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November 30, 2020

Mr. Jerry Wamsley
Air Planning Office (ARD-2)
U.S. Environmental Protection Agency, Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Docket ID No. EPA–R09–OAR–2020–0425

Dear Mr. Wamsley:

On behalf of the Center for Biological Diversity and the Center for Environmental Health, Air Law for All, Ltd. submits the following comments to Docket No. EPA–R09–OAR–2020–0425 in opposition to EPA’s proposed action, “Approval of Air Quality Implementation Plans; California; Sacramento Metro Area; 2008 8-Hour Ozone Nonattainment Area Requirements,” 85 FR 68509 (Oct. 29, 2020).

I. INTRODUCTION

The Center for Biological Diversity’s mission is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and waters, and public health through science, policy, and environmental law. Based on the understanding that the health and vigor of human societies and the integrity and wildness of the natural environment are closely linked, the Center for Biological Diversity is working to secure a future for animals and plants hovering on the brink of extinction, for the ecosystems they need to survive, and for a healthy, livable future for all of us.

The Center for Environmental Health is an Oakland, California based non-profit organization that helps protect the public from toxic chemicals and promotes business products and practices that are safe for public health and the environment. The Center for Environmental Health works in pursuit of a world in which all people live, work, learn, and play in health environments.

II. EPA MUST DISAPPROVE THE PLAN FOR RFP REQUIREMENTS

A. Background

EPA proposes to approve a combination of three submittals (the “Plan”) as meeting the reasonable further progress (“RFP”) requirements for the Sacramento nonattainment area for the 2008 ozone standards.¹ The area is classified Severe-15.² The Plan must therefore meet the requirements for areas classified Serious and above in section 182(c)(2)(B). Specifically, the plan must demonstrate it will achieve 3% VOC reductions per year from the starting point (“baseline emissions”).³ There are two limited circumstances in which this requirement is modified. The first circumstance—which does not apply here—is where the state can demonstrate all technically feasible measures have been implemented in the nonattainment area.⁴

Second, section 182(c)(2)(C) allows for a combination in reductions of VOC and NO_x emissions in lieu of 3% VOC reductions per year if the Plan contains:

a demonstration to the satisfaction of the Administrator that the applicable implementation plan, as revised, provides for reductions of emissions of VOC’s and oxides of nitrogen (calculated according to the creditability provisions of [sections 182(b)(1)(C) and 182(b)(1)(D)]), that would result in a reduction in ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions required under [section 182(c)(2)(B)].⁵

The Plan relies on this provision, as incorporated in EPA’s rule for implementation of the 2008 ozone standards.⁶ Table 7 of EPA’s proposal notice summarizes the state’s submitted NO_x substitution under section 182(c)(2)(C).⁷

EPA proposes to approve this NO_x substitution on the following grounds:

[W]e find that the Districts’ use of NO_x substitution is warranted and appropriately implemented based on the NO_x-limited conditions in the Sacramento Metro Area, and the area’s greater responsiveness to NO_x emissions reductions relative to VOC emissions reductions.⁸

In an earlier section of the notice, regarding the attainment demonstration, EPA discusses two pieces of evidence for this conclusion: an independent study of the area for the period 2001-2007, and analysis in the Plan of the “weekend effect” for the period 2000-2014.⁹

¹ 85 FR 68509, 68523-25 (Oct. 29, 2020).

² *Id.* at 68510.

³ 42 U.S.C. § 7511a(c)(2)(B).

⁴ *Id.*

⁵ *Id.* § 7511a(c)(2)(C).

⁶ 85 FR at 68524 n. 115; 40 C.F.R. § 51.1110(a)(2)(ii)(B) (requiring NO_x substitution to “meet the criteria in CAA section 182(c)(2)(C).”).

⁷ 85 FR at 68524 tbl. 7.

⁸ *Id.* at 68525.

⁹ *Id.* at 68520.

B. The Act Requires a Demonstration of Equivalence Throughout the Nonattainment Area

Section 182(c)(2)(C) requires the Plan to demonstrate that NO_x substitution “would result in a reduction in *ozone concentrations* at least equivalent to that which would result from the amount of VOC emission reductions required” under section 182(c)(2)(B). The plural “ozone concentrations” shows that a demonstration of equivalence at, for example, a single monitoring site would be contrary to the Act. Congress thus intended the equivalence requirement to apply throughout the nonattainment area.

Although EPA does not discuss the statutory language, EPA’s cursory conclusion states that the Sacramento Metro Area (i.e., the entire nonattainment area) is NO_x-limited and more responsive to NO_x reductions. EPA thus appears to agree that equivalence must be demonstrated throughout the nonattainment area. EPA must confirm this understanding of the statutory language in its final notice.

C. The Evidence in the Plan Is Equivocal and Insufficient to Support EPA’s Conclusion

In its analysis of the “weekend effect,” the Plan divides the nonattainment area into three regions “that are characterized by distinct geography, meteorology, emission characteristics, transport patterns, and air quality”: Eastern, Central, and Western.¹⁰ The Plan’s analysis of the weekend effect for the period 2000-2014 finds that the Eastern region is indeed NO_x-limited, but at the end of this period the Central and Western regions shifted back to a “more equal distribution between weekday and weekend ozone,” showing “a more transitional chemistry environment.”¹¹ Even the Eastern region started to show this shift at the end of the period.

Based on this, the only inference that can reasonably be drawn is that the most recent trends have continued over the last six years, and as a result the Central and Western regions are now more NO_x-saturated, and the Eastern region is more transitional. The independent study that EPA cites is not inconsistent with this, as it examines only the period 2001-2007. This evidence is insufficient for EPA to rationally conclude that the entire nonattainment area is currently NO_x-limited. At most it can be concluded that the Eastern region is still NO_x-limited.

Emissions in California have changed significantly since 2007 (or 2014) and will further change by 2024. Sources like natural gas power plants, which emit large amounts of NO_x and relatively little VOCs, are being replaced by zero emissions electric generating units like wind and solar. Thus, data from 2007 and even 2014 is not reliable to determine whether the entire Sacramento nonattainment area will be NO_x-limited through 2024. EPA must consider this change in emissions over time to reach a rational

¹⁰ “Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan” (“2017 Plan”), App’x B, B-16 (July 24, 2017).

¹¹ *Id.* at B-24 to -25.

conclusion. While the overall emissions trends are shown in Table 7 of the notice, that does not mean that the emissions trends will be equally distributed across the region.¹²

Furthermore, qualitative evidence such as this is insufficient to determine that reductions in ozone concentrations will be “equivalent,” as required by section 182(c)(2)(C). The term “equivalent” means “equal in force or amount” or “equal in value.”¹³ The determination that NOx reductions are “equivalent” therefore requires a quantitative, not a qualitative, analysis, as can be done through photochemical grid modeling. A qualitative analysis leaves open the possibility that the NOx reductions will be large enough to change the characteristics of the area.

Although EPA does not cite it, one part of the Plan does analyze sensitivity to NOx reductions through photochemical grid modeling. The Plan presents an isopleth for the Folsom monitoring site, which is near the Eastern region and downwind from the urban core of Sacramento.¹⁴ Based on the isopleth, the Plan concludes that the site is NOx-limited. The Plan states that a similar analysis was performed at each monitoring site but does not present the data or results. Thus, when the Plan concludes from the single isopleth that the entire area is NOx-limited, that conclusion is insufficiently supported. At most, the isopleth supports a determination from the “weekend effect” analysis that the Eastern region (and perhaps downwind areas from the Sacramento urban core) is NOx-limited.

The weekend effect and isopleth analysis was all done in the context of the attainment demonstration. In that context, it was understandable for the Plan to focus on the Folsom monitoring site and the Eastern region, where the ozone design values are the highest. But that analysis is insufficient to show equivalence throughout the nonattainment area, as required by the Act.

It is not only the plain language of Section 182(c)(2)(C) which prohibits showing equivalence at only the highest design value monitoring site or some smaller region within the nonattainment area. First, reduction of NOx at the cost of lesser reductions in VOCs can lead to other monitoring sites in NOx-saturated areas increasing their ozone levels due to the NOx disbenefit effect.¹⁵ Even if this effect is not enough to cause the monitoring sites in a NOx-saturated area to violate the 2008 ozone standards, approval of substitution would still be arbitrary for at least two reasons. One is that the 2015 ozone NAAQS is more protective. If the NOx substitution caused additional violations, or even interfered with resolving violations of the 2015 ozone NAAQS at monitoring sites in NOx-saturated areas, section 110(l)¹⁶ would prohibit EPA from approving this NOx substitution.

¹² This is another reason why photochemical grid modeling of the relevant scenarios to demonstrate equivalence at each monitoring site is the most rational approach.

¹³ WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 769 (1961, 56th printing 2020).

¹⁴ 2017 Plan at B-52 to -53.

¹⁵ This effect is described in more detail in the Appendix to this comment letter. App’x at 1-2. The potential for NOx disbenefit highlights the need for a rigorous equivalence analysis.

¹⁶ 42 U.S.C. § 7410(l).

Second, there is no safe level of ozone.¹⁷ Approving NO_x substitution that lowers the ozone levels at the highest design value monitoring site (or a smaller region within the nonattainment area) while increasing ozone at other monitoring sites would result in additional injury to public health and welfare near those monitoring sites. EPA should not be making ozone worse for people and ecosystems. This “rob Peter to pay Paul” approach is simply not acceptable.

D. EPA Fails to Explain Why an Equivalence Demonstration Should Not Be as Rigorous as an Attainment Demonstration

For ozone nonattainment areas classified Moderate and above, the state must demonstrate that the “control strategy,” the set of measures that the state selects to attempt to bring the area into attainment,¹⁸ will actually do so. The state must use photochemical modeling or another equally rigorous technique.¹⁹

As described by EPA here:

Air quality modeling is performed using meteorology and emissions from a base year, and the predicted concentrations from this base case modeling are compared to air quality monitoring data from that year to evaluate model performance. Once the model performance is determined to be acceptable, future year emissions are simulated with the model. The relative (or percent) change in modeled concentration due to future emissions reductions provides a relative response factor (RRF). Each monitoring site’s RRF is applied to its monitored base year design value to provide the future design value for comparison to the NAAQS.²⁰

An identical approach can easily be followed for section 182(c)(2)(C). The state would create projected emissions inventories at each milestone year assuming 3% VOC emission reductions per annum. The same modeling would yield individualized relative response factors at each monitoring site. These factors can be compared with the modeled relative response factors for the control strategy.

Alternatively, the demonstration could use photochemical grid modeling to generate isopleths at each monitoring site. These may show the site is NO_x-limited. In combination with conservative assumptions about the amount of NO_x substitution that can be allowed, this could provide an adequate demonstration with a degree of rigor commensurate with an attainment demonstration. EPA has endorsed this approach in a previous action.²¹

Here, though, EPA proposes to approve a much less rigorous, qualitative demonstration. EPA entirely fails to explain why this is acceptable for section 182(c)(2)(C). While section 182(c)(2)(C), unlike section 182(c)(2)(A) for the attainment demonstration, does not explicitly require photochemical grid modeling (or equally effective method), that

¹⁷ See, e.g., *Clean Wisconsin v. EPA*, 964 F.3d 1145, 1158 (D.C. Cir. 2020).

¹⁸ See 40 C.F.R. § 51.100 (definition of “control strategy”).

¹⁹ 40 C.F.R. § 51.1108(c).

²⁰ 85 FR at 68519.

²¹ 85 FR 57714, 57717 (Sept. 16, 2020).

does not make section 182(c)(2)(C) less important and only worthy of an inferior demonstration. If anything, sections 182(c)(2)(B) and (C) in tandem are more important: Congress added these ozone-specific provisions after years of failure by EPA and states to address ozone pollution under the general requirements for attainment demonstrations in subpart 1.²² In any event, it would be arbitrary to EPA to ignore the entire nonattainment area except the isopleth at the Folsom monitor (and possibly the weekend effect in the Eastern region) in evaluating the NOx substitution request.

E. EPA Fails to Explain How Its Action Complies with Executive Order 12898

Under Executive Order 12898, EPA must “to the greatest extent practicable and permitted by law ... identif[y] and address[] ... disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.”²³ EPA’s proposal states that a proposed approval of a SIP “[d]oes not provide the EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods.”²⁴ According to EPA, this is so because EPA must “approve a SIP submission that complies with the provisions of the Act and applicable federal regulations.” In other words, a SIP approval is the mere ministerial application of law to facts.²⁵

EPA’s proposed approval of NOx substitution here belies this logic. EPA has *sub silentio* abandoned its NOx Substitution Guidance. Instead, EPA proposes approval under an *ad hoc*, standardless justification. Thus, EPA is exercising discretion—more than a merely ministerial function—in evaluating the Plan’s reliance on NOx substitution.

Furthermore, the record does not support EPA’s conclusion that NOx substitution will result in equivalent reductions in ozone concentrations throughout the nonattainment area. This raises the possibility that environmental justice (“EJ”) communities will be disproportionately and adversely impacted by EPA’s action. In the absence of a proper demonstration, these communities may experience less reductions in ozone than required under section 182(c)(2)(B); as mentioned above, if there is a NOx-disbenefit then they may even experience ozone increases.

It is not a sufficient response for EPA to state that it is merely making state law federally enforceable by approving the Plan; that this improves the status quo; and that this action therefore is not adverse to EJ communities. If EPA applied a proper standard, that could result in disapproval of the Plan and an eventual federal implementation plan. That federal plan might have to obtain additional emission reductions to ensure equivalence. EPA’s failure to ensure equivalence here, especially in light of the potential for NOx disbenefit, is therefore adverse to EJ communities.

²² See, e.g., *NRDC v. EPA*, 777 F.3d 456, 460 (D.C. Cir. 2014).

²³ E.O. 12,898 (Feb. 11, 1994); 59 FR 7629 (Feb. 16, 1994).

²⁴ 85 FR at 68533.

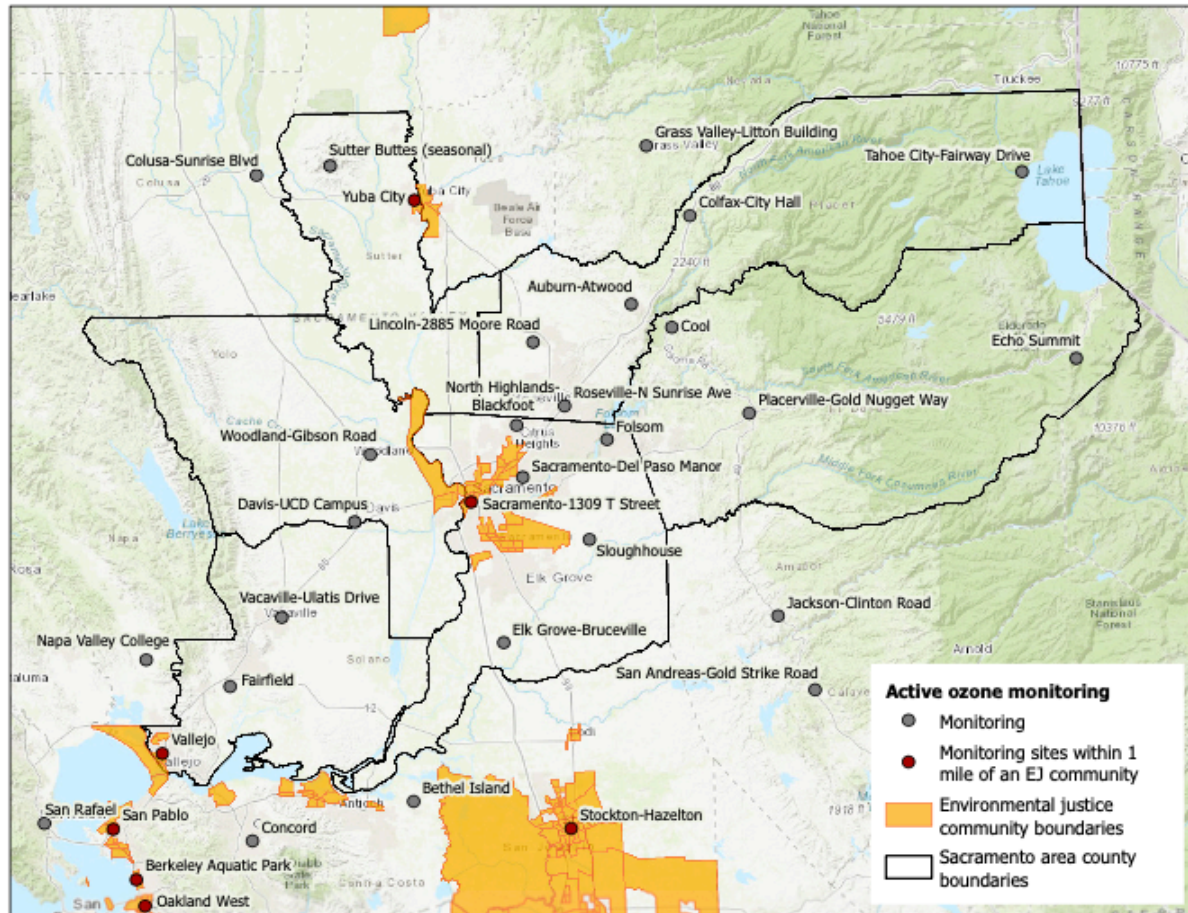
²⁵ If it were merely ministerial, then it would be unnecessary for EPA to go through notice-and-comment rulemaking when acting on a SIP submittal. See 5 U.S.C. § 553(b)(B).

As explained above, EPA, at least at its discretion if not compelled, could instead apply a protective (and much more objective) standard for equivalence: equivalence must be demonstrated at each monitoring site through photochemical modeling of the relevant scenarios. This standard is “practicable and permitted by law,” as explained above, and it would ensure, “to the greatest extent practicable and permitted by law,” that EJ communities are not adversely impacted by NO_x substitution that could result in localized ozone decreases—or even increases—that do not meet the requirements of section 182(c)(2)(B).

To be very clear, Commenters are not arguing that Executive Order 12898 compels EPA to interpret the Act as requiring additional analysis of specific monitoring sites near EJ communities. Section 182(c)(2)(C) is silent regarding EJ concerns. But what is necessarily permissible as an interpretation of the Act is a standard for equivalence that requires a demonstration of equivalence at every monitoring site, whether near an EJ community or not. And this standard would ensure, “to the greatest extent practicable and permitted by law,” that EJ communities do not suffer from “disproportionately high and adverse” impacts from EPA’s action.

The following map shows this is more than a theoretical possibility.²⁶

²⁶ A PDF version of this map and the shapefiles used to generate it in a GIS viewer are attached to this comment letter. The shapefiles for the EJ communities were generated from CalEnviroScreen: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>. The shapefiles for the monitors are from EPA’s interactive map: <https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors>.



The primary EJ communities fall in the Central region, for which the Plan does not demonstrate equivalence of NO_x reductions. The Folsom monitor and the Eastern regions are far removed from these EJ communities. Each community has monitoring sites fairly nearby; a standard that requires demonstration of equivalency at each site would protect these communities.

F. EPA Should Explicitly Disavow Its NO_x Substitution Guidance

Like a Soviet photograph edited to excise party officials fallen from favor,²⁷ EPA's notice entirely fails to acknowledge that EPA has issued a guidance memorandum regarding section 182(c)(2)(C).²⁸ EPA's embarrassed silence is understandable, given the absence of any basis for the guidance and the possibility that its use over the past twenty-eight years has resulted in countless cases of juvenile and adult asthma, hospital and emergency room visits, and premature mortality. EPA should explicitly disavow the guidance and its meritless justifications.

²⁷ See "Censorship of images in the Soviet Union,"

https://en.wikipedia.org/wiki/Censorship_of_images_in_the_Soviet_Union#Censorship_of_historical_photographs.

²⁸ See Appendix A to this comment letter. It provides a detailed critique of the guidance.

G. Conclusion

There is an insufficient basis in the Plan to find that NO_x substitution meets the criteria in section 182(c)(2)(C). EPA must be mindful of its obligation to EJ communities and its responsibilities under section 110(l) and apply a rigorous standard to demonstrations of equivalence.

III. EPA MUST DISAPPROVE THE MOTOR VEHICLE EMISSION BUDGETS

As explained above, EPA must disapprove the Plan with respect to RFP requirements. As a result, EPA must also disapprove the submitted motor vehicle emission budgets (“MVEBs”).

Section 176(c)(1) of the Act contains the general requirements for “conformity” of Federal actions, including actions such as highway projects that receive Federal funding. Federal actions must not (among other things) “delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.”²⁹

Section 176(c)(2) contains the requirements for “transportation conformity.”³⁰ In particular,

no transportation plan or transportation improvement program may be adopted by a metropolitan planning organization[], or be found to be in conformity by a metropolitan planning organization until a final determination has been made that emissions expected from implementation of such plans and programs are consistent with estimates of emissions from motor vehicles and necessary emissions reductions contained in the applicable implementation plan.³¹

A transportation project must either “come from a conforming plan or program,”³² or have a separate

demonstrat[ion] that the projected emissions from such project, when considered together with emissions projected for the conforming transportation plans and programs within the nonattainment area, do not cause such plans and programs to exceed the emission reduction projections and schedules assigned to such plans and programs in the applicable implementation plan.³³

The term “applicable implementation plan” is in turn defined in section 302 as the portions of the implementation plan that have been approved under section 110(k), or promulgated under section 110(c), or promulgated under section 301(d) to implement the relevant requirements of the Act.³⁴

²⁹ 42 U.S.C. § 7506(c)(1)(B)(iii).

³⁰ 42 U.S.C. § 7506(c)(2).

³¹ *Id.* § 7506(c)(2)(A).

³² *Id.* § 7506(c)(2)(C)(i).

³³ 42 U.S.C. § 7506(c)(2)(D).

³⁴ *Id.* § 7602(q).

In summary, the Act requires determinations that emissions from transportation plans, improvement programs, and projects are consistent with “estimates of emissions from motor vehicles and necessary emission reductions” and do not “exceed the emission reduction projections and schedules” in the SIP. In its 1993 rule for transportation conformity, EPA identified MVEBs as the vehicle for these determinations.³⁵ “SIP demonstrations of reasonable further progress, attainment, and maintenance contain these emissions estimates and ‘necessary emission reductions.’”³⁶

Motor vehicle emissions budgets are the explicit or implicit identification of the motor vehicle-related portions of the projected emission inventory used to demonstrate reasonable further progress milestones, attainment, or maintenance for a particular year specified in the SIP. The motor vehicle emissions budget establishes a cap on emissions which cannot be exceeded by predicted highway and transit vehicle emissions.³⁷

MVEBs are correspondingly defined in EPA’s transportation conformity rules as:

that portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones or demonstrating attainment or maintenance of the NAAQS, for any criteria pollutant or its precursors, allocated to highway and transit vehicle use and emissions.³⁸

As EPA must disapprove the submitted Plan with respect to RFP requirements, EPA cannot determine that the budgets are allowable as a portion of the total allowable emissions to meet RFP. There is no measure of total allowable emissions for RFP in the absence of an approvable plan and therefore no basis for approval of the MVEBs.

IV. EPA MUST DISAPPROVE THE CONTINGENCY MEASURES

EPA separates the contingency measure requirement in section 172(c)(9) into two components: contingency measures in case the area fails to meet RFP, and contingency measures in case the area fails to attain.³⁹ EPA must disapprove the contingency measures with respect to both requirements.

A. EPA Must Disapprove the RFP Contingency Measures

While paying lip service to the Ninth Circuit’s holding in *Bahr v. U.S. EPA*,⁴⁰ that use of already implemented measures as contingency measures is a sham, EPA proposes to circumvent the decision by continuing to give credit to already implemented measures when assessing the adequacy of RFP contingency measures. EPA’s proposal relies on a

³⁵ 58 FR 62188, 62193 (Nov. 24, 1993).

³⁶ *Id.*

³⁷ *Id.* at 62194.

³⁸ 40 C.F.R. § 93.101.

³⁹ 85 FR at 68258.

⁴⁰ *Bahr v. U.S. Environmental Protection Agency* (“*Bahr*”), 836 F.3d 1218 (9th Cir. 2016).

factor Congress cannot have intended EPA to consider and is therefore arbitrary and capricious, contrary to law, and cannot be finalized.

1. EPA Must Be Continually Reminded Why Sham Contingency Measures Are Illegal

Yet again⁴¹ inviting comment on the issue, EPA gives its discredited arguments for sham contingency measures:

It has been the EPA's longstanding interpretation of section 172(c)(9) that states may rely on federal measures (e.g., federal mobile source measures based on the incremental turnover of the motor vehicle fleet each year) and local measures already scheduled for implementation that provide emissions reductions in excess of those needed to provide for RFP or expeditious attainment. The key is that the statute requires that contingency measures provide for additional emissions reductions that are not relied on for RFP or attainment and that are not included in the RFP or attainment demonstrations. The purpose of contingency measures is to provide continued emissions reductions while the plan is being revised to meet the missed milestone or attainment date.⁴²

EPA then acknowledges the Ninth Circuit Court of Appeals' rejection of EPA's sham.⁴³ But EPA does not explain the reasoning of the *Bahr* court. Instead, EPA merely states that within the jurisdiction of the Ninth Circuit, states cannot use sham contingency measures. EPA must therefore be reminded why sham contingency measures are contrary to the Clean Air Act ("Act").

a) The *Bahr* Opinion

For convenience, the relevant portion of the *Bahr* opinion is provided here:

The statutory language in § 7502(c)(9) is clear: it requires the SIP to provide for the implementation of measures "to be undertaken" in the future, triggered by the state's failure "to make reasonable further progress" or to attain the NAAQS. These measures are included in the SIP as "contingency measures" and are "to take effect" automatically in the future. Although the statute does not define the word "contingency," the meaning of the term is not ambiguous. According to the dictionary definition, it means "a possible future event or condition or an unforeseen occurrence that may necessitate special measures." Webster's Third New International Dictionary (2002). Because Congress was clear that "contingency measures" are control measures that will be implemented in the future, and the statutory language is not susceptible to multiple interpretations, we must give effect to its plain meaning. *Chevron*, 467 U.S. at 842–43, 104 S.Ct. 2778.⁴⁴

⁴¹ See, e.g., 84 FR at 70123

⁴² 85 FR at 68257.

⁴³ *Id.* at 68528 (citing *Bahr*, 836 F.3d at 1235–37).

⁴⁴ *Bahr*, 836 F.3d at 1235.

To elaborate on the meaning of the term “contingency,” note that for example a “contingency plan” is “a course of action to be followed *if a preferred plan fails* or an existing situation changes” or “a plan or procedure that will take effect if an emergency occurs; emergency plan.”⁴⁵ If a nonattainment area fails to attain or make RFP, then the attainment plan (the “preferred plan”) has failed.

And, in the case that there are already implemented measures the state did not rely on for attainment, RFP, or other Act requirement, the attainment plan has failed notwithstanding those already implemented measures. In other words, the already implemented measures failed as well. Simply put, Congress cannot have intended for nothing to happen when an attainment plan, even a plan relying on already implemented measures as contingency measures, fails.

Although the *Bahr* court did not discuss the policy implications, disallowing sham contingency measures does not discourage a state from early emission reductions. Early emission reductions can help ensure an area will attain by its attainment date; the consequences of failure to attain, such as higher offset ratios and new planning obligations, are serious. But the most serious consequence is that the people, agriculture and native ecosystems continue to be exposed to dangerous and even deadly levels of air pollution. Thus, states retain a powerful incentive—much more powerful than potential use as a contingency measure—for early emission reductions.

EPA’s supposed policy justification is particularly wrong-headed when a state, as here, tries to rely on existing federal measures, such as those for mobile sources, as contingency measures. The state is not responsible for the emission reductions from federal measures, and to speak of the state’s incentive to make those reductions is absurd.

Existing federal measures fail as contingency measures not only because they are existing and therefore not implemented in the future, but potentially for another reason as well. Sections 172(c)(9) and 182(c)(9) require the SIP to “provide for implementation of specific measures” as contingency measures.⁴⁶ Unless the state has adopted a state equivalent of a federal measure and submitted that equivalent measure for adoption in the SIP, the SIP does not “provide for implementation” of the federal measure.

In the case of mobile source standards, states are generally preempted from adopting standards, except in the case of a California waiver.⁴⁷ EPA’s current actions to weaken mobile source standards and revoke California waivers demonstrate another problem with reliance on federal measures that are not approved into the SIP: the rug can be pulled out from under the contingency measures by unilateral EPA action that takes place outside the SIP process, in violation of the structure of the Act, and therefore without the state’s consent.

⁴⁵ RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE 439 (2d. ed. unabridged, 1987) (emphasis added).

⁴⁶ 42 U.S.C. §§ 7502(c)(9), 7511a(c)(9).

⁴⁷ *Id.* § 7543.

b) The *LEAN* Opinion

In *Louisiana Envtl. Action Network v. EPA*,⁴⁸ the Fifth Circuit Court of Appeals upheld EPA's interpretation of section 172(c)(9) as allowing for sham contingency measures. The opinion erred in three respects.

First, unlike the *Bahr* opinion, the *LEAN* opinion did not examine the plain meaning of "contingency," which confirms the plain meaning of "to take effect." Second, the opinion disregarded the plain meaning of "to take effect" by adopting EPA's theory that the statute was silent on whether "continuing" emission reductions could be used as contingency measures. This is a typical form of EPA misdirection: EPA attempts to avoid clear statutory language by inventing a statutory gap on some other issue. That is simply not how statutory interpretation works: one must start with the statutory language, and if it resolves the issue that is the end of the matter.

Third, the opinion erred in its discussion of the policy implications. Even with sham contingency measures disallowed, states still have a powerful incentive for additional emission reductions: the threat of failure to attain, reclassification, and additional planning obligations as well as the desire to provide the people and places of a state with clean, healthy air. States are not "penalized" for early emission reductions simply because those reductions don't qualify as contingency measures; those reductions don't count against the state in any way. On the other hand, public health and welfare is penalized by allowing for sham contingency measures.

2. EPA's Proposed Conditional Approval of the RFP Contingency Measures Threatens to Make a Mockery of the *Bahr* Decision

Under EPA's longstanding policy, contingency measures should approximately equal one year of RFP. This policy is well grounded in the statute. However, EPA admits that the promised RFP contingency measures are far short of one year of RFP. Nonetheless, EPA proposes to conditionally approve the promised measures. The sole reason EPA gives is a "larger context" of surplus NO_x reductions from already implemented measures. Under the *Bahr* decision, such reductions cannot qualify as contingency measures, but EPA proposes to functionally treat them as such by claiming they are relevant to the adequacy of the promised contingency measures. This disregard for the *Bahr* decision threatens to make a mockery of it by allowing approval of contingency measures that falls short of one year of RFP so long as sham contingency measures exist but are not submitted as such.

a) Early Emission Reductions Are Not Relevant to the Adequacy of Contingency Measures

Although there is no basis whatsoever in the record to find that the promised contingency measures are adequate to meet one year of RFP—or for that matter to meet any reasonable standard for judging contingency measures—EPA nonetheless proposes to conditionally approve them:

⁴⁸ "LEAN," 382 F.3d 575, 580 (5th Cir. 2004).

The 2018 SIP Update, however, provides the larger SIP planning context with which to judge the adequacy of the to-be-submitted District contingency measures by calculating the surplus emissions reductions estimated to be achieved in the RFP milestone years and the year after the attainment year. More specifically, the 2018 SIP Update identified surplus NO_x reductions in the various RFP milestone years for the Sacramento Metro Area. The estimates of surplus NO_x reductions range from 33.9 to 38.1 tpd, depending on the RFP year, and are ten or more times greater than one year's worth of progress (3.2 tpd of NO_x). The surplus reflects already implemented regulations and is primarily the result of vehicle turnover, which refers to the ongoing replacement by individuals, companies, and government agencies of older, more polluting vehicles and engines with newer vehicles and engines. In light of these surplus NO_x emissions reductions in the RFP milestone years, the emissions reductions from the Districts' contingency measures are adequate to meet the contingency measure requirements of the CAA with respect to RFP milestones, even though the measures by themselves produce fewer emission reductions than what the EPA normally recommends for reductions from such contingency measures.

This is functionally no different than simply approving the already implemented regulations as contingency measures, in violation of *Bahr*. EPA is stating that it's acceptable to approve the promised contingency measures because there are other, already implemented regulations. In other words, EPA thinks that states can circumvent *Bahr* by including legitimate contingency measures in the plan that fall far short of equaling one year of RFP and still rely in large part on already implemented measures that are illegal as contingency measures under *Bahr*. Thus, EPA arbitrarily and capriciously proposes to "rel[y] on [a] factor[]" which Congress has not intended it to consider."⁴⁹

In response to similar, recent comments, EPA states that sections 172(c)(9) and 182(c)(9) do not explicitly limit the additional factors that EPA may consider.⁵⁰ Not so. As explained to EPA by the *Bahr* court, the plain language of the sections prohibits use of already implemented measures either as *de jure* contingency measures (i.e., approved into the SIP) or *de facto* contingency measures (i.e., not approved into the SIP but used to bolster the approved measures). In short, EPA cannot circumvent *Bahr* by creating additional factors; that ignores the plain language of the sections.

This continued disregard for *Bahr* cannot stand. EPA needs to move on from the denial stage and accept the truth: EPA's longstanding policy on contingency measures is, and always was, nothing more than an illegal gimmick to let states off the hook for their responsibilities under the Act.

b) Contingency Measures Should at a Minimum Equal One Year of RFP

EPA states:

⁴⁹ *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983).

⁵⁰ 85 FR 38081, 38084 (June 25, 2020).

Neither the CAA nor the EPA's implementing regulations for the ozone NAAQS establish a specific amount of emissions reductions that implementation of contingency measures must achieve, but we generally expect that contingency measures should provide for emissions reductions approximately equivalent to one year's worth of RFP, which, for ozone, amounts to reductions of 3 percent of the baseline emissions inventory for the nonattainment area. For the 2008 ozone NAAQS in the Sacramento Metro Area, one year's worth of RFP is approximately 3.3 tpd of VOC or NOX reductions.⁵¹

While the relevant contingency measure provisions of the Act, sections 172(c)(9) and 182(c)(9), may not explicitly state the amount of emission reductions, EPA's policy regarding one year of RFP is well-grounded in the Act. As explained by EPA, this ensures emission reductions in the interim period while the state prepares a new submission:

[C]ontingency measures should represent 1-year's worth of progress, amounting to reductions of 3 percent of the baseline emissions inventory for the nonattainment area, *which would be achieved while the state is revising its plans for the area.*⁵²

In particular, when an area fails to reach a milestone and has therefore failed to make RFP, under section 182(g)(3) the state must elect to either: 1) have the area reclassified; 2) rely on the approved contingency measures; or 3) adopt an economic incentive program. If EPA determines that the approved contingency measures are inadequate to meet the next milestone, then the state has one year to submit a revision to do so. Thus, the one year of RFP has structural support in the Act.

c) EPA Ignores the Consequences of Its Approach

EPA states that it is basing its approval on a "larger SIP planning context" of surplus NOx emission reductions from already implemented measures that "are ten or more times greater than one year's worth of progress."⁵³ But EPA does not say whether these surplus reductions will remain surplus if the contingency measures are triggered. Presumably not, because they are not being "used" as contingency measures; they are just part of "the larger SIP planning context with which to judge the adequacy" of the contingency measures.⁵⁴ This then raises the specter that these supposedly surplus NOx emission reductions can be used *ad infinitum* as a "context" to approve inadequate contingency measures. That cannot be.

This also shows how EPA's attempted circumvention of *Bahr* is in fact worse than simply flouting *Bahr*. If the already implemented measures were approved into the SIP (i.e., flouting *Bahr*), and the area failed to make RFP, then the measures would no longer be surplus. But with EPA's circumvention, they remain surplus. That also cannot be.

⁵¹ 85 FR at 68529.

⁵² 80 FR at 12285 (emphasis added).

⁵³ 85 FR at 68529.

⁵⁴ *Id.*

3. NOx Reductions Have Not Been Demonstrated to be Effective

In its proposal for the SIP Requirements Rule, EPA stated:

Regarding content of the 1 year's worth of emissions covered by the contingency measures, the EPA believes that prior contingency measure guidance specifying a minimum of 0.3 percent of the emission reductions (i.e., one-tenth of the total 3 percent emission reduction requirement) must be from VOCs is no longer necessary. The EPA is proposing that for Moderate and above areas that have completed the initial 15 percent VOC reduction required by CAA section 182(b)(1)(A)(i), the 3 percent emissions reductions of the contingency measures may be based entirely on NOx controls if that is what the state's analyses have demonstrated would be most effective in bringing the area into attainment. There is no minimum VOC requirement.⁵⁵

EPA finalized this position,⁵⁶ but did not set it forth in the Code of Federal Regulations. It is therefore non-binding and must be regarded as guidance.

Here, EPA proposes to approve VOC reductions as contingency measures but to rely on NOx reductions as the “context” for making the VOC reductions approvable. As explained above, there is insufficient evidence in the record to show that NOx substitution is allowable. For the same reasons, there is insufficient evidence in the record to show that NOx reductions are effective as a “context” for allowing less than one year's worth of RFP in VOC reductions.

If EPA argues otherwise, then this becomes another way in which EPA's “context” theory is worse than simply flouting *Bahr*. If the already implemented NOx reductions were approved as contingency measures (i.e., flouting *Bahr*), then the preamble guidance would directly apply and the state would have to demonstrate that the NOx reductions are effective. But under EPA's circumvention approach, EPA may argue that the preamble guidance does not apply.

B. EPA Must Disapprove the Attainment Contingency Measures

EPA proposes to approve the attainment contingency measures on the following basis:

[W]e evaluate the emissions reductions from the Districts' contingency measures in the context of the expected reduction in emissions within the Sacramento Metro Area in the year following the attainment year relative to those occurring in the attainment year. Based on the emission inventories in Appendix A to the 2018 SIP Update, we note that nonattainment area VOC and NOx emissions are expected to be approximately 0.5 and 1.8 tpd, respectively, or 2.3 tpd lower in 2025 than in 2024. When considered together, these baseline measures and the Districts' contingency measures provide for an emissions reduction (2.9 tpd) that is near to, but slightly below, one year's worth of progress (i.e., 3.3 tpd of VOC).

⁵⁵ *Id.*

⁵⁶ 80 FR at 12285.

Given that the attainment demonstration interpolates a 2024 design value (0.072 ppm) well below the 2008 8-hour ozone NAAQS (0.075 ppm), we project that this amount will be sufficient to correct any failure to attain the 2008 8-hour ozone NAAQS in less than one year from the attainment date; therefore, these estimated emission reductions represent continued progress for purposes of the attainment contingency measure requirements.⁵⁷

This rationale is arbitrary and capricious. First, the attainment contingency measures are triggered if the area fails to attain. If the area fails to attain, then the attainment demonstration will have been proved wrong. Reliance on an incorrect attainment demonstration to determine what is necessary for the interim year is irrational. Second, this is again a disguised attempt to rely on already implemented measures. If the area fails to attain, then those already implemented measures have failed. They cannot be considered as a factor in assessing the acceptability of attainment contingency measures. Third, EPA ignores the possibility that one or two extensions of the attainment date will be granted,⁵⁸ undercutting the assumptions in its rationale.

EPA policy is that both the RFP contingency measure and the attainment contingency measure requirements are met if the contingency measures represent one year of RFP. Thus, there is no need to make the distinction between the two requirements except when EPA is departing from that policy. If EPA is sincere about making this distinction, then EPA needs to find a measure for attainment contingency measures that is aligned with the statute and is rational.

For example, EPA could require the state to first determine *all* reasonably available control measures (“RACM”), regardless of whether some subset of those measures is sufficient to attain the standards as expeditiously as practicable. The subset that is required to attain the standards as expeditiously as practicable would be included in the control strategy and used in the attainment demonstration. The remainder of the RACM would be used as the contingency measures. This would align well with EPA’s interpretation of section 172(c)(1) as only requiring RACM insofar as necessary to attain. In the case of failure to attain, the assumption underlying that interpretation has been shown to be false; using the remaining RACM as a contingency measure would complete the state’s obligation under section 172(c)(1). There is some small chance that the remaining RACM would only be *de minimis*. In that case, EPA could require one year of RFP as a fallback.

V. CONCLUSION

The evidence in the record is insufficient to establish that NO_x reductions are equivalent. EPA must disapprove the Plan with respect to RFP requirements and establish a rigorous standard for demonstrating equivalence throughout a nonattainment area. Because the MVEBs rely on assumptions in the Plan with respect to RFP, the MVEBs must also be disapproved. EPA’s proposed approval of the RFP

⁵⁷ *Id.*

⁵⁸ 42 U.S.C. § 7511(a)(5).

contingency measures is an attempt to circumvent *Bahr*, and EPA's proposed approval of the attainment contingency measures is arbitrary and capricious.

Respectfully,

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APPENDIX A

I. EPA'S NOX SUBSTITUTION GUIDANCE IS ILLEGITIMATE

For Serious ozone areas, a plan must demonstrate that it will achieve 3% annual reductions in VOC emissions from the baseline until the attainment date.⁵⁹ There are two off-ramps from this requirement. First, lesser reductions are acceptable if plan shows it “includes all measures that can feasibly be implemented in the area, in light of technological achievability.”⁶⁰

Second, under section 182(c)(2)(C), the plan can use a combination in reductions of VOC and NOx emissions if the plan contains:

a demonstration to the satisfaction of the Administrator that the applicable implementation plan, as revised, provides for reductions of emissions of VOC's and oxides of nitrogen (calculated according to the creditability provisions of [sections 182(b)(1)(C) and 182(b)(1)(D)]), that would result in a reduction in ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions required under [section 182(c)(2)(B)].⁶¹

A. Equivalence of VOC and NOx Emission Reductions

“Equivalence” in section 182(c)(2)(C) must be understood in the context of the science of ozone formation, Congress' approach to that science in the 1990 Amendments, and EPA's approach to that science in other contexts.

1. “The Relative Roles of VOC and NOx in Ozone Formation”⁶²

The key to the chemistry of ozone formation is the “hydroxyl radical,” denoted OH.⁶³ The hydroxyl radical is very reactive, and VOCs and NOx compete to react with it. “At a high ratio of VOC to NOx concentrations, [the hydroxyl radical] will react mainly with VOCs; at a low ratio the NOx reaction can predominate.”⁶⁴

As a result of this competition for the hydroxyl radical,

[a]t a given level of VOC, there exists a NOx concentration at which a maximum amount of ozone is produced, an optimum VOC:NOx ratio. For ratios less than this optimum ratio, NOx increases lead to ozone decreases; conversely, for ratios larger than this optimum ratio, NOx increases lead to ozone increases.⁶⁵

⁵⁹ 42 U.S.C. § 7511a(c)(2)(B)(i).

⁶⁰ *Id.* § 7511a(c)(2)(B)(ii).

⁶¹ *Id.* § 7511a(c)(2)(C).

⁶² John H. Seinfeld & Spyros N. Pandis, *ATMOSPHERIC CHEMISTRY AND PHYSICS: FROM AIR POLLUTION TO CLIMATE CHANGE* 238 (Wiley Interscience, 2d. ed. 2006).

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.* at 236.

When NO_x levels are above this “optimum”⁶⁶ ratio, then the situation is described as “NO_x saturated.”⁶⁷ In this case a reduction in NO_x levels can lead to increases in ozone levels, due to the reduction in competition by NO_x for the hydroxyl radical. On the other hand, if NO_x levels are below the “optimum,” the situation is described as “NO_x limited”; this raises the possibility that VOC reductions (at least up to the point that the optimum ratio is restored) will have little effect on ozone levels.⁶⁸

Due to complexity of the issue, “ozone response to precursor can vary greatly with each area.”⁶⁹

Application of grid-based air quality models to various cities and regions shows that the relative effectiveness of controls of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) in ozone abatement varies widely These cities share an ozone problem, but differ widely in the relative contributions of anthropogenic VOCs and NO_x and biogenic emissions. As a result, the optimal set of controls relying on VOCs, NO_x, or most likely, reductions of both, will vary from one place to the next.⁷⁰

In response to recent, identical comments, EPA states that it “in general” agrees with this description of ozone formation.⁷¹

2. Congress’ Treatment of Ozone Precursors in the 1990 Amendments

First, section 185B (added in the 1990 Amendments) required EPA in conjunction with the National Academy of Sciences to “conduct a study on the role of ozone precursors in tropospheric ozone formation and control.”⁷²

The study shall examine the roles of NO_x and VOC emission reductions, the extent to which NO_x reductions may contribute (or be counterproductive) to achievement of attainment in different nonattainment areas, the sensitivity of ozone to the control of NO_x, the availability and extent of controls for NO_x, the role of biogenic VOC emissions, and the basic information required for air quality models.

Thus, Congress was aware that NO_x reductions might be counterproductive, and that ozone concentrations might vary in sensitivity to NO_x reductions, and directed EPA to study these issues.

⁶⁶ Again, “optimum” here is used in the sense of a maximum amount of ozone formed for a given level of VOC, not in the sense of an “optimum” for public health and welfare.

⁶⁷ *Id.* at 238.

⁶⁸ *Id.*

⁶⁹ Office of Air Quality Planning and Standards, “The Role of Ozone Precursors in Tropospheric Ozone Formation and Control: A Report to Congress,” EPA-454/R-93-024, at 2-2 (July 1993) (report to Congress mandated by section 185B, 42 U.S.C. § 7511f). This report is attached to these comments.

⁷⁰ *Id.* at 2-4 (quoting National Research Council, National Academy of Sciences, RETHINKING THE OZONE PROBLEM IN URBAN AND REGIONAL AIR POLLUTION (National Academies Press, 1991)).

⁷¹ 85 FR 57714, 57717 (Sept. 16, 2020).

⁷² 42 U.S.C. § 7511f.

Second, section 182(f) requires the provisions for major stationary sources of VOCs to also apply to major stationary sources of NO_x, except in three instances:

1. “when the Administrator determines (when the Administrator approves a plan or plan revision) that net air quality benefits are greater in the absence of reductions of oxides of nitrogen from the sources concerned.”⁷³
2. for ozone nonattainment areas not in an ozone transport region, when EPA “determines (when the Administrator approves a plan or plan revision) that additional reductions of oxides of nitrogen would not contribute to attainment of the national ambient air quality standard for ozone in the area”;⁷⁴ or
3. for ozone nonattainment areas in an ozone transport region, when EPA “determines (when the Administrator approves a plan or plan revision) that additional reductions of oxides of nitrogen would not produce net ozone air quality benefits in such region.”⁷⁵

Thus, Congress anticipated the scenario mentioned above, where NO_x decreases may actually increase ozone concentrations or at least not help to reduce ozone concentrations.

Third, section 182(c)(2)(C) itself directs EPA to

issue guidance concerning the conditions under which NO_x control may be substituted for VOC control or may be combined with VOC control in order to maximize the reduction in ozone air pollution. In accord with such guidance, a lesser percentage of VOCs may be accepted as an adequate demonstration for purposes of this subsection.⁷⁶

This again shows Congress in the 1990 Amendments was aware of the issue of the relative roles of NO_x and VOC in ozone formation and provided for that issue. In response to recent, identical comments EPA states that it agrees with this characterization.⁷⁷

3. EPA’s Approach to Ozone Precursors in Other Contexts

One context in which the relative effectiveness of VOC and NO_x controls is critical is interpollutant offset trading under the nonattainment new source review (“NSR”) program. Under the nonattainment NSR program, which applies in nonattainment areas, a new major stationary source or a major modification of an existing major stationary source must obtain offsets for its increased emissions of the relevant pollutants. In the case of an ozone nonattainment area, the relevant pollutants are VOCs and NO_x.

⁷³ *Id.* § 7511a(f)(1).

⁷⁴ *Id.* § 7511a(f)(1)(A).

⁷⁵ *Id.* § 7511a(f)(1)(B).

⁷⁶ *Id.* § 7511a(c)(2)(C). As explained below, *see infra* section II.C.2.a(3), the guidance at issue here is not the guidance Congress required.

⁷⁷ 85 FR at 57717.

Sources may obtain these offsetting reductions from surplus emission reductions at other sources, for example, from a permanent shutdown of another source.

For an ozone nonattainment area, the question naturally arises: can NO_x emission reductions be used to offset VOC emission increases, and vice versa? EPA's rules allow for this if an appropriate demonstration is made. EPA has issued guidance on the demonstration.⁷⁸ The guidance addresses two scenarios:

- A demonstration for a particular source; and
- A demonstration for a particular area.

For a particular new major stationary source or major modification, EPA expects photochemical grid modeling of three scenarios:

- A baseline scenario without the new source or modification;
- A post-construction scenario, without the offsetting credits; and
- A scenario including the credited offsets.⁷⁹

Using these results, an interpollutant trading ratio of NO_x and VOC is developed. For example, the modeling may demonstrate that a reduction of 10 tons per day ("tpd") of credited NO_x reductions may offset an increase of 2 tpd of VOC from the construction of the new or modified source, resulting in a NO_x:VOC trading ratio of 5:1.80 The trading ratio should be quality assured and its appropriateness should be evaluated using emission inventory and ambient air quality data.

"[E]mission sensitivities typically vary across an area," so the approach for an area is somewhat different.⁸¹ It

involves modeling multiple hypothetical sources with varying emission rates and stack release characteristics typical of sources in the area or region. These sources would need to be located in different parts of the area to account for differences in sensitivities that may be possible when considering air quality impacts of sources located in different parts of the area.⁸²

The second context is demonstrations under section 182(f). As described above, under section 182(f), in ozone nonattainment areas, major stationary sources of NO_x are subject to the same requirements as major stationary sources of VOCs, unless the state can make one of three demonstrations. In 1993, EPA issued guidance regarding these

⁷⁸ EPA-454/R-18-004, "Technical Guidance for Demonstration of InterPrecursor Trading (IPT) for Ozone in the Nonattainment New Source Review Program," Office of Air Quality Planning and Standards (May 2018), available at <https://www.epa.gov/sites/production/files/2019-02/documents/ipt2018.pdf>. A copy of this technical guidance, in two parts, is attached to these comments.

⁷⁹ *Id.* at 6-8.

⁸⁰ As explained above, this ratio may vary depending on the relative overall levels of NO_x and VOC and the particular characteristics of the area; it may also vary due to the particular characteristics of the new or modified source and the offsetting source, such as location and stack height.

⁸¹ *Id.* at 8-9.

⁸² *Id.* at 9.

demonstrations.⁸³ In each case, EPA recommended modeling of at least two scenarios (e.g. NO_x control versus no NO_x control). EPA updated the section 182(f) guidance in 2005; it continues to recommend photochemical grid modeling for the relevant scenarios.⁸⁴

The common thread across these contexts is that multiple scenarios must be analyzed using photochemical grid modeling. This is inevitably the outcome due to the complex relationship of VOC and NO_x in ozone formation.

However, the recommended procedure in the NO_x Substitution Guidance does not use a photochemical grid model to determine if the substitute NO_x emission reductions result in equivalent ozone reductions. This unexplained inconsistency is *per se* arbitrary and capricious.

In response to recent, identical comments, EPA states that the comments “misunderstand[] the purpose of and requirements for NO_x substitution under [section] 182(c)(2)(B) relative to these other examples,” due to the non-binding nature of the recommendations in the guidance memoranda.⁸⁵ However, EPA itself misunderstands the thrust of the comments. While guidance memoranda are non-binding, an action that does not follow their recommendations must necessarily provide an explanation for the discrepancy. The failure to provide an explanation for an action that is inconsistent with non-binding recommendations is *per se* arbitrary and capricious, as noted in the comments.

Furthermore, EPA in its response did not identify any functional difference between the examples cited and section 182(c)(2)(C). Thus, EPA has conceded that a failure to use photochemical grid modeling to show equivalency under section 182(c)(2)(C) must be explained.

B. The Recommendations in the NO_x Substitution Guidance Do Nothing to Establish Equivalence

The procedure recommended in EPA’s “NO_x Substitution Guidance” does nothing to demonstrate equivalence. Instead, it’s a bookkeeping gimmick that allows states to evade the requirement to show equivalency. The guidance relies on incorrect policy assumptions and gives legal justifications that are without merit.

⁸³ Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, “Guideline for Determining the Applicability of Nitrogen Oxide Requirements under Section 182(f)” (Dec. 16, 1993), available at <https://archive.epa.gov/ttn/ozone/web/pdf/sec182f.pdf>. A copy of this memorandum is attached to these comments. It is also included in EPA’s compilation, “NO_x Policy Documents for the Clean Air Act of 1990,” EPA-452/R-96-005, Office of Air Quality Planning and Standards (Mar. 1996), which is attached, in three parts, to these comments.

⁸⁴ Memorandum from Stephen D. Page, Director, Office of Air Quality Planning and Standards, “Guidance on Limiting Nitrogen Oxides (NO_x) Requirements Related to 8-Hour Ozone Implementation” (Jan. 14 2005), available at https://www3.epa.gov/ttn/naaqs/aqmguides/collection/cp2/20050114_page_guidance_8-hr_ozone_nox_exemptions.pdf. A copy of this memorandum is attached to these comments.

⁸⁵ 85 FR at 57718.

1. The Guidance Recommendations Do Nothing To Demonstrate Equivalency

In summary, the guidance gives the following procedure:

1. Establish the control strategy (i.e. VOC and NO_x reductions) and demonstrate using photochemical grid modeling that the control strategy will attain the standards by the applicable attainment date.
2. For interim years, use “*any mix* of annual reductions in VOC and NO_x” so long as it is:
 - a. “a logical step toward implementing” the control strategy; and
 - b. “results in a combined annual VOC and NO_x reduction of 3% per year.”⁸⁶

Thus, under the guidance, states need not use a photochemical grid model to determine the ozone reductions from 3% per annum VOC reductions, and need not use a photochemical grid model to examine the substitute NO_x reductions for equivalency. Immediately, this approach is inconsistent with EPA’s recommended approaches for section 182(f) and nonattainment NSR interpollutant offset trading, which expect photochemical grid models will be used for the relevant scenarios.

The guidance’s permission to use “any mix of annual reductions in VOC and NO_x” is self-refuting: the complex nature of ozone formation (as explained above) ensures that various mixes will actually result in various ozone levels. This contradicts the requirement in section 182(c)(2)(C) for equivalent ozone reductions.

Consistency with the control strategy does nothing at all to address this point. Simply put, the control strategy and attainment demonstration establish a single data point: this particular combination of VOC and NO_x reductions results in this particular amount of ozone reductions. A single data point is insufficient to establish an appropriate ratio for substituting NO_x for VOC; it’s like claiming that a single point defines a line. For example, it could be the case that the VOC reductions alone are sufficient to attain the standards and the NO_x reductions are ineffective, but the state chose to take credit for some NO_x reductions in the attainment demonstration modeling. That is why EPA expects photochemical grid modeling of multiple scenarios for nonattainment NSR offset trading and for section 182(f).⁸⁷

Furthermore, the control strategy is the result of state choices regarding which sources to regulate. “So long as the national standards are met, the State may select whatever mix of control devices it desires, and industries with particular economic or technological problems may seek special treatment in the plan itself.”⁸⁸ Thus, the selected VOC and NO_x controls may depend not just on what emission reductions are most effective in reducing ozone concentrations, but on other factors, such as politics.

⁸⁶ NO_x Substitution Guidance at 9 (emphasis added).

⁸⁷ Thus, it is entirely nonsensical for EPA to state: “The modeling performed for demonstration of attainment basically establishes the relationship between emission reductions—either of VOC, NO_x, or both—and ozone reductions.” 70 FR 25688, 25696 (May 13, 2005).

⁸⁸ *Union Electric Co. v. EPA*, 427 U.S. 246, 266 (1976) (citing *Train v. NRDC*, 421 U.S. 60, 79 (1975)).

Thus, there is no rational basis to conclude that the control strategy establishes optimum emission reductions.

In fact, this raises the specter that, under EPA's guidance, a state could game the VOC and NOx reductions to achieve favorable NOx substitution. This is particularly problematic in a NOx-saturated situation, where substitute NOx reductions may not achieve any ozone reductions, but may be readily available in the form of emissions reductions from, for example, turnover in mobile sources.

2. *The Policy Arguments in the Guidance Are Without Merit*

The guidance provides three excuses for not requiring states to develop a specific trading ratio (or "exchange rate") between VOC and NOx emissions:

- The strong likelihood that optimum "exchange" rates vary from year to year and across a geographic area as an area's emissions distribution and atmospheric chemistry change over time.
- Uncertainty in modeling analyses, particularly when attempting to ascertain responses from small percentage perturbations in emissions; and
- Resource limitations associated with modeling specific control measures during interim years before attainment dates.⁸⁹

All are without merit.

EPA also offers a justification for using percentage bases for the calculation (i.e. adding the VOC and NOx reduction percentages).⁹⁰ It too is without merit.

a) Variation in Emissions and Atmospheric Chemistry Is Not an Excuse

EPA cites as a justification: "[t]he strong likelihood that optimum 'exchange' rates vary from year to year and across a geographic area as an area's emissions distribution and atmospheric chemistry change over time."

This justification relies in part on a strawman: a proper 182(c)(2)(C) demonstration need not—and if EPA's justification has any merit, should not—establish a single exchange rate (or trading ratio) that applies across the area and across each year. The demonstration can include emission inventories for interim years and use them for photochemical grid modeling of the 3% VOC per annum scenario and the substitute NOx reduction scenario.

And if the justification is true, it applies with much greater force to EPA's recommendations; indeed, it refutes EPA's recommended approach. If optimum exchange rates vary from year to year and across an area, then the simplistic bookkeeping procedure cannot possibly account for those variations. On the other hand, proper photochemical grid modeling can.

⁸⁹ NOx Substitution Guidance at 4.

⁹⁰ *Id.*

b) Uncertainty Is Not an Excuse

EPA cites as a justification “[u]ncertainty in modeling analyses, particularly when attempting to ascertain responses from small percentage perturbations in emissions.”

But, regardless of uncertainty, EPA expects photochemical grid modeling of the relevant scenarios for nonattainment NSR and section 182(f) waivers. This unexplained inconsistency is arbitrary and capricious.

And uncertainty in modeling is not an excuse to use a completely unjustified approach for the demonstration. If it is true that modeling uncertainty means equivalency cannot reasonably be demonstrated, then NO_x substitution is simply not available until EPA improves modeling tools.

EPA itself explains modeling uncertainty as follows:

a. The formulation and application of air quality models are accompanied by several sources of uncertainty. “Irreducible” uncertainty stems from the “unknown” conditions, which may not be explicitly accounted for in the model (*e.g.*, the turbulent velocity field). Thus, there are likely to be deviations from the observed concentrations in individual events due to variations in the unknown conditions. “Reducible” uncertainties are caused by: (1) Uncertainties in the “known” input conditions (*e.g.*, emission characteristics and meteorological data); (2) errors in the measured concentrations; and (3) inadequate model physics and formulation.

b. Evaluations of model accuracy *should focus on the reducible uncertainty associated with physics and the formulation of the model*. The accuracy of the model is normally determined by an evaluation procedure which involves the comparison of model concentration estimates with measured air quality data. The statement of model accuracy is based on statistical tests or performance measures such as bias, error, correlation, etc.⁹¹

Thus, irreducible uncertainty is not an excuse for failure to do photochemical grid modeling; it’s just the nature of the beast. Reducible uncertainty can be addressed, and is addressed, in the applications of photochemical grid modeling that EPA recommends for analysis of NO_x emission reductions in the nonattainment NSR offset and section 182(f) waiver contexts.

c) Resource Limitations Are Not an Excuse

As a third justification, the guidance cites “[r]esource limitations associated with modeling specific control measures during interim years before attainment dates.”

This argument is, like all others in the guidance, without merit. First, that a state may not have the time, personnel, or resources to take advantage of an *option* is not a reason

⁹¹ 40 C.F.R. part 51, App’x W, 2.1.1 (citations omitted) (emphasis added).

to allow an arbitrary use of that option.⁹² If the state cannot demonstrate equivalent ozone reductions, for whatever reason—time, personnel, resources, or simple lack of scientific and technical support—then the state has not met the standard required for the option and cannot make use of it.

Second, even if there was merit in 1993 to the argument that photochemical grid modeling was too resource-intensive—and EPA’s contemporaneous 1993 guidance on section 182(f) (which it should be noted is also an *option*) contradicts this—there no longer is any merit. In 1993, the cost of purchasing computer power equivalent to a 2010 Apple iPad 2 was approximately half a million U.S. dollars.⁹³

In the SIP Requirements Rule, EPA itself contradicts this excuse in its justification for allowing NO_x substitution for Moderate areas that have met the initial ROP requirement:

[O]ur understanding of the effects of reductions of VOC and NO_x on ambient ozone levels and the technical tools to help predict what combinations of reductions of ozone precursors will be most effective for ozone reduction in any area have improved.⁹⁴

The NO_x Substitution Guidance procedure does not use any improved technical tools. Instead, it’s an accounting procedure that could’ve been employed prior to the invention of the computer (or for that matter, the abacus). Use of it is contrary to the justification for NO_x substitution in the SIP Requirements Rule; that’s arbitrary and capricious.

Elsewhere in the SIP Requirements Rule, EPA required attainment demonstrations for Moderate areas to be based on “a photochemical grid model or any other analytical method determined by the Administrator, in the Administrator’s discretion, to be at least as effective,”⁹⁵ even though the statute only explicitly requires this for areas classified Serious and above.⁹⁶ EPA explained that this was reasonable because “photochemical modeling is generally available and reasonable to employ.” In the SIP Requirements Rule for the 2012 standards, EPA reiterated this reasoning:

Since photochemical modeling is the most scientifically rigorous technique to determine NO_x and/or VOC emissions reductions needed to show attainment of the NAAQS and is readily available, we are requiring photochemical modeling (or another analytical method determined to be at least as effective) for all attainment demonstrations (including Moderate areas). We continue to believe

⁹² For every SIP submittal, the state must demonstrate it has adequate personnel and resources to implement it. See 42 U.S.C. § 7410(a)(2)(E)(i); see also *id.* § 7502(c)(7) (requiring attainment plans to meet the applicable requirements of section 110(a)(2)).

⁹³ “The Cost of Computing Power Equal to an iPad2,” The Hamilton Project, *available at* https://www.hamiltonproject.org/charts/cost_of_computing_power_equal_to_an_ipad2 (last visited Oct. 26, 2020).

⁹⁴ 80 FR at 12276.

⁹⁵ 40 C.F.R. § 51.1108(c). It would be laughable for EPA to argue that the procedure in the NO_x Substitution Guidance is “at least as effective” as photochemical grid modeling in predicting ozone concentrations.

⁹⁶ 42 U.S.C. § 7511a(c)(2)(A).

that photochemical modeling is the most technically credible method of estimating future year ozone concentrations based on projected VOC and NO_x precursor emissions.⁹⁷

Thus, EPA itself acknowledges that the resource justification in the NO_x Substitution Guidance is without merit.

EPA may object that there would be additional effort in creating the emission inventory for each year to demonstrate equivalency, but EPA could perhaps reasonably allow for linear interpolation between the three-year milestones. In other words, photochemical grid modeling of the required annual VOC reductions and the substitute NO_x reductions would only be necessary at the three-year intervals, for which states must already develop emission inventories to demonstrate RFP. If the substitute NO_x reductions over the three-year interval achieved the same ozone reductions as 9% VOC reductions, then EPA could reasonably conclude that the NO_x reductions would achieve equivalent ozone reductions to 3% VOC reduction on an annual basis. This conclusion could be bolstered by showing that the NO_x reductions are generally linear on an annual basis. In any case, it is absurd for EPA to suggest that a state taking advantage of a compliance option should not have to perform any additional effort to demonstrate that the option is viable.

Third, as discussed above EPA expects states to do sensitivity modeling for other optional interpollutant trading. And EPA in the same year, 1993, issued a guidance memorandum for section 182(f) recommending modeling of several scenarios in order to take advantage of the option to demonstrate that NO_x sources should be relieved of obligations. It is arbitrary and capricious for EPA to inconsistently let states off the hook in this instance.

d) EPA's Argument for Percentage Bases Is Without Merit

As noted above, trading ratios for nonattainment NSR offsets are developed on a mass basis: for example, the demonstration may show that 10 tpd of NO_x reductions are equivalent to 2 tpd of VOC reductions, resulting in a 5:1 ratio.

Here, the guidance states it uses a percentage basis to “avoid ‘absurd’ calculations.”

Substitution of NO_x reductions for VOC on a ton for ton basis could yield calculated NO_x reduction requirements which exceed the available NO_x inventory in cases where the base VOC inventory greatly exceeds the NO_x inventory. To illustrate, a 50% VOC reduction is analogous to a 100% NO_x reduction assuming the VOC inventory is twice the NO_x inventory and substitution is based on mass rather than percentage equivalency.

First, there is nothing ‘absurd’ about an *optional* compliance method not being available when the facts demonstrate the option is not warranted.

⁹⁷ 83 FR at 63004.

Second, the potential for this supposed absurdity only exists due to EPA's strawman regarding a single trading ratio. In the illustration given, the area may be NO_x limited or NO_x saturated; photochemical grid modeling of multiple scenarios is necessary to determine what, if any, NO_x substitute reductions can be allowed. If the base VOC inventory greatly exceeds the base NO_x inventory, the area is likely NO_x-limited and photochemical grid modeling can show what NO_x reductions are necessary, but no matter what those NO_x reductions are not going to exceed the available inventory. The only potential case for a NO_x-limited area in which full substitute NO_x reductions are not available to the state is when NO_x emission sources outside the state's jurisdiction contribute to ozone formation. But in that case full NO_x substitution is simply not available, because the science does not support it.

Third, the guidance does nothing to explain why its recommended use of percentages is arithmetically legitimate. Percentages are not typically additive. For example, Michael Jordan had a career shooting percentage of 49.7%;⁹⁸ LeBron James has a current career shooting percentage of 50.4%.⁹⁹ That does not mean that combined they shot 100.1%. In the absence of any explanation of why it is legitimate to add percentages, we are left to wonder whether EPA thinks two basketball players can make more than 100% of their shooting attempts even though one player cannot.

EPA may object that this analogy is too simple. Perhaps so, as after all the ultimate objective is equivalent reductions in ozone concentrations. In basketball, the ultimate objective is to win games. If a manager told a coach that she could substitute any player for LeBron James (in total or in part) so long as the team would win an equivalent number of games, that coach would have an extremely high burden to justify a substitution. For example, merely saying the replacement player has the same career shooting percentage as LeBron James would not suffice, in view of the complex interactions between players on a team and the various ways in which they can contribute to wins.¹⁰⁰ So it is with the NO_x Substitution Guidance: simple percentage substitution gives no technical basis for determining equivalent reductions in ozone concentrations.

Finally, the guidance states that the percentage basis is consistent with the percentage reduction requirement in section 182(c)(2)(B). This argument is without merit. The percentage-based VOC reduction requirement in section 182(c)(2)(B) exists to address the wide variety of nonattainment areas in a way that a mass-based reduction requirement would not. A statutory mass-based requirement would not have the same effect in a large metropolitan area as it would in a smaller ozone nonattainment area. However, once current VOC emissions are inventoried, as is necessary under the Act, it is trivial arithmetic to convert a percentage of VOC emissions into a mass equivalent that could be used in a trading ratio. EPA's use of percentages for NO_x emissions is not consistent with the statute simply because VOC emissions are specified as a percentage; instead it is a means to avoid the statute's requirement for a technical demonstration of

⁹⁸ <https://www.basketball-reference.com/players/j/jordamio1.html> (last visited Oct. 24, 2020).

⁹⁹ <https://www.basketball-reference.com/players/j/jamesleo1.html> (last visited Oct. 24, 2020).

¹⁰⁰ In view of Congress' decided preference for VOC emission reductions, the comparison with LeBron James is apt.

equivalency. And, as mentioned above one does not ordinarily add two percentages to arrive at an overall percentage. EPA must explain why this particular addition of percentages is legitimate.

3. The Legal Arguments in the Guidance Are Without Merit

One would ordinarily expect EPA guidance on a technical demonstration to require little to no legal justification, and the relatively straightforward language of section 182(c)(2)(C) should create no exception. That EPA felt compelled to provide a legal justification at all is an indication that the guidance is problematic.

In particular, Section 4 of the guidance purports to give a “legal rationale underlying the interpretation of ‘equivalency’ and the linkage between the RFP and NO_x substitution provisions within the Act.”¹⁰¹

However, it immediately gets off on the wrong foot:

“Equivalency” is not defined strictly in the context of, “What specified level of NO_x reductions, compared to VOC, results in equivalent ozone reductions.” Instead, any combination of VOC and NO_x reductions is “equivalent” so long as the reductions are consistent with those identified as necessary to attain the NAAQS in the modeling demonstration and provide for steady progress in leading to the emission reductions identified as necessary to attain the NAAQS by the specified attainment year.¹⁰²

This argument fails at step 1 of the *Chevron* analysis. Congress cannot have possibly meant by “equivalent ozone reductions” anything other than “these NO_x reductions result in the same ozone reductions as 3% per annum VOC reductions.” The word “equivalent” is defined as “equal in value, measure, force, effect, significance, etc.,” which precisely fits the mandated meaning just given.¹⁰³

The guidance dodges this by stating “equivalent” is defined by consistency with the control strategy and attainment demonstration and provision for steady progress toward attainment. That is false. The requirement for a demonstration that the control strategy attains the standards is an entirely separate requirement from the 3% per annum VOC reductions required under section 182(c)(2)(B). Equivalency cannot be defined by an independent and separate requirement. The effect of doing so robs equivalency of any independent meaning; it becomes subsumed under the requirements for the control strategy and attainment demonstration.¹⁰⁴

¹⁰¹ NO_x Substitution Guidance at 7.

¹⁰² *Id.*

¹⁰³ In a 2005 action, EPA quotes a similar definition but fails to draw any conclusion, let alone the obvious one, from it. 70 FR at 25695 n. 12. In that action, EPA generally repeats the invalid policy and legal arguments from the NO_x Substitution Guidance, but also tosses in a claim that section 182(g), which allows EPA to waive a milestone demonstration for a milestone date that falls on the attainment date, somehow supports its interpretation. *Id.* at 26696. Unsurprisingly, that is also without merit: the reason for the waiver is that EPA must determine at the attainment date whether the area attained the standard. 42 U.S.C. § 7511(b)(2). If the area attained, RFP requirements are beside the point; if not new planning obligations apply.

¹⁰⁴ *Cf. North Carolina v. EPA*, 531 F.3d 896, 908-911 (D.C. Cir. 2008).

To see this, consider a hypothetical revision to section 182(c)(2)(C), shown in redline-strikeout, that retains the word “equivalent” but eliminates the reference to “reductions in ozone concentrations”:

The revision may contain, in lieu of the demonstration required under subparagraph (B), a demonstration to the satisfaction of the Administrator that the applicable implementation plan, as revised, provides for reductions of emissions of VOC's and oxides of nitrogen (calculated according to the creditability provisions of subsection (b)(1)(C) and (D) of this section), that ~~would result in a reduction in ozone concentrations are~~ at least equivalent to ~~that which would result from~~ the amount of VOC emission reductions required under subparagraph (B).

In this case, EPA's interpretation *might* be permissible (there would still be the issue of why it is rational to use percentages for equivalency), but this shows that EPA's interpretation fails to give any meaning to the requirement for equivalency *in reductions of ozone concentrations*. “All the policy reasons in the world cannot justify reading a substantive provision out of a statute.”¹⁰⁵

For Serious area, the 3% per annum VOC reduction requirement in section 182(c)(2)(B) *is in addition to* the general RFP requirement in section 172(c)(2) for steady progress towards attainment.¹⁰⁶ This reflects Congress' considered judgment that for ozone areas, the general requirements in subpart 1 for an attainment demonstration and RFP failed to bring areas into attainment,¹⁰⁷ and VOC reductions (or equivalent NO_x reductions) must additionally be mandated. But EPA's guidance impermissibly nullifies this requirement.

Next, the guidance states that section 182(c)(2)(C)

could be interpreted to mean that the amount of NO_x reductions appropriate for substitution purposes is an amount, which, when compared to predicted VOC reductions, results in the same reductions in ozone concentrations that the VOC reductions would achieve in that area. However, such an interpretation could result in a demonstration showing that very small NO_x reductions provide an adequate substitute for large VOC reductions. This is because under some conditions substantial VOC reductions produce only small—even insignificant—reductions in ozone concentrations. EPA believes Congress would not have intended States to meet the Act's progress requirements with emissions reductions that would produce only minimal improvement in ozone concentrations.

These arguments are also without merit. First, the objection that the demonstration might allow very small NO_x reductions to substitute for large VOC reductions applies with greater force to EPA's interpretation. For example, if the aggregate NO_x emissions in the inventory on a mass basis is small relative to the aggregate VOC emissions, then use of percentages results precisely in the scenario EPA claims should not be allowed.

¹⁰⁵ *North Carolina*, 531 F.3d at 910.

¹⁰⁶ *See supra*, section II.B.

¹⁰⁷ *See NRDC v. EPA*, 777 F.3d 456, 460 (D.C. Cir. 2014).

And, if against all odds EPA's recommended procedure did result in a scientifically and technically legitimate trading ratio, then precisely the same thing would happen under both approaches.

Second, as shown above, Congress in the 1990 Amendments was well aware of the possibility that EPA claims Congress cannot have intended. Finally, EPA hypocritically claims the proper approach is illegitimate because it might produce only minimal improvement in ozone concentrations. But EPA's approach suffers from the exact same objection, and with greater force: it might (and almost certainly will in a NO_x-saturated situation) produce only minimal improvements in ozone concentrations. And furthermore, as the "progress requirements" for Serious areas include both sections 172(c)(2) and 182(c)(2)(C), under the proper approach in a NO_x-limited area (the scenario EPA claims to be concerned about) section 172(c)(2) RFP ensures the required progress in ozone reductions.

Next, EPA notes that the second sentence of section 182(c)(2)(C), which states that EPA must "issue guidance concerning the conditions under which NO_x control may be substituted for VOC control or may be combined with VOC control in order to maximize the reduction in ozone air pollution." That guidance is not this guidance. EPA's NO_x Substitution Guidance does nothing to set forth the technical circumstances regarding how to substitute or combine NO_x controls "in order to maximize the reduction in ozone air pollution." Instead, it gives states a way to evade photochemical grid modeling that actually might show what the reductions in ozone concentrations would be. Thus, the next sentence, which allows for lesser levels of VOC reductions, is irrelevant because it only applies when a state follows EPA's nonexistent guidance.

Next, EPA states that section 182(c)(2)(C) "confers on the Agency the discretion to select, for purposes of equivalent reductions, a percentage of NO_x emission reductions which is reasonably calculated to achieve both the ozone reduction and attainment progress goals intended by Congress." This repeats an earlier, mistaken argument: Congress specified VOC reductions *in addition to* the requirement for attainment and *in addition to* general RFP requirements. The requirements are independent; thus the NO_x reductions that are adequate to attain the standards may not be, and often are not, adequate to meet the substitution requirements.

EPA then states: "Nothing in the Act or in the legislative history directly addresses the case where NO_x reductions that are substituted for VOC reductions, and which meet the plain grammatical meaning of 'equivalency,' nonetheless result in insignificant ozone reductions." First, this is typical¹⁰⁸ EPA misdirection: to invent a supposed gap in the statute despite clear statutory language. The plain meaning of "equivalency" addresses the case. The language is not ambiguous merely because it does not expressly forbid each and every scenario that its plain language forecloses.¹⁰⁹

Second, the legislative history shows Congress was fully aware of this possibility: Section 185B was enacted in the 1990 Amendments along with all the Part D, subpart 2 ozone

¹⁰⁸ For another example, see *infra* section III.A.2 (discussing EPA's bogus gap in section 172(c)(9)).

¹⁰⁹ See *NRDC v. EPA*, 749 F.3d 1055, 1064 (D.C. Cir. 2014) (to "presume a delegation of power absent an express *withholding* of such power is plainly out of keeping with *Chevron*").

requirements. As explained above, section 185B required EPA to study the relative roles of VOC and NOx in ozone formation and consider scenarios in which NOx control would or would not be effective.

Finally, EPA's purported concerns about "insignificant ozone reductions" appear to be crocodile tears: EPA's NOx substitution guidance gives states a way to evade assessing the ozone reductions from NOx substitution, and the same objection in any case applies to EPA's procedure. In fact, EPA's conflation of equivalency with the requirements for an attainment demonstration necessarily means that EPA's procedure will achieve no ozone reductions whatsoever above and beyond the control strategy. Recall that Congress enacted the 1990 Amendments in the face of EPA's repeated approval of attainment demonstrations that ultimately failed; in particular the reclassification system created by Congress in the 1990 Amendments reflects Congress' expectation that attainment demonstrations *will* fail. That is why Congress required VOC reductions *in addition to* an attainment demonstration.

Congress's determination in the 1990 Amendments to limit EPA's discretion has been explained by the D.C. Circuit Court of Appeals:

In 1979, EPA promulgated primary and secondary NAAQS for ozone with a limit of 0.12 parts per million (ppm)—known as the “one-hour” standards, because they measured average ozone levels over one-hour periods. The Clean Air Act as amended in 1977 required states to achieve compliance with the one-hour ozone NAAQS by December 31, 1987. The statute afforded EPA and the states broad discretion as to the means of compliance. That discretionary approach ultimately accomplished little to reduce the dangers of key contaminants. For instance, according to congressional testimony, the number of regions violating the one-hour ozone NAAQS actually increased between August 1987 and February 1989.¹¹⁰

After nearly a decade of debate, Congress amended the Clean Air Act in 1990 to abandon the discretion-filled approach of two decades prior in favor of more comprehensive regulation of ozone and five other pollutants. The amendments moved the prior, discretionary approach to Subpart 1 of Part D of Subchapter I, where it continued to apply as a default matter to pollutants not specifically addressed in the amended portions of the Act. Congress enacted Subpart 2 to govern ozone.¹¹¹

Specifically, in Subpart 2, Congress determined that VOC reductions were necessary, *in addition to* the requirements for attainment that existed under the 1977 version of the Act, and that NOx reductions should only be substituted if there was an adequate technical justification.

It must be asked: Suppose a state were to ignore EPA's recommendations and give a technically justified demonstration, using photochemical grid modeling, showing equivalency. Does EPA suppose it could disapprove that submittal, due to the supposed

¹¹⁰ *NRDC v. EPA*, 777 F.3d 456, 460 (D.C. Cir. 2014) (citations and quotations omitted).

¹¹¹ *Id.*; see also *S. Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882, 886 (D.C. Cir. 2006); *Whitman v. Am. Trucking Ass'ns, Inc.*, 531 U.S. 457 484-85 (2001).

potential for “insignificant ozone reductions”? EPA has in essence already answered this question by, in one action, jettisoning the NO_x Substitution Guidance and instead relying on a technical demonstration submitted as part of the attainment plan in order to approve the NO_x substitutions in the plan.¹¹²

Finally, EPA states that the 3% per annum VOC reductions in section 182(c)(2)(B) is “additional evidence that Congress was concerned with getting more than minimal reductions in ozone concentrations through substitution.” However, if a proper equivalency demonstration, using photochemical grid modeling, shows that NO_x substitutions are equivalent even though they result in minimal ozone reductions, then the 3% per annum VOC reductions also resulted in minimal ozone reductions, because the NO_x substitute reductions must result in the same amount of ozone reduction as the 3% per annum VOC reductions.

II. CONCLUSION

For these reasons, the policy and legal arguments in the NO_x Substitution Guidance are utterly without merit. And EPA’s recommended procedure lacks any technical basis for demonstrating equivalency; it is no more than a bookkeeping gimmick.

¹¹² See 85 FR at 57717-78.