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Via electronic submission to regulations.gov and via e-mail to A-and-R-Docket@epa.gov

Environmental Protection Agency
EPA Docket Center (EPA/DC)
Mailcode 28221T
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Washington, DC 20460

Attn: Docket ID No. EPA-HQ-OAR-2015-0500

Re: Proposed Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 80 Fed. Reg. 75,706 (Dec. 3, 2015)

Dear Administrator McCarthy:

Environmental Defense Fund appreciates the opportunity to submit comments on the proposed Cross State Air Pollution Update for the 2008 Ozone NAAQS (CSAPR Update). The CSAPR Update represents an important first step in the continued effort to eliminate interstate transport of dangerous ozone pollution.

We strongly urge the Environmental Protection Agency (EPA) to finalize a strong CSAPR Update as soon as practicable to ensure that affected communities expeditiously receive the benefits of much-needed pollution reductions. Ozone pollution presents very significant health harms and cost-effective solutions and tools to reduce ozone are readily available. The Clean Air Act requires states—and, if necessary, the EPA—to fully resolve interstate pollution contributions under the 2008 Ozone National Ambient Air Quality Standards (NAAQS). As EPA acknowledges, the CSAPR Update is merely a “first, partial step” and does not fulfill that obligation for most affected states.¹ Our comments address both the urgent need for a strong CSAPR Update to protect human health, as well as legal and program design issues for EPA to consider in finalizing the CSAPR Update.

The Importance of Reducing Ozone Pollution in All Communities

The health impacts of ozone pollution are well-documented, with impacts including harm to the respiratory system, aggravation of asthma and lung diseases, and premature death. As EPA is aware, the decision to update ozone NAAQS in 2015 was based upon a body of scientific evidence spanning thousands of studies; and there were significant new studies available since

¹ 80 Fed. Reg. 75,706, 75,715 (Dec. 3, 2015).

the review conducted for the 2008 standards that underpinned the Administrator's decision to update the standard from 75 parts per billion (ppb) to 70 ppb.

The benefits of the proposed CSAPR Update due to decreased pollution exposure include: avoidance of tens of thousands of episodes of asthma exacerbation and missed work or school days; avoidance of hundreds of emergency room visits for asthma; and, prevention of dozens of premature deaths.² In the CSAPR Update, EPA considers numerous new studies released since promulgation of the 2008 Ozone NAAQS. Indeed, new studies are frequently released that augment and substantiate the significant body of evidence of the pervasive impacts of ozone pollution. A major study published in December 2015, for example, found that "long-term ambient [ozone] contributes to risk of respiratory and circulatory mortality."³ The study, started in 1982, found that every 10 ppb increase in long-term ozone exposure increased risk of lung disease death by 12 percent; cardiovascular disease by 3 percent; and all causes of death by 2 percent. Study co-author, Dr. Michael Jerrett, observed that 130 million Americans still live in areas exceeding the ozone NAAQS.⁴ Another study published in December 2015 found that long-term ozone exposure increases the risk of developing Acute Respiratory Distress Syndrome (ARDS) for at-risk critically ill persons.⁵ These are just a handful of studies that underscore the importance of EPA moving forward to reduce ozone pollution.

EPA also recognizes that certain communities are particularly at risk from ozone pollution, including low-income and minority populations. In the 2015 Ozone Regulatory Impact Analysis (RIA), EPA's assessment found "in areas with poor air quality relative to the revised [ozone] standard, the representation of minority populations was slightly greater than in the U.S. as a whole. Because the air quality in these areas does not currently meet the revised standard, populations in these areas would be expected to benefit from implementation of the strengthened standard, and, thus, would be more affected by strategies to attain the revised standard."⁶ CSAPR and the CSAPR Update are designed to reduce ozone pollution in areas that are having trouble achieving or maintaining the ozone NAAQS due, in part, to pollution emitted in other, upwind states. Ensuring significant reductions in transported ozone pollution can therefore be anticipated to provide similar benefits to low-income and minority populations as described in the 2015 Ozone RIA for both the affected downwind areas, as well as near the upwind sources that reduce emissions to comply with CSAPR.

Economists Olivier Deschenes, Michael Greenstone, and Joe Shapiro, issued a discussion paper⁷ in 2013 that found that a 1 ppb decrease in ozone concentrations in the East yields \$1.743 billion

² 80 Fed. Reg. at 75,756–57.

³ Jerrett, *et al.*, "Long-Term Ozone Exposure and Mortality in a Large Prospective Study," *Am J Respir Crit Care Med.*, Dec. 2015.

⁴ <http://ehstoday.com/environment/long-term-exposure-ozone-may-increase-lung-and-cardiovascular-deaths>

⁵ Ware, *et al.*, "Long-Term Ozone Exposure Increases the Risk of Developing the Acute Respiratory Distress Syndrome," *Am J Respir Crit Care Med.*, Dec. 2015.

⁶ EPA, *Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone* (Sept. 2015).

⁷ O. Deschenes, M. Greenstone, and J. Shapiro, *Defensive Investments and the Demand for Air Quality: Evidence from the Nox Budget Program and Ozone Reductions*. IZA Discussion Paper No. 7557. Available at SSRN: <http://ssrn.com/abstract=2318738>.

in societal benefits, underscoring the significant and cost-effective economic benefits resulting from reductions in ozone pollution. The study also indicated that the costs of ozone pollution were larger than previously understood.

As EPA is aware, Western states also face ozone pollution challenges that must be resolved. We agree with EPA that Western states are obligated to address ozone interstate transport issues and strongly encourage continued engagement and action by EPA to help eliminate ozone transport issues in the West.

The Clean Air Act Mandates that All Areas Attain the NAAQS as Expeditiously as Practicable and that EPA, when Implementing the Good Neighbor Provision, Must Maximize Achievement of Attainment Downwind

EPA's overarching obligation under the Clean Air Act is to work with the states to attain the health-based national ambient air quality standards "as expeditiously as practicable" but, at least, no later than the Act's attainment deadlines.⁸ While EPA determines the level at which to set the NAAQS, the Act makes each state initially responsible for ensuring that it meets the NAAQS as expeditiously as practicable and by the statutory deadlines. But when Congress mandated that all states achieve the health-based air quality standards, it recognized that emissions affecting a state's air quality can come from sources outside that state. Accordingly, in 1970, Congress added a provision to the Act requiring state implementation plans (SIPs) to include "measures necessary" to "insure" against interference with attainment in downwind areas.⁹ EPA, with court approval, interpreted the provision narrowly as requiring only "information exchange" among states.¹⁰

Concluding that "[t]he problem of interstate air pollution remains a serious one that requires a better solution,"¹¹ Congress amended the Act in 1977 to require that each state plan contains adequate provisions to prohibit emissions from "any stationary source within the State . . . which will . . . prevent attainment or maintenance by any other State of any . . . air quality standard."¹² Congress also authorized EPA to impose emissions limitations directly upon stationary sources whose emissions prevented attainment or maintenance of air quality standards in another state.¹³ The 1977 amendments reflected Congress's recognition that weak regulation had "result[ed] in serious inequities among several States"—*i.e.*, that "[i]n the absence of interstate abatement procedures," plants in downwind states were "at a distinct economic and competitive disadvantage."¹⁴ Therefore, Congress intended the amendments "to equalize the positions of the

⁸ See 42 U.S.C. § 7511(a)(1); *Ass'n of Irrigated Residents v. EPA*, 423 F.3d 989, 997 (9th Cir. 2005) (stating "the [Clean Air] Act's overarching goal [is] that nonattainment areas achieve the standards as expeditiously as practicable"); *NRDC v. EPA*, 777 F.3d 456, 467–69 (vacating EPA's attempt to extend the attainment deadlines for the 2008 ozone NAAQS and stating that the attainment deadlines "are central to the regulatory scheme") (quoting *Sierra Club v. EPA*, 294 F.3d 155, 161 (D.C. Cir. 2002)).

⁹ Pub. L. No. 91-604, § 4(a), 84 Stat. at 1680–81.

¹⁰ See, e.g., *NRDC v. EPA*, 483 F.2d 690, 692–93 (8th Cir. 1973).

¹¹ H.R. Rep. No. 95-294, at 330 (1977).

¹² Pub. L. No. 95-95, § 108(a)(4), 91 Stat. at 693.

¹³ Pub. L. 95-95, § 123, 91 Stat. at 724.

¹⁴ S. Rep. No. 95-127, at 41–42 (1977).

States with respect to interstate pollution by making a source at least as responsible for polluting another State as it would be for polluting its own State.”¹⁵

Even after these amendments, however, requirements for reducing interstate pollution under the Act remained inadequate. Due in part to the absence of remedies for “states affected by numerous sources,”¹⁶ and the challenging “prevent attainment” standard, downwind states’ efforts to obtain relief from upwind pollution was uniformly unsuccessful.¹⁷ Determining that “additional efforts” were needed to address the “transport problem,”¹⁸ Congress again amended the Act and added the current “Good Neighbor” provision, which required that each state implementation plan:

(D) contain adequate provisions—

(i) prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—

(I) 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. . . .¹⁹

As with other SIP requirements, state plans addressing interstate pollution transport under the Good Neighbor provision must be submitted to EPA within three years of the promulgation of a new or revised NAAQS.²⁰ And if EPA determines that a state’s Good Neighbor plan is inadequate, then the Agency has a statutory duty to issue a federal implementation plan (FIP) within two years to address the state’s Good Neighbor obligations (unless the state corrects the deficiency).²¹ Moreover, when EPA issues a Good Neighbor FIP, EPA “has a statutory obligation to avoid ‘under-control,’ *i.e.*, to *maximize* achievement of attainment downwind.”²² These mandates help ensure that areas having trouble achieving or maintaining the NAAQS expeditiously receive the benefits of upwind states’ required Good Neighbor reductions, and that the downwind states are able to meet their statutory attainment deadlines through a combination of their own efforts and those of upwind states.

Under the Act, each state remains responsible for complying with air quality standards by the statutory deadlines even if much of its local air pollution originates from other states.²³

¹⁵ *Id.*

¹⁶ Kay M. Crider, *Interstate Air Pollution: Over a Decade of Ineffective Regulation*, 64 Chi.-Kent L. Rev. 619, 638 (1988).

¹⁷ *See, e.g., Connecticut v. EPA*, 696 F.2d 147, 152 (2d Cir. 1982); *Air Pollution Control Dist. of Jefferson Cnty. v. EPA*, 739 F.2d 1071, 1094–95 (6th Cir. 1984); *New York v. EPA*, 852 F.2d 574, 581 (D.C. Cir. 1988).

¹⁸ *See* S. Rep. No. 101-228, at 48 (1989)

¹⁹ Pub. L. No. 101-549, § 101, 104 Stat. at 2404, codified at 42 U.S.C. § 7410(a)(2).

²⁰ 42 U.S.C. §§ 7410(a)(1), 7410(a)(2)(D).

²¹ 42 U.S.C. § 7410(c)(1); *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1600 (2014).

²² *EME Homer City*, 134 S. Ct. at 1609 (emphasis added).

²³ *See Sierra Club v. EPA*, 294 F.3d at 160–62 (holding that EPA was without authority to grant extension from nonattainment deadline in 42 U.S.C. § 7511(a)(1) on basis of “setbacks owing to [interstate] ozone transport”);

Accordingly, in overturning EPA’s Clean Air Interstate Rule, the D.C. Circuit held that upwind states’ Good Neighbor obligations must be harmonized with downwind states’ mandatory attainment deadlines so that downwind states are not “forc[ed] . . . to make greater reductions than *section 110(a)(2)(D)(i)(I)* requires.”²⁴

In the proposed CSAPR Update, EPA acknowledges that the *North Carolina* decision compels the Agency to achieve Good Neighbor reductions for the 2008 ozone NAAQS that align with the relevant attainment deadlines for affected downwind areas.²⁵ As a result, EPA designed the CSAPR Update to provide partial relief for moderate ozone nonattainment areas in the last full ozone season prior to their July 2018 attainment deadline.²⁶ Despite this partial relief, however, EPA projects that the moderate nonattainment areas with July 2018 attainment deadlines will continue to violate the NAAQS even after the CSAPR Update is in place.²⁷ And while the CSAPR Update will provide significant air quality improvements and associated health benefits²⁸, to fulfill the Good Neighbor provision’s mandate, the final CSAPR Update must: (1) “avoid under-control” and “maximize”²⁹ near-term reductions of upwind contributions to downwind nonattainment and maintenance problems; and, (2) lay the groundwork for additional emissions reductions that will be achieved “as expeditiously as practicable”³⁰ and will completely address each upwind state’s contributions to downwind nonattainment and maintenance problems. One key design feature of the final CSAPR Update that will help determine whether these statutory mandates are met is how the final rule treats banked CSAPR allowances from 2015 and 2016.

Due to the 3-year litigation-related delay of CSAPR implementation combined with market forces and other changes to the power sector during that timeframe, EPA projects that “total banked allowances for the CSAPR ozone-season trading program could be in excess of 210,000 tons by the start of the 2017 ozone-season compliance period, which is more than twice the emission reduction potential estimated” for the emissions control level proposed in the CSAPR Update.³¹ EPA recognizes that “a relatively large allowance bank that enables emissions budgets

Sierra Club v. EPA, 311 F.3d 853, 860 (7th Cir. 2002); *Sierra Club v. EPA*, 314 F.3d 735, 741 (5th Cir. 2002); see also *Southwestern Pa. Growth Alliance v. Browner*, 121 F.3d 106, 115–17 (3d Cir. 1997) (Alito, J.) (upholding EPA’s refusal to redesignate a nonattainment area in Western Pennsylvania despite the argument that much of the area’s ozone pollution was attributable to pollution transported from other states, and sustaining the agency’s conclusion that the origin of pollution was “legally irrelevant” to attainment status); *id.* at 124 (Becker, J., concurring) (lamenting circumstances of a locality “whose herculean and largely successful efforts to combat air pollution may be derailed due to circumstances (upwind ozone) beyond its control”).

²⁴ *North Carolina v. EPA*, 531 F.3d 896, 911–12 (D.C. Cir. 2008) (emphasis in original).

²⁵ 80 Fed. Reg. at 75,708.

²⁶ *Id.*

²⁷ EPA, *Ozone Transport Policy Analysis Proposed Rule TSD* (Nov. 2015) at 27, tbl. C-5 (projected average ozone design values at moderate and proposed moderate nonattainment receptors in Texas and Connecticut exceed 75 ppb.)

²⁸ *Id.* at 75,736 (CSAPR Update will provide approximately 19 ppb of combined downwind ozone improvement across nonattainment and maintenance receptors); *id.* at 75,756–57 (estimating that the CSAPR Update will avoid dozens of premature deaths and hundreds of emergency room visits for asthma; estimating total monetized health benefits from the CSAPR Update of between \$670 million and \$1.2 billion.)

²⁹ See *EME Homer City*, 134 S. Ct. at 1609.

³⁰ See *supra*, n.8.

³¹ 80 Fed. Reg. at 75,746.

to be exceeded year after year may encourage sources to postpone emission reductions that would be more timely in the 2017 timeframe in order to align reductions with the downwind area attainment dates for the 2008 ozone NAAQS.”³² On the other hand, it is possible that “when participants believe that banked allowances will disappear or lose value in the future, they are less likely to make early reductions and bank credits and more likely to dump allowances already banked in a way that increases emissions.”³³ This risk of “allowance dumping”—and increased emissions—seems particularly acute for the remainder of the 2016 ozone season, but EPA’s treatment of banked 2015 and 2016 allowances in the CSAPR Update could also affect incentives for early reductions in 2017 and beyond.³⁴

Therefore, it is critical that EPA select a surrender ratio for 2015 and 2016 banked allowances (or a reduced 2017 allowance allocation percentage per its alternative approach) that balances the importance of early emissions reductions—and the associated risk of “allowance dumping”—with the statutory mandate for permanent and enforceable reductions upon which downwind nonattainment and maintenance areas can rely to achieve and maintain the NAAQS. The Supreme Court has provided direction on how EPA must strike that balance:

[W]hile EPA has a statutory duty to avoid over-control, the Agency also has a statutory obligation to avoid “under-control,” *i.e.*, to maximize achievement of attainment downwind. . . . [A] degree of imprecision is inevitable in tackling the problem of interstate air pollution. . . . The Good Neighbor Provision requires EPA to seek downwind attainment of NAAQS notwithstanding the uncertainties.³⁵

In selecting a surrender ratio or reduced 2017 allowance allocation percentage, EPA proposes an approach whereby the use of banked allowances would have an emissions impact approximately equivalent to all upwind states utilizing their full variability limits for one or two years.³⁶ While the regional variability limit seems like a passable benchmark, an approach equivalent to “allowing” all states to emit up to their assurance levels for one or two years is inconsistent with EPA’s “safety valve” rationale for the variability limits. EPA recognizes that “the flexibility provided by the assurance provisions is not to be used repeatedly, year after year.”³⁷ Similarly, the flexibility provided by the assurance provisions should not be used by *all or most upwind states* in any given year. Therefore, we recommend that EPA select a surrender ratio or reduced 2017 allowance allocation percentage based upon a benchmark equal to a small fraction of the annual regional variability limit.

³² *Id.*

³³ A. Fraas and N. Richardson, *Banking on Allowances: The EPA’s Mixed Record in Managing Emissions-Market Transitions*, 19 N.Y.U. Envtl. L.J. 303, 311 (2012).

³⁴ Because the statute requires EPA to fully address interstate contributions under the 2008 ozone NAAQS and the CSAPR Update only partially addresses that obligation, emissions sources could reasonably anticipate another CSAPR revision for 2018 or later, and will look to the CSAPR Update’s treatment of banked allowances to determine the likely value of any early reductions in 2017 and any later years under the CSAPR Update.

³⁵ *EME Homer City*, 134 S. Ct. at 1609.

³⁶ 80 Fed. Reg. at 75,747.

³⁷ *Id.* at 75,746.

Additionally, EPA can further maximize emission reductions for the 2017 Ozone Season by updating its assessment of achievable emission rates from units with SCR already installed. EPA's current assumption that units with SCR can achieve an emission rate of 0.065 lbs/MMBtu is conservative, and much lower emission rates are continually demonstrated by units with SCR. We refer EPA to Sierra Club, *et al.*'s comments on the CSAPR Update Rule for an assessment highlighting dozens of SCR-equipped plants achieving emission rates well below the level assumed feasible by EPA.

EPA should also enlarge its assessment of emission reductions achievable through re-dispatch from higher emitting to lower emitting resources and look at opportunities for emission reductions through re-dispatch between units in different states. EPA acknowledged the conservative nature of its approach: “[l]imiting such generation shifting potential to units within each state is not a reflection of how generation shifting works in practice...”³⁸ We agree and believe generation shifting offers substantial, additional opportunities to reduce emissions and make progress towards eliminating significant interstate pollution contributions.

Lastly, we suggest that EPA consider how it might provide incentives within the CSAPR Update framework for early investments in zero-emitting generation and/or energy efficiency measures. One possible approach would be to build upon the framework already set forth in the Clean Power Plan's Clean Energy Incentive Program (CEIP). Under this approach, EPA could set aside a limited number of CSAPR allowances that states, at their own option, could allocate to wind or solar generation facilities that commence construction in 2017 or later (or energy efficiency measures in low-income communities that commence operations in 2017 or later) and that generate or save megawatt hours (MWh) during the 2017, 2018, or 2019 ozone seasons. That way, some resources in participating states would be able to receive an allowance benefit under CSAPR in the years before they are able to receive allowances or emission rate credits under the CEIP. As with the CEIP, the total number of allowances should be capped at a level equivalent to a small percentage of the total CSAPR emissions budgets.

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We appreciate the opportunity to comment on the proposed CSAPR Update. Please do not hesitate to contact Graham McCahan at gmccahan@edf.org if you have any questions.

Respectfully submitted,

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³⁸ 80 Fed. Reg. at 75,733.