back Better Act Policy Memo, Energy Policy Institute, University of Chicago and Rhodium Group (Feb. 9, 2022), <https://rhg.com/research/assessing-the-costs-and-benefits-of-clean-electricity-tax-credits/#:~:text=Building%20on%20previous%20modeling%20conducted,a%20scenario%20with%20these%20policies>.

⁹ See *id.*

¹⁰ See EIA, Monthly Energy Review, Table 11.16—Electric Power Sector (Mar. 29, 2022), <https://www.eia.gov/totalenergy/data/monthly/>.

have announced forward-looking carbon reduction goals, two-thirds of which include a net-zero by 2050 or earlier equivalent goal, and members are routinely increasing the ambition or speed of their goals or altogether transforming them into net-zero goals.

In addition, the electric industry has significantly reduced air pollutants such as mercury, hazardous air pollutants (HAPs), sulfur dioxide (SO₂), and nitrogen oxides (NO_x). As of 2021, SO₂ and NO_x emissions have declined 94 and 88 percent, respectively, since 1990.¹¹ In addition, mercury emissions have declined by 90 percent since 2010, and total HAPs—including all acid gas emissions—declined by 96 percent between 2010 to 2017.¹²

EI's member companies see a clear path to continued emissions reductions over the next decade using current technologies, including nuclear power, natural gas-based generation, energy demand efficiency, energy storage, and deployment of new renewable energy—especially wind and solar—as older coal-based and less-efficient natural gas-based generating units retire. These technologies will continue to enable significant, cost-effective carbon and NO_x reductions. In addition, EIA notes that coal use will continue to decline with the retirement of most of the relatively old and inefficient coal-fired electricity generating units in the United States.¹³

¹¹ See EPA, EPA Issues Power Plant Emissions Data for 2021 (Feb. 22, 2022), <https://www.epa.gov/newsreleases/epa-issues-power-plant-emissions-data-2021>.

¹² See 84 *Fed. Reg.* 2,670, 2,689 (Feb. 7, 2019).

¹³ See n. 8, *supra* at 18.

In the long term, reaching net-zero carbon emissions also will require the deployment of next-generation, carbon-free, 24/7, dispatchable technologies not currently available commercially. Developing a broad range of advanced clean energy technologies can help further expedite the transition of the electric power sector to one that is low- or non-emitting while keeping electricity affordable and reliable for customers.

III. Market-Based Trading and Regulatory Flexibilities Are Essential To Cost-Effective and Efficient Implementation.

EPA has chosen to implement its electric generating unit (EGU) reductions through a trading program, consistent with its previous ozone transport rulemakings. *See 87 Fed. Reg. 20,100.* The Agency notes that the selection of a trading program to implement the rulemaking effectively “operationalizes the mitigation measures as state-wide assumptions for the EGU fleet rather than unit-specific assumptions.” *Id.*

EPA’s selection of a trading program for the EGU fleet is well founded and appropriate. The sector has successfully implemented trading programs related to NO_x emissions for decades and can continue to do so with several potential additional regulatory flexibilities discussed *infra*. In general, regulatory flexibilities are a practical and longstanding method of helping affected sources—both mobile and stationary—comply with environmental regulations in efficient, cost-effective, and commonsense ways. The electric sector has long-term experience implementing emissions trading regimes—along with other averaging and permit specific terms—in cost effective and efficient manners.

These regulatory flexibilities contribute to the broad and continued success of the CAA and the other environmental statutes: namely, EPA has set standards and then provided compliance

pathways that enhanced options available to industry instead of limiting the methods and manners that sources can use to meet standards. EPA’s own most recent report acknowledges this reality: since the 1990 CAA amendments, the many flexible compliance regimes promulgated by the Agency have resulted in significant emissions reductions and a marked reduction in unhealthy air quality days, all at lower than predicted costs to industry and customers.¹⁴

EPA’s selection of a trading program as the principal manner of implementation for the EGU sector is consistent with its past practice. Many of the regulatory programs enacted by EPA to attain and maintain the NAAQS in the past three decades have contained significant regulatory flexibilities—from market-based trading,¹⁵ to wide ranging averaging provisions,¹⁶ to creative permit terms,¹⁷ to innovative methods of estimating reductions from new industry activities.¹⁸ In

¹⁴ EPA, Our Nation’s Air, <https://gispub.epa.gov/air/trendsreport/2019/#naaqs>.

¹⁵ See, e.g., EPA’s NOx Budget Trading Program, 63 *Fed. Reg.* 57356 (Oct. 27, 1998); the Clean Air Interstate Rule, 70 *Fed. Reg.* 25,161 (May 12, 2005); the Cross-State Air Pollution Rule (CSAPR), 76 *Fed. Reg.* 48,208 (Aug. 8, 2011); the CSAPR Update Rule, 81 *Fed. Reg.* 74,504 (Oct. 26, 2016); and the Revised CSAPR Update Rule, 86 *Fed. Reg.* 23,054 (Apr. 30, 2021).

¹⁶ See Florida State Implementation Plan Approval for Hillsborough County, 82 *Fed. Reg.* 30,749 (Jul. 3, 2017).

¹⁷ See Prevention of Significant Deterioration/Title V Greenhouse Gas Tailoring Rule, 75 *Fed. Reg.* 31,513 (Jun. 3, 2010).

¹⁸ See EPA, Roadmap for Incorporating Energy Efficiency/Renewable Energy Policies and Programs into State and Tribal Implementation Plans (July 2012), https://www.epa.gov/sites/production/files/2016-05/documents/eeremmanual_0.pdf. Given that the EE/RE Roadmap is eight years old, states also might review EPA’s 2018 “Quantifying the Multiple Benefits of Energy Efficiency and Renewable Energy: A Guide for State and Local Governments,” <https://www.epa.gov/statelocalenergy/quantifying-multiple-benefits-energy-efficiency-and-renewable-energy-guide-state>.

sum, EPA sets targets, and American industry engineers the least cost and most effective way to get there.

EPA should continue to utilize regulatory flexibilities and market-based mechanisms in order to address interstate transport obligations for EGUs. Indeed, the power sector has been the most successful implementer of these types of programs, and—as it has done with the proposed rule here—EPA should continue to adopt these types of flexible approaches to power sector regulation here and in future rulemakings.

IV. Electrification Can Play An Important Role In NAAQS Implementation.

The industry also is helping other sectors reduce emissions that contribute to ozone formation, through use of clean, efficient electric energy. Across the U.S., electric companies are building the infrastructure needed to support increased electrification of other sectors, starting with the transportation sector with the support of the automakers, the federal government, and states.

Transportation electrification provides an opportunity to leverage the electric sector's transition and the sector's declining emissions to achieve NO_x and volatile organic compounds (VOC) reductions in transportation sector emissions and reduce ozone levels—and these opportunities exist across multiple other industrial sectors. The ongoing transformation of the power sector also can help to further reduce ozone precursor emissions—both NO_x and VOCs—by supporting electrification, leveraging the reductions from the power sector to reduce emissions from non-EGU stationary source categories (non-EGUs) as well. As the Agency moves to implement the ozone NAAQS, it should provide significant regulatory flexibility that allows states and sources to leverage these advances. As part of this approach, EPA should develop guidance on such

flexibilities in a new companion Electrification Policies Roadmap to its existing Energy Efficiency/Renewable Energy Roadmap.¹⁹

EPA also proposes that states may submit a SIP at any time to address CAA requirements that are covered by a FIP, and if EPA approves, the SIP would replace the FIP, in whole or in part, as appropriate. The EPA has established certain specialized provisions for replacing FIPs with SIPs within all the Cross-State Air Pollution Rule (CSAPR) trading programs, including the use of so-called “abbreviated SIPs” and “full SIPs.” *See 87 Fed. Reg.* at 20,149. EPA notes that it has abbreviated SIP pathways for modifying EGU trading allocations, replacing the federal trading program with a state trading program, non-trading revisions and non-EGU revisions. *Id.* at 20,150-51. Consistent with the tremendous potential benefits of utilizing electrification to reduce emissions in other sectors, EPA should consider creating an abbreviated SIP pathway for states to take advantage of the continued progress of the electric sector and the electrification of both non-EGUs and mobile sources.

EEI member companies are leading the charge to ready the market for widescale adoption of light-, medium- and heavy-duty electric vehicles (EVs). EEI members are making investments and offering programs designed to help their customers overcome barriers to EV adoption, while also supporting existing EV users and year-over-year growth in the EV market. Many of these programs help to deploy and/or offset the cost of EV charging infrastructure in homes, workplaces, public locations, as well as for fleet operators. To date, more than 30 states and the District of Columbia have approved customer programs and investments by electric companies

¹⁹ *See id.*

totaling more than \$3.4 billion.²⁰ Furthermore, EEI members are leading by example with their own fleets by setting individual fleet electrification goals that put them on track to electrify more than a third of their fleet vehicles by 2030.

Electric company investments coupled with those of other companies and stakeholders have dramatically increased access to charging. Electric company investments have the potential (pending regulatory approval) to support more than 300,000 new charging stations.²¹ As of September 2021, there were more than 108,000 public charging ports, not including home chargers.²² This represents a more than 2,000 percent increase in the number of public charging ports since 2011.²³ In addition, the National Electric Highway Coalition (NEHC) is a collaboration among electric companies that are committed to providing EV fast charging stations that will allow the public to drive EVs with confidence along major U.S. travel corridors by the end of 2023.²⁴ In short, electric companies are preparing for a growing wave of fleet electrification and are eager to partner with both corporate and public fleet customers to ensure a

²⁰ See EEI, Electric Transportation Biannual State Regulatory Update, <https://www.eei.org/-/media/Project/EEI/Documents/Issues-and-Policy/Electric-Transportation/ET-Biannual-State-Regulatory-Update.pdf>.

²¹ Atlas EV Hub, *Electric Utility Filings Dashboard*, <https://www.atlasevhub.com/materials/electric-utility-filings/> (Sept. 21, 2021).

²² Department of Energy, Alternative Fuels Data Center, *Alternative Fueling Station Counts by State*, https://www.afdc.energy.gov/fuels/stations_counts.html (Sept. 21, 2021).

²³ See Electric Vehicle Charging Association, *State of the Charge: Report of the Northeast's Electric Vehicle Charging Industry* at 3 (May 2018), http://www.evassociation.org/uploads/5/8/0/5/58052251/evca_stateofchargereport_2018.pdf.

²⁴ Edison Electric Institute, National Electric Highway Coalition, <https://www.eei.org/issues-and-policy/national-electric-highway-coalition>.

seamless transition. Similar opportunities to use electricity to reduce emissions also exist across stationary sources in multiple industrial sectors. EPA should work with states to leverage this progress by providing an abbreviated SIP option to allow for states to credit electrification alternatives that reduce emissions of ozone precursors.

V. EPA Is Correct to Include Non-EGUs as Part of This Rulemaking; Non-EGUs Should Contribute Significant Reductions In Any Final Rule Because They Are A Larger Source of Precursor Emissions.

As noted previously, electric power sector emissions of NO_x are down 88 percent over the period 1990 to 2021. EPA data also show that the power sector's overall share of NO_x emissions has decreased significantly—in 2021, it was responsible for about 10 percent of total anthropogenic NO_x emissions, down from over 26 percent in 1990.²⁵ By way of comparison, the motor-vehicle sector has made far lesser progress and is by far the largest anthropogenic source of NO_x. EPA data clearly show this disparity. Over that same period, mobile source emissions have represented more than half of total NO_x emissions, and “highway” emissions—i.e., emissions from on-road motor vehicles such as cars and trucks—have remained greater than 30 percent of total NO_x emissions for more than three decades. Automobiles also are a significant source of VOCs—9 percent of national man-made emissions compared to electric power emitting only 0.3 percent of VOCs in 2021. The power sector in 2021 was responsible for only a 4.2 percent contribution, combined, to the total tons of emissions of the two major ozone precursors, NO_x plus VOCs.

²⁵ EPA, Air Pollutant Emissions Trends Data, <https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data> (May 18, 2022).

For stationary sources, EPA data also supports the growing prevalence of non-EGU sources as major contributors to ozone precursor emissions.²² National NOx emissions from EGUs have declined more than for non-EGUs, from 57 percent of the stationary source total in 1990 down to 24 percent in 2021. Concomitantly, non-EGU stationary source NOx emissions have risen from 43 percent of the overall emissions profile to 76 percent:

Sector	1990 Emissions (thousand tons)	1990 Share (% of total)	2021 Emissions (thousand tons)	2021 Share (% of total)
EGUs	6,663	57%	784	24%
Fuel Combustion - Industrial	3,035		1,038	
Fuel Combustion - Other	1,196		496	
Chemical	168		38	
Petroleum Related	153		546	
Metals	97		59	
Other Industrial Processes	378		313	
Total Non-EGU	5,027	43%	2,489	76%

Thus, in addition to mobile sources contributing five times as much NOx emissions as EGUs in 2021, non-EGU stationary sources contributed three times as much NOx emissions as did EGUs. Given the significant and—until this proposal entirely unaddressed in the context of EPA rulemakings on interstate ozone transport under CAA section 110(a)(2)(d)—emissions from non-EGUs, EPA is correct to include regulatory requirements in the rule for non-EGUs to ensure that EPA provides a full remedy for ozone transport emissions that appropriately addresses each source category. The Agency is correct to assess the potential for cost-effective NOx and VOC emissions reductions from all significant contributors to interstate transport related to ozone and

move forward with requiring reductions from those sectors. It is certain that cost-effective NO_x reductions opportunities exist for non-EGU stationary sources that combined make up *three-quarters of the national total for stationary source NO_x emissions*. EPA is correct to propose requirements for non-EGUs and should include them in any final rule and has more than ample record evidence to support finalizing requirements for non-EGUs.

VI. EPA Should Include Certain Changes to Enhance Compliance Flexibility for EGUs.

EPA has proposed an updated emissions trading program to implement the EGU-specific portions of its proposed full remedy for the interstate transport requirements as related to the 2015 ozone NAAQs and—as discussed *supra*—EPA is correct to continue implementing an emissions trading program with regards to the EGU fleet given the flexibility and long-term success of trading programs at reducing NO_x emissions. However, EPA should incorporate several additional flexibilities and adjustments to the proposed program to allow for the successful implementation of both the emissions trading program and the ongoing clean energy transformation of the electric sector. These include potential alterations to EPA’s proposed maximum daily rate for individual EGUs; implementation issues surrounding the Agency’s novel dynamic budgeting; multi-unit averaging; expanded banking and conversion of banked allowances; and, other potential implementation changes.

A. EPA Should Make Several Changes to the Unit-Specific Backstop Daily Rate.

One significant proposed element of the trading program in EPA’s proposal is a novel unit-specific backstop daily rate (Backstop Rate) that is expressed as an allowance surrender penalty. EPA states that the Backstop Rate is “intended to improve emissions performance at the level of individual units is the addition of backstop daily NO_x emissions rate provisions that would apply to large coal-[based] EGUs, defined...as units serving electricity generators with nameplate

capacities equal to or greater than 100 MW and combusting any coal during the control period in question. Starting with the 2024 control period, a 3-for-1 allowance surrender ratio (instead of the usual 1-for-1 surrender ratio) would apply to emissions during the ozone season from any large coal-[based] EGU with existing selective catalytic reduction (SCR) controls exceeding a daily average NO_x emissions rate of 0.14 lb/mmBtu.” *Id.* at 20,110.

EPA notes that the Backstop Rate’s additional allowance surrender penalty would be determined by units being required to surrender allowances at the 3-for-1 rate for all emissions *above* the 0.14 lb/mmBtu threshold as measured on a daily basis. EPA applies the Backstop Rate to *all* large coal-based units that are 100 MW and above—not just units with existing installed SCR—beginning in 2027. EPA notes that this year was chosen to align with attainment deadlines in downwind states, consistent with the U.S. Court of Appeals for the District of Columbia Circuit’s decision in *Wisconsin v. EPA*, 938 F.3d 303, 318-20 (D.C. Cir. 2019)(holding in part that EPA must provide a “full” and not partial remedy for significant contribution by upwind states and that the remedy must be consistent with attainment timelines). EPA notes that this timeline would also be consistent with timelines for units to install SCR or other control technology to reduce NO_x emissions. *See 87 Fed. Reg.* at 20,110.

EPA goes on to note that the establishment of the Backstop Rate is responsive to concerns regarding the emissions performance of specific units in previous ozone seasons, as raised by downwind state stakeholders. The Agency also notes that—for a variety of reasons including historic operations, stakeholder input, and operational flexibility concerns—it will not apply the Backstop Rate to any natural gas-based EGUs. Finally, EPA also seeks comment on suspension

of applicability for the 2027 Backstop Rate for up to two years—or until after 2028—for units that have an enforceable shutdown commitment to retire by no later than the end of calendar year 2028. *Id.* at 20,122.

Should EPA choose to finalize the Backstop Rate and related allowance penalty, EPA is correct in not applying it to natural gas-based EGUs—given the relatively lower NO_x emissions rates from these units. The Agency should, however, also consider making several potential changes to its implementation of the Backstop Rate. These include altering the allowance surrender ratio, potentially excluding startup and shutdown emissions, and expanding the suspension of the Backstop Rate for units with other enforceable commitments.

1. EPA should alter the allowance surrender ratio.

As discussed, EPA proposes that affected EGUs surrender allowances at a 3-for-1 rate for all emissions greater than the Backstop Rate threshold, beginning for coal-based units that already have SCR installed in 2024 and then for all large coal-based units beginning in 2027. EPA should consider altering the allowance surrender ratio both for units with SCR installed and those without. For units with SCR already installed, the vast majority of those units operate those controls consistent with both their CAA Title V operating permits and the state public utility accounting and regulatory requirements that the controls be used and useful—e.g., the installed controls are in fact operating—in order for them to continue to recover the costs of those controls through customers' electricity rates. The vast majority of those units will be operating their controls efficiently, but—as the fleet transforms, certain units might be required to alter operations to follow load or change generation to allow for the increased integration of renewable resources. When load following, instead of maintaining more steady operations, these

units could see emission rates increase as they ramp up and down. Further, EPA’s Backstop Rate also includes startup and shutdown emissions as part of its calculation, which likely will result in penalties that cannot be minimized or avoided because emissions controls operate most effectively at temperatures and pressures that are not achieved during start up and shutdown. This makes an exceedance of the Backstop Rate more likely. Penalties are designed to incent compliance;²⁶ as proposed, however, the penalty could be imposed as a result of circumstances *beyond the control* of the EGU, which cannot achieve compliance because the operation of the electric system requires that it operate in certain ways, thus defeating the purpose of the penalty in the first place. Moreover, EPA already has in place work practice standards for EGUs that address minimizing emissions during startup and shutdown, notably in the Mercury and Air Toxics Standards (MATS).²⁷

Accordingly, a 3-for-1 penalty that is designed to change unit operating behavior by imposing that penalty on certain units based on concerns raised in previous ozone seasons might be overly punitive for most units. EPA should consider revising the penalty from a 3-to-1 surrender downwards to 2-to-1 or lower for units that have been operating their installed controls historically and thus may not need the additional “incentive” of a more stringent surrender requirement. Further, EPA should consider suspending the allowance surrender requirement for

²⁶ See, e.g., EPA, Basic Information on Enforcement, Types of Enforcement Results (May 18, 2022), <https://www.epa.gov/enforcement/basic-information-enforcement>.

²⁷ See, “Reconsideration of Certain Startup/Shutdown Issues: National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small-Commercial-Institutional Steam Generating Units.” 79 *Fed. Reg.* 68,777 (Nov. 19, 2014).

units that have permitted emissions rates or other permit terms that should supersede EPA's Backstop Rate and would provide an enforceable guarantee those units were operating controls. These units should not have the Backstop Rate provisions applied to them given the existing requirements on those units. Based on EPA's own logic—that the Backstop Rate is designed to change and influence unit operations and behavior—EPA should consider several changes to the Backstop Rate given that many units already do operate their installed controls through a variety of other requirements.

2. EPA should not consider startup and shutdown emissions when determining compliance with the Backstop Rate.

As discussed above, for operational reasons well recognized by EPA, the Agency should not consider startup and shutdown emissions when determining compliance with the Backstop Rate. EPA should exclude startup and shutdown emissions from the rate calculus, since these emissions fundamentally do not impact the performance of installed control equipment—i.e., startup and shutdown emissions occur either before control technology is operating optimally or after it has already been disengaged as a unit moves toward idle. As a result, emissions from these periods exist regardless of the installation or optimization of control technology.

Accordingly, and consistent with the discussion *supra* in A.1, EPA should consider excluding those emissions when assessing whether a unit should be subject to the surrender provisions that triggered by the Backstop Rate since startup and shutdown emissions are beyond the control of the unit operator and potentially penalizing units for those emissions could run contrary to the logic of the Backstop Rate itself. Should EPA not exclude startup and shutdown emissions, the

agency could consider allowing units to utilize longer averaging periods beyond the daily rate in order to allow for additional unit flexible operations.²⁸

3. EPA should retain and expand provisions accounting for the impacts of other rules.

EPA is correct to propose consideration of including provisions that recognize the impact of other rules—specifically the steam electric effluent limitation guidelines (ELGs) and the coal combustion residuals (CCR) rulemakings, among many others impacting the sector—which contain provisions related to units that would permanently retire by the end of 2028. *See 87 Fed. Regi.* at 20,122. As units near retirement and decommissioning, continuing to invest capital in these units can defer closure as well as hinder the ability to deploy that capital towards continued clean energy deployment. EPA, therefore, would be right to recognize that the installation of additional controls or surrender requirements for units that are already retiring—and thus will provide significant future avoided emissions by no longer emitting whatsoever—is not an efficient outcome environmentally or economically.

EPA should include such a provision and consider expanding it consistent with the Administrator’s “holistic” approach to addressing the power sector. There are numerous upcoming federal regulatory requirements, state requirements, and company commitments to achieve emissions reductions goals that could result in the retirement of additional generating assets in the years directly after 2028, and EPA should consider additional flexibilities that

²⁸ EPA could also consider exempting units that operate for a limited number of hours per day, such as six hours or less, from the daily emission rate since such limited operations—including for testing purposes—are likely to have significant negative impacts on unit emission rates. EPA could allow units to meet a mass-based daily limit in lieu of the daily backstop emission rate should a unit’s total NO_x emissions not exceed the NO_x emissions calculated assuming 24 hours of operation at the unit at a rate of 0.14 lb/mmBtu at the unit’s rated heat input (in mmBtu/day), the unit should not be subject to the three to one NO_x allowance surrender ratio. Such a mass-based option should be available to any EGU that selects it, and would be consistent with the conversation below *infra* regarding unit averaging.

would allow units to retire without the additional investment in control technologies that could prolong the life of units that may otherwise retire. Specifically, EPA has already noted that it is actively reconsidering the ELGs, which specifically contains a cessation of coal/retirement subcategory that aligns with a 2028 deadline and could include other similar mechanisms in any new rulemaking. EPA should create additional flexibility in the final FIP that would allow for units that opt to retire beyond 2028 to explore a different regulatory path, consistent with any additional other regulatory requirements EPA is considering in other rulemakings. At a minimum, EPA should consider creating additional abbreviated SIPs that allow for this route.

4. Common Stack Monitoring Considerations.

EPA also requests comment on whether units with a mix of SCR-equipped and non-SCR-equipped units that exhaust to a common stack should be required to install monitoring systems at individual units while those units remain subject to the Backstop Rate. For units in such a mixed configuration that exhaust to a common stack, they would likely be unable to install, test and calibrate the required monitoring equipment before the initial compliance period beginning in 2023. As a result, SCR-equipped units in such a mixed configuration may not be able to demonstrate compliance with the Backstop Rate by 2024 (as currently proposed) because they would be using less accurate data for gauging compliance. Emissions would likely be overstated for the SCR-equipped units since they would be required to report the shared stack data which would not accurately represent the level of SCR-equipped unit emissions. EPA should consider deferring compliance with the Backstop Rate to 2027 for these types of units in order to allow them to install individual unit monitoring, depending on EPA's final requirements.

B. The Proposed Dynamic Budgeting Mechanism Could Result in Implementation Concerns.

EPA’s proposal notes that, while it is retaining the “overall three-step allocation process” for setting individual unit budgets, it is proposing to utilize a “dynamic” budgeting process for the first time. EPA proposes—beginning in 2024—to annually recalibrate the quantity of accumulated banked allowances to ensure that allowances carried over from each control period to the next do not exceed a target level of 10.5 percent of state emissions budgets.²⁹ In conjunction with this decision, and instead of establishing emissions budgets for future years at the time of the rulemaking, EPA proposes to revise the trading program regulations to include an annual dynamic budgeting procedure beginning in 2025 and applied to subsequent budgets that will consider unit retirements, new units, and changing operation of units as part of each state’s budget. The upshot: As a unit retires from the program, a state’s budget would update automatically to remove the unit’s allocation from future budget years. *See id.* at 20,119-20.

EPA’s novel proposal raises several potential issues from an implementation standpoint. While arguably easier from a program operation standpoint, continued dynamic budgeting introduces future uncertainty into the market regarding the availability of future allowances that help create a liquid trading market. Having a liquid trading market for allowances is important for the continued success of the trading program in a manner that allows for environmental progress, while also reducing compliance and implementation costs and ensuring continued system reliability and resiliency. Continual removal of allowances from the market could negatively

²⁹ This provision is discussed, *infra*.

impact market liquidity, increasing costs for all units. Moreover, keeping allowance pools more stable provides an additional incentive to retire units as these trading revenues can offset costs.³⁰

Crucially, dynamic budgeting mechanisms could increase the stringency of the program’s overall requirements without justification, which might be inconsistent with the D.C. Circuit’s opinion in *Wisconsin*. As EPA notes, the Agency’s proposed budgets are intended to satisfy the court’s mandate that the Agency provide a full remedy for interstate transport requirements under CAA section 110(a)(2)(d)(I)(i). However, the proposed dynamic budgeting goes beyond the full remedy budgets proposed by EPA, and by continuing in perpetuity, prompts the removal of allowances beyond what EPA has technically determined to be a “full remedy” for transport obligations.³¹ Even without dynamic budgeting, EPA retains clear authority under *Wisconsin* and its predecessor cases to move forward with additional future rulemakings to update state budgets—indeed, this Proposal represents at a minimum the fourth such rulemaking in the last several decades.³²

³⁰ Further, dynamic budgeting could incentivize behavior contrary to EPA’s intent. EPA’s dynamic budget is based on unit operations in the previous two years. *See id.* at 20,119. As a result, in order to keep allowances as part of a future budget adjustment, this requirement might *incentivize* units to run more often and for longer (assuming the economics aligned) in order to keep their allowances as part of future years in the program. Such an incentive could result in additional NOx emissions, which is likely not the Agency’s intent. Should EPA continue to use dynamic budgeting in the final rule, it should benchmark dynamic budgeting to a multi-year period in order to fully capture historic unit operations, since one individual year (or ozone season) may not be properly representative of unit characteristics.

³¹ While states do have a “maintenance” requirement under the CAA, the maintenance requirements are separate from the transport requirements under CAA section 110(a) and should be addressed separately in order to appropriately target maintenance measures to continue to allow states to attain the NAAQS. Dynamic budgeting proposed to remedy transport requirements might not be properly converted to a maintenance requirement.

³² Incorporating contingent, self-executing mechanisms within the final rule that subsequently adjust emissions budgets downward based solely on the “excessive” accumulation of emissions

EPA should finalize a rule that does not include dynamic budgeting. Should EPA keep dynamic budgeting in some form, it should at a minimum limit its application to circumstances in which a state's allowances have not yet reached the full remedy level as dictated by EPA.³³ This would promote market liquidity and certainty regarding emissions allowance trading levels and budgets.

C. EPA Could Consider Using Multi-Unit Averaging to Address Assurance Levels.

As discussed *supra*, EPA has clear authority to create additional regulatory compliance pathways through the use of “abbreviated SIPs” in order to address specific factual situations and accomplish discrete policy objectives within the larger context of a FIP. One additional potential usage of an “abbreviated SIP” by the agency would be to allow the owners and operators of multiple units to utilize multi-unit averaging in order to address assurance levels instead of applying the Backstop Rate on an individual unit basis. In essence, instead of applying the allowance surrender requirements of the proposed Backstop Rate, EPA should consider

allowances or on the basis that some units have retired or changed operations both contradicts the proposed rule's supporting analysis of required emission budgets and creates the potential for inherent overcontrol. It also leads to a contradictory result: sources in states where actual emissions are declining, for whatever reason, are subject to more stringent requirements than those elsewhere over time. And this reduction is applied *automatically*, without further analysis by EPA or additional rulemaking to allow for the ability of affected sources and the public to comment. This has the potential to result in overcontrol of emissions, a circumstance circumscribed by the Supreme Court's decision in *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014) (*Homer City*).

³³ If EPA does retain dynamic budgeting, the Agency should retain units in state budgets until the units are actually retired, not just non-operational during ozone season for two years. Some unit operators place a unit into “suspended” status for several years prior to final unit retirement, or only run it during reliability related circumstances which may fall outside of ozone seasons. One possible solution for this would be for EPA to retain such units in the state budgets but not to initially allocate any allowances to these units—instead EPA could expand the new unit set aside by an amount corresponding to the suspended or idled unit's share of the state budget, and allow allocation of these allowances only to a reactivated unit or to a new unit. Regardless, EPA should not remove units from the program via dynamic budgeting until the units actually retire.

developing an abbreviated SIP option that would allow multi-unit owners to average their emissions rates and operating times in order to show that when, taken together, multiple units meet the Backstop Rate without having a specific daily requirement per unit.

An example of this would be for three units of varying size—A at 500MW, B at 400MW, and C at 300MW of nameplate capacity—which operate at different capacity factors on an individual day during ozone season. There are likely scenarios whereby two units—say, A and B—operate at high capacity factors and through their efficient operations and the utilization of installed controls easily comply with the Backstop Rate, but the operations of those two units might not be sufficient to meet energy needs, requiring the smaller unit C to operate for a limited amount of time. However, given the limited time operation of Unit C in this scenario, Unit C’s emission rate could significantly rise beyond the level specified by the Backstop Rate, but would not actually emit anywhere near the same number of tons of NO_x as Units A or B. As a result, Unit C, despite emitting significantly less NO_x, would be subject to a significant allowance surrender penalty under this scenario for essentially no environmental gain.

However, were EPA to allow multiple units to average amongst themselves, the likelihood is that the limited time operations of Unit C in the above hypothetical could be easily absorbed by the efficient and high capacity factor operations of units A and B, without unduly penalizing units for meeting system needs in acute scenarios. EPA has done this before during implementation of the sulfur dioxide NAAQS—allowing 30 day probabilistic rolling average compliance for a one hour NAAQS—in a manner that ensures both operational flexibility and environmental integrity. *See Proposed Air Plan Approval; FL; Hillsborough Area; SO₂. 81 Fed. Reg. 57,522 (Sept. 22,*

2016). EPA should consider developing a similar multi-unit based averaging approach here in order to allow for additional operational flexibility amongst groups of units.

D. EPA Should Utilize the Allowance Bank to Ensure a Smooth Market Transition.

The Agency also proposes to revise the trading program by adding a provision that would establish a routine recalibration process for the total amount of banked allowances in each year. This would be carried out starting in August 2024 and each subsequent August, after the compliance deadline for the control period for the previous year. In each recalibration, the EPA would reset the total quantity of banked allowances held in all Allowance Management System accounts to a target level of 10.5 percent of the sum of the state emissions budgets for the current control period. *See id.* at 20,109. EPA justifies this ongoing limitation and reset of banked allowances primarily on program stringency grounds. EPA notes that it supports utilizing allowance banking with limited restrictions but does not support unlimited banking for this program. *See id.*

EPA is correct to note that banking is advantageous for ensuring program compliance while allowing for least cost compliance. Limiting restrictions on banking provides additional liquidity and flexibility to unit operators. However, some banking restrictions are reasonable. To the extent that EPA finalizes requirements to routinely recalibrate the allowance banking, it should consider whether utilizing a uniform 10.5 percent above the budget level for each calendar year is an optimal approach. Given the concerns raised *supra* regarding market liquidity as unit operators continue the fleet transition and may be required to adjust to new, lower emissions budgets, EPA should consider altering its banking provisions in order to ensure that there are more banked allowances available at key program implementation points—crucially, in 2026

when many state budgets significantly change. An approach that provides increased market liquidity at key points in the trading program while also providing additional certainty to program participants through providing a clear glidepath on banked allowances that can be utilized in compliance planning on both a unit-specific and fleet-wide basis. EPA should consider developing an alternate approach in the final rule as opposed to a uniform approach across the life of the program as proposed.

E. Other Issues.

There are other implementation issues that EPA should consider as it moves forward to finalize the proposal. EPA should endeavor to use the most up to date data regarding unit operations, since utilizing accurate data regarding unit operations before finalizing state budgets ensures that those budgets reflect the existing generation mix. Should units be unaccounted for in EPA's proposed budgets, or not receive allowances accidentally, EPA should update the information based on recent information submitted by companies.

EPA should also consider whether to allow units that retire in 2022 to retain their allowances for the initial compliance period—until 2026—instead of removing those units from the program entirely. Several of these units are functionally similar to units that would retire in 2023, which would then keep their allowances in the program as EPA transitions from the CSAPR Update Rule to the Good Neighbor Rule regime. EPA should consider treating units that retire in 2022 as functionally similar to retirements in 2023 and beyond. Those units should be given allowances for at least two additional years at the start of the program, should EPA keep a dynamic budgeting approach. This would provide additional liquidity into the allowance trading market.

EPA should also consider adding preamble language noting that the use of proposed Equation F-28 is consistent with EPA’s intention to allow units to apportion hourly mass emissions values determined at the common stack in proportion to the individual units recorded hourly rate. *See id.* at 20,198. EPA should also confirm that the term “ H_{li} = Heat Input rate for unit “i”, mmBtu/hr” in Equation F-28 means the apportioned heat input calculated by Equation F-21a in 40 CFR part 75. This would provide additional compliance clarity for unit operators.

Finally, EPA may also consider whether the Agency should set a price ceiling on allowances within any final rulemaking in order to control compliance costs, which are ultimately passed on to customers. As noted *supra*, allowing for liquid trading markets is essential to program success and least cost compliance—one other side of that coin is ensuring that allowance prices in those markets do not get so excessively high as to introduce potentially distortionary effects on unit operational behavior. While EPA has not proposed any price ceiling yet, it should consider whether one may be necessary in as it considers finalizing the rule.

VII. Conclusion.

EEI looks forward to continuing to work with EPA as it moves forward to finalizing the proposed rule. EPA should consider several technical and regulatory changes to the rule in order to allow for smoother and more successful implementation of the rule’s proposed trading program in a manner consistent with both the Agency’s obligations and the industry’s ongoing clean energy transformation. Please contact [Alex Bond](#), [Eric Holdsworth](#) or [John Kinsman](#) with any additional questions.