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Attainment Planning and Maintenance Section  
Air Programs Branch (AR-18J)  
U.S. Environmental Protection Agency, Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**Re: Docket ID No. EPA-R05-OAR-2019-0031**

Dear Ms. D'Agostino:

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-R05-OAR-2019-0031 in opposition to EPA's proposed action, "Air Plan Approval; Illinois; Reasonable Further Progress Plan and Other Plan Elements for the Chicago Nonattainment Area," 85 FR 22693 (Apr. 23, 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.

Since 1996, the Center for Environmental Health has protected people from harmful chemicals in air, water, food, and consumer products. Driven by a strategic, science-first approach, the Center for Environmental Health eliminates prevalent, but often little-known threats to children's and families' health, and strengthens the political and economic case for environmentally sound business practices.

## II. EPA MUST DISAPPROVE THE RFP PLAN

EPA proposes to approve the submittal as meeting the reasonable further progress (“RFP”) requirements applicable to nonattainment areas for the 2008 ozone standards that are classified as Moderate.<sup>1</sup> EPA’s State Implementation Plan (“SIP”) Requirements Rule for the 2008 ozone standards<sup>2</sup> distinguishes Moderate ozone areas that have, for a previous ozone standard, met the requirements of section 182(b)(1) of the Clean Air Act (“Act”) from those that have not.<sup>3</sup>

Here, EPA states that Illinois “previously met the 15 percent [volatile organic compound (“VOC”)] reduction requirement of CAA section 182(b)(1) for the Illinois portion of the Chicago area under the 1-hour ozone NAAQS.”<sup>4</sup> However, EPA fails to cite the relevant action and fails to provide a comparison between the nonattainment area for the 1-hour ozone standards and the nonattainment area for the 2008 ozone standards to ensure that the entire nonattainment area previously met the section 182(b)(1) requirements. EPA has an obligation to explain the basis for its action but EPA failed to do this. EPA therefore fails to meet requirements for reasonable notice under the Administrative Procedure Act (“APA”).

Even assuming for the sake of argument that EPA’s unsupported statements about the Chicago nonattainment area are accurate, EPA must still disapprove the submitted RFP plan, because it does not meet the overarching requirement for RFP to ensure attainment, and it relies on emission reductions of nitrogen oxides (“NOx”) that have not been demonstrated to meet the criteria of section 182(c)(2)(C) of the Act.

### A. The Submittal Does Not Satisfy RFP Requirements Because It Does Not Ensure Attainment

For Moderate ozone areas, section 182(b)(1)(A)(i) provides in relevant part:

By no later than 3 years after November 15, 1990, the State shall submit a revision to the applicable implementation plan to provide for volatile organic compound emission reductions, within 6 years after November 15, 1990, of at least 15 percent from baseline emissions, accounting for any growth in emissions after 1990.<sup>5</sup>

This provision was, like the rest of subpart 2 of part D, title I, added to the Act in the Clean Air Act Amendments of 1990.<sup>6</sup> In the context of implementation rules for revised ozone standards, EPA has interpreted the provision three times:

1. The “Phase 2 Rule” for the 1997 ozone standards;<sup>7</sup>

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<sup>1</sup> EPA notes that it reclassified the area to Serious on August 19, 2019. EPA is proposing to act on portions of a revision submitted on January 10, 2019 to meet Moderate area requirements and is assessing it against those requirements and not the requirements for Serious areas. 85 FR at 22694.

<sup>2</sup> 80 FR 12264 (Mar. 6, 2015).

<sup>3</sup> *Id.* at 12271; 40 C.F.R. § 51.1110(a)(2)-(4).

<sup>4</sup> 85 FR at 22695.

<sup>5</sup> 42 U.S.C. § 7511a(b)(1)(A)(i).

<sup>6</sup> Pub. L. 101-549, § 103, 104 Stat. 2428.

<sup>7</sup> 68 FR 32802 (June 2, 2003).

2. The “SIP Requirements Rule” for the 2008 ozone standards;<sup>8</sup> and
3. The “SIP Requirements Rule” for the 2015 ozone standards.<sup>9</sup>

**1. EPA’s “Phase 2” Rule**

In its proposal for the “Phase 2” rule for implementation of the 1997 ozone standards, EPA noted that section 182(b)(1)(A)(i) did not allow for substitution of NO<sub>x</sub> emission reductions for VOC emission reductions.<sup>10</sup> EPA stated:

Currently, for many areas of the country, particularly in the Eastern U.S. outside major metropolitan areas, there is a greater need for NO<sub>x</sub> reductions rather than VOC reductions.<sup>11</sup>

EPA accordingly proposed an option for Moderate ozone areas that had already met the section 182(b)(1)(A)(i) requirement (referred to by EPA as the initial “rate-of-progress” or “ROP” requirement) for the previous 1-hour standards to instead “be covered under the generic RFP requirements of subpart 1” of part D, title I.<sup>12</sup>

For areas that had not previously met the initial ROP requirement,

section 172(c)(2) also applies, requiring areas to meet RFP generally. Therefore, a [M]oderate area would also have to provide any additional emissions reductions—VOC and/or NO<sub>x</sub>—needed to provide for attainment by the area’s attainment date.<sup>13</sup>

For areas that had previously met the initial ROP requirement, only section 172(c)(2) would apply. Section 172(c)(2) requires attainment plans to “require reasonable further progress.”<sup>14</sup> In turn, “reasonable further progress” is defined as

such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.<sup>15</sup>

According to EPA, this more general provision (as compared to section 182(b)(1)(A)(i)) would allow for use of NO<sub>x</sub> emission reductions in lieu of VOC emission reductions.<sup>16</sup>

EPA further proposed to subdivide areas that had already met the initial ROP requirement into three cases, depending on the length of time between designation and the attainment date. Except for those areas with an attainment date 3 years or less after

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<sup>8</sup> 78 FR 34178 (June 6, 2013).

<sup>9</sup> 83 FR 62988 (Dec. 6, 2018).

<sup>10</sup> 68 FR 32802, 32833 (June 2, 2003).

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> *Id.* at 32834.

<sup>14</sup> 42 U.S.C. § 7502(c)(2).

<sup>15</sup> *Id.* § 7501(1).

<sup>16</sup> 68 FR at 32835.

designation, RFP would at a minimum require the emissions reductions necessary to attain by the attainment date.<sup>17</sup>

In the final “Phase 2” rule,<sup>18</sup> EPA modified this proposal to subdivide the areas into two cases, depending on whether the attainment date was beyond 5 years after designation.<sup>19</sup> In both cases, RFP would at a minimum consist of emission reductions necessary to reach attainment.<sup>20</sup> If the attainment date was past the 5-year mark, the plan would have also meet a 15 percent VOC reduction requirement, with the option to substitute NO<sub>x</sub> reductions for VOC reductions.<sup>21</sup>

In the preamble for the Phase 2 rule, EPA summarized the proposal as allowing NO<sub>x</sub> substitution “consistent with EPA’s NO<sub>x</sub> substitution policy,”<sup>22</sup> as provided in EPA’s NO<sub>x</sub> Substitution Guidance.<sup>23</sup> However, EPA did not incorporate this guidance into the Code of Federal Regulations. Instead, in the final Phase 2 rule EPA required NO<sub>x</sub> substitutions to simply “meet the criteria in section 182(c)(2)(C) of the Act.”<sup>24</sup> EPA’s NO<sub>x</sub> Substitution Guidance purports—incorrectly, as discussed below—to recommend a procedure to address the requirement in section 182(c)(2)(C) to demonstrate that substitute NO<sub>x</sub> emission reductions achieve equivalent reductions in ozone concentrations.

EPA’s Phase 2 rule was upheld with respect to the decision to apply subpart 1 to Moderate areas that had already met the initial ROP requirement. It was not challenged with respect to the details of the implementation, such as the reference to section 182(c)(2)(C).<sup>25</sup>

## **2. EPA’s Rule for the 2008 Ozone Standards**

EPA proposed to similarly allow NO<sub>x</sub> substitution in its “SIP Requirements Rule” for implementation of the 2008 ozone standards.<sup>26</sup> As one reason for this, EPA stated:

[O]ur understanding of the effects of reductions of VOC and NO<sub>x</sub> on ambient ozone levels has greatly improved since the 1990 CAA Amendments were enacted, and there are technical tools more readily available to help states predict the combination of VOC and/or NO<sub>x</sub> that will be most effective in reducing ozone in a particular area. In many areas we now know that NO<sub>x</sub>

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<sup>17</sup> *See id.*

<sup>18</sup> 70 FR 71612 (Nov. 29, 2005).

<sup>19</sup> *Id.* at 71634.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *Id.* at 71642-643.

<sup>23</sup> NO<sub>x</sub> Substitution Guidance, Office of Air Quality Planning and Standards (Dec. 1993), available at [https://www3.epa.gov/ttn/naaqs/aqmguid/collection/cp2\\_old/19931201\\_oaqps\\_nox\\_substitution\\_guidance.pdf](https://www3.epa.gov/ttn/naaqs/aqmguid/collection/cp2_old/19931201_oaqps_nox_substitution_guidance.pdf). This guidance memorandum is attached to these comments. It is also included in EPA’s compilation, “NO<sub>x</sub> 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.

<sup>24</sup> 70 FR at 71701; 40 C.F.R. § 51.911(b)(2)(ii)(B).

<sup>25</sup> *See NRDC v. EPA*, 571 F.3d 1245, 1261-63 (D.C. Cir 2009).

<sup>26</sup> 78 FR 34178, 34188 (June 6, 2013).

reductions will have a far greater effect than VOC reductions on reducing ambient ozone concentrations.<sup>27</sup>

EPA thus proposed, for areas that had met the initial ROP requirement (referred to in this rule as the “15 percent RFP plan requirement for VOC in section 182(b)(1)”) that the requirements of section 172(c)(2) would instead apply.<sup>28</sup> As with the Phase 2 Rule, this would allow for NO<sub>x</sub> substitution. In an “Appendix C” to the preamble for the proposed rule, EPA provided a procedure that EPA stated would “properly account for the non-creditable emissions reductions when calculating RFP targets ... consistent with the requirements of sections 182(b)(1)(C) and (D) and 182(c)(2)(B).”<sup>29</sup> The procedure stated that NO<sub>x</sub> substitution would “follow[] EPA’s NO<sub>x</sub> Substitution Guidance.”<sup>30</sup>

In the final “SIP Requirements Rule,”<sup>31</sup> EPA finalized this approach.<sup>32</sup> EPA stated that it was consistent with the approach in the Phase 2 Rule, and reiterated the reason given in its proposal for allowing NO<sub>x</sub> substitution:

[O]ur understanding of the effects of reductions of VOC and NO<sub>x</sub> 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. Since the purpose of the RFP provisions in CAA sections 172 and 182 is to foster the achievement of reasonable further progress toward attainment, we believe that it makes the most sense to allow states to credit toward the RFP requirement those reductions that an area most needs to reach attainment.<sup>33</sup>

The preamble to the final rule does not mention the NO<sub>x</sub> Substitution Guidance, but the response to comments indicates that EPA intended to continue its use for “section 182(c)(2)(C) equivalency demonstration requirements.”<sup>34</sup> EPA also referenced a memorandum issued in 1994 regarding a section 182(c)(2)(C) demonstration in the absence of an attainment demonstration.<sup>35</sup> However, EPA did not incorporate either guidance memorandum into the Code of Federal Regulations; instead, as with the Phase 2 Rule, EPA simply required NO<sub>x</sub> substitution to meet the criteria in section 182(c)(2)(C) of the Act.

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<sup>27</sup> *Id.*

<sup>28</sup> *Id.* at 34189.

<sup>29</sup> *Id.* at 34239.

<sup>30</sup> *Id.* at 34230.

<sup>31</sup> 80 FR 12264 (Mar. 6, 2015).

<sup>32</sup> *Id.* at 12276.

<sup>33</sup> *Id.*

<sup>34</sup> Response to Comments on Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements, EPA-HQ-OAR-2010-0885-0191 at 53 (Feb. 13, 2015). This document is attached to this comment.

<sup>35</sup> *Id.* (discussing “Clarification of Policy for NO<sub>x</sub> Substitution,” Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards (Aug. 5, 1994) (“Clarification Memorandum”), available at <https://archive.epa.gov/ttn/ozone/web/pdf/clarisub.pdf>). This guidance memorandum is attached to these comments. It is also included in EPA’s compilation, “NO<sub>x</sub> 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.

While the Phase 2 Rule, consistent with the definition of RFP in section 171(1), explicitly tied its RFP requirements to attainment as well as 15% VOC emission reductions,<sup>36</sup> the SIP Requirements Rule simply states: “the area is subject to the RFP requirements under CAA section 172(c)(2) *and* shall submit a SIP revision that” meets the 15% VOC emission reduction requirement.<sup>37</sup> Given the intent of the SIP Requirements Rule to continue the approach used in the Phase 2 Rule, the use of the conjunctive “and,” and the genesis of these RFP requirements from section 172(c)(2) instead of section 182(b)(1), this rule must be taken to mean that the area must meet the basic RFP requirement for incremental emission reductions that ensure attainment, as well as the 15% VOC emission reduction requirement.<sup>38</sup>

### ***3. The Submittal Does Not Demonstrate Attainment and Therefore Does Not Demonstrate RFP***

As EPA notes, EPA has not approved the attainment demonstration and does not propose to approve it in this action.<sup>39</sup> Thus, EPA has no basis in this action to conclude that the submitted incremental emissions reductions would ensure attainment, and therefore cannot approve them as meeting RFP requirements.

Furthermore, as EPA notes, EPA previously determined that the Chicago area failed to attain the 2008 ozone standards by the Moderate area attainment date of July 20, 2018.<sup>40</sup> Thus, the only relevant information in the record that has been or currently is subject to notice-and-comment—the failure to attain—shows that the emission reductions in fact were not adequate to ensure attainment.

As EPA has stated countless times in justifying its so-called “Clean Data Determinations,” which allow states and EPA to evade their statutory duties based on ambient air quality monitoring data, RFP under section 172(c)(2) is tied to attainment.<sup>41</sup> Upon a determination that an area attained the standard, the requirements for (among other things) RFP are suspended.<sup>42</sup>

EPA must take the bitter with the sweet. If attaining data allows RFP obligations to be suspended, then necessarily an area that fails to attain and fails to demonstrate attainment cannot meet the RFP requirement. In fact, had EPA issued a “Clean Data Determination” for the Chicago area and suspended the requirements for RFP, EPA would have had to rescind the suspension once the area violated the 2008 ozone standards and was reclassified.

EPA must therefore disapprove the RFP portion of the submittal.

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<sup>36</sup> See 40 C.F.R. § 51.910(b)(2)(i), (ii)(C).

<sup>37</sup> 40 C.F.R. § 51.1110(a)(2)(i).

<sup>38</sup> 42 U.S.C. § 7501(1) (definition of RFP).

<sup>39</sup> 85 FR at 22694.

<sup>40</sup> 85 FR at 22694.

<sup>41</sup> *E.g.*, 80 FR at 12296.

<sup>42</sup> 40 C.F.R. § 51.1118.

## **B. The Submittal Does Not Demonstrate that the Criteria of Section 182(c)(2)(C) Have Been Met**

Under the SIP Requirements Rule, the submitted RFP revision must:

- (A) Provide[] for a 15 percent emission reduction from the baseline year within 6 years after the baseline year;
- (B) Provide[] for an additional emissions reduction of 3 percent per year from the end of the first 6 years up to the beginning of the attainment year if a baseline year earlier than 2011 is used; and
- (C) Rel[y] on either NO<sub>x</sub> or VOC emissions reductions (or a combination) to meet the requirements of [the immediately previous paragraphs]. *Use of NO<sub>x</sub> emissions reductions must meet the criteria in CAA section 182(c)(2)(C).*<sup>43</sup>

EPA proposes to approve a combination of 5% VOC reductions and 10% NO<sub>x</sub> reductions as meeting the requirement for 15% emission reductions.<sup>44</sup> Therefore, by rule the NO<sub>x</sub> emission reductions must meet the requirements of section 182(c)(2)(C) of the Act.

In turn, section 182(c)(2)(C) allows for a combination in reductions of VOC and NO<sub>x</sub> emissions if the plan revision 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)].<sup>45</sup>

Section 182(c)(2)(B) requires, for areas classified Serious and above, a demonstration that the plan will achieve 3% VOC reductions per year from the starting point (“baseline emissions”), except in the limited circumstance—which does not apply here—that the state can demonstrate all technically feasible measures have been implemented in the nonattainment area.<sup>46</sup> Section 182(c)(2)(B) does not apply to Moderate areas, so EPA’s rule must be read to mean that NO<sub>x</sub> substitutions for Moderate areas must be shown to “result in a reduction in ozone concentrations at least equivalent to that which would result from” the default 15% VOC reductions required under the SIP Requirements Rule.

### **1. Equivalence of VOC and NO<sub>x</sub> 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.

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<sup>43</sup> *Id.* at 12316 (emphasis added); 40 C.F.R. § 51.1110(a)(2)(i)(A)-(C).

<sup>44</sup> *See* 85 FR at 22697, Tbl. 5.

<sup>45</sup> 42 U.S.C. § 7511a(c)(2)(C).

<sup>46</sup> *Id.* § 7511a(c)(2)(B).

**a) “The Relative Roles of VOC and NO<sub>x</sub> in Ozone Formation”<sup>47</sup>**

The key to the chemistry of ozone formation is the “hydroxyl radical,” denoted OH.<sup>48</sup> The hydroxyl radical is very reactive, and VOCs and NO<sub>x</sub> compete to react with it. “At a high ratio of VOC to NO<sub>x</sub> concentrations, [the hydroxyl radical] will react mainly with VOCs; at a low ratio the NO<sub>x</sub> reaction can predominate.”<sup>49</sup>

As a result of this competition for the hydroxyl radical,

[a]t a given level of VOC, there exists a NO<sub>x</sub> concentration at which a maximum amount of ozone is produced, an optimum VOC:NO<sub>x</sub> ratio. For ratios less than this optimum ratio, NO<sub>x</sub> increases lead to ozone decreases; conversely, for ratios larger than this optimum ratio, NO<sub>x</sub> increases lead to ozone increases.<sup>50</sup>

When NO<sub>x</sub> levels are above this “optimum”<sup>51</sup> ratio, then the situation is described as “NO<sub>x</sub> saturated.”<sup>52</sup> In this case a reduction in NO<sub>x</sub> levels can lead to increases in ozone levels, due to the reduction in competition by NO<sub>x</sub> for the hydroxyl radical. On the other hand, if NO<sub>x</sub> levels are below the “optimum,” the situation is described as “NO<sub>x</sub> 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.<sup>53</sup>

Due to complexity of the issue, “ozone response to precursor can vary greatly with each area.”<sup>54</sup>

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<sub>x</sub>) in ozone abatement varies widely .... These cities share an ozone problem, but differ widely in the relative contributions of anthropogenic VOCs and NO<sub>x</sub> and biogenic emissions. As a result, the optimal set of controls relying on VOCs, NO<sub>x</sub>, or most likely, reductions of both, will vary from one place to the next.<sup>55</sup>

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<sup>47</sup> John H. Seinfeld & Spyros N. Pandis, *ATMOSPHERIC CHEMISTRY AND PHYSICS: FROM AIR POLLUTION TO CLIMATE CHANGE* 238 (Wiley Interscience, 2d. ed. 2006).

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.* at 236.

<sup>51</sup> 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.

<sup>52</sup> *Id.* at 238.

<sup>53</sup> *Id.*

<sup>54</sup> 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.

<sup>55</sup> *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)).



## **b) 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.”<sup>56</sup>

The study shall examine the roles of NO<sub>x</sub> and VOC emission reductions, the extent to which NO<sub>x</sub> reductions may contribute (or be counterproductive) to achievement of attainment in different nonattainment areas, the sensitivity of ozone to the control of NO<sub>x</sub>, the availability and extent of controls for NO<sub>x</sub>, the role of biogenic VOC emissions, and the basic information required for air quality models.

Thus, Congress was aware that NO<sub>x</sub> reductions might be counterproductive, and that ozone concentrations might vary in sensitivity to NO<sub>x</sub> reductions, and directed EPA to study these issues.

Second, section 182(f) requires the provisions for major stationary sources of VOCs to also apply to major stationary sources of NO<sub>x</sub>, 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.”<sup>57</sup>
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”;<sup>58</sup> 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.”<sup>59</sup>

Thus, Congress anticipated the scenario mentioned above, where NO<sub>x</sub> 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<sub>x</sub> 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

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<sup>56</sup> 42 U.S.C. § 7511f.

<sup>57</sup> *Id.* § 7511a(f)(1).

<sup>58</sup> *Id.* § 7511a(f)(1)(A).

<sup>59</sup> *Id.* § 7511a(f)(1)(B).

lesser percentage of VOCs may be accepted as an adequate demonstration for purposes of this subsection.<sup>60</sup>

This again shows Congress in the 1990 Amendments was aware of the issue of the relative roles of NO<sub>x</sub> and VOC in ozone formation and provided for that issue.

### **c) EPA's Approach to Ozone Precursors in Other Contexts**

One context in which the relative effectiveness of VOC and NO<sub>x</sub> 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 such as Chicago, 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 such as Chicago, the relevant pollutants are VOCs and NO<sub>x</sub>.

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<sub>x</sub> 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.<sup>61</sup> 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.<sup>62</sup>

Using these results, an interpollutant trading ratio of NO<sub>x</sub> and VOC is developed. For example, the modeling may demonstrate that a reduction of 10 tons per day ("tpd") of credited NO<sub>x</sub> reductions may offset an increase of 2 tpd of VOC from the construction of the new or modified source, resulting in a NO<sub>x</sub>:VOC trading ratio of 5:1.63 The trading

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<sup>60</sup> *Id.* § 7511a(c)(2)(C). As explained below, *see infra* section II.B.3, the guidance at issue here is not the guidance Congress required.

<sup>61</sup> 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.

<sup>62</sup> *Id.* at 6-8.

<sup>63</sup> As explained above, this ratio may vary depending on the relative overall levels of NO<sub>x</sub> 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.

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.<sup>64</sup> 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.<sup>65</sup>

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<sub>x</sub> 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 demonstrations.<sup>66</sup> In each case, EPA recommended modeling of at least two scenarios (e.g. NO<sub>x</sub> control versus no NO<sub>x</sub> control). EPA updated the section 182(f) guidance in 2005; it continues to recommend photochemical grid modeling for the relevant scenarios.<sup>67</sup>

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<sub>x</sub> in ozone formation.

However, the submittal for the Chicago nonattainment area does not use a photochemical grid model to determine if the substitute NO<sub>x</sub> emission reductions result in equivalent ozone reductions. This unexplained inconsistency is *per se* arbitrary and capricious.

## ***2. EPA Fails to Give Adequate Notice of Its Proposed Interpretation of Section 182(c)(2)(C)***

Under the SIP requirements Rule, if a state wants to avail itself of the option for NO<sub>x</sub> substitution, the criteria in section 182(c)(2)(C) must be met. Namely, the state must demonstrate that the SIP revision “provides for reductions of emissions of VOCs and

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<sup>64</sup> *Id.* at 8-9.

<sup>65</sup> *Id.* at 9.

<sup>66</sup> 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<sub>x</sub> 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.

<sup>67</sup> Memorandum from Stephen D. Page, Director, Office of Air Quality Planning and Standards, “Guidance on Limiting Nitrogen Oxides (NO<sub>x</sub>) Requirements Related to 8-Hour Ozone Implementation” (Jan. 14 2005), available at [https://www3.epa.gov/ttn/naaqs/aqmguidance/collection/cp2/20050114\\_page\\_guidance\\_8-hr\\_ozone\\_nox\\_exemptions.pdf](https://www3.epa.gov/ttn/naaqs/aqmguidance/collection/cp2/20050114_page_guidance_8-hr_ozone_nox_exemptions.pdf). A copy of this memorandum is attached to these comments.

[NOx] ... that would result in a reduction in ozone concentrations at least equivalent to that which would result from” the 15% VOC reductions required under the Rule.

The proposal notice entirely fails to explain how EPA interprets this equivalency criterion in section 182(c)(2)(C); in fact it fails to even acknowledge the existence of section 182(c)(2)(C).<sup>68</sup> The submittal is similarly devoid of any explanation or demonstration regarding the equivalency of the NOx reductions.<sup>69</sup>

The only fact that can be gleaned from the submittal and the proposal notice is that the percentage of VOC reductions is 5%, and the percentage of NOx reductions is 10%. While adding the two does total 15%, that does nothing to explain why the combination of the two results in equivalent reductions in ozone concentrations as would result from a straight 15% reduction in VOC emissions. The complex nature of the formation of ozone from VOC and NOx makes it surpassingly unlikely—in the absence of any scientific or technical demonstration—that NOx emissions can be substituted for VOC emissions on a one-for-one basis with equivalent ozone reductions.

And this one-for-one substitution is not even on a mass basis. The notice fails to even explain why adding percentages from disparate quantities (VOC and NOx emissions) is arithmetically legitimate. Ted Williams had a career batting average of .344 (34.4%);<sup>70</sup> Babe Ruth .342 (34.2%).<sup>71</sup> That does not mean that combined they hit .686 (68.6%). Michael Jordan had a career shooting percentage of 49.7%;<sup>72</sup> LeBron James has a current career shooting percentage of 50.4%.<sup>73</sup> That does not mean that combined they shot 100.1%. While EPA’s addition of percentages may not be so absurd as these examples, in the absence of any explanation we are left to wonder whether EPA thinks two players can make more than 100% of their shooting attempts even though one player cannot.

As discussed above, EPA in its response to comments for the SIP Requirements Rule referenced two guidance memoranda that could shed some light on this conundrum. However, even assuming for the sake of argument that EPA intended to adopt the policies set forth in those memoranda, EPA has not satisfied requirements for adequate notice under the APA. The guidance memoranda are non-binding. Thus, the notice for EPA’s action must indicate whether EPA intends to adopt the positions set forth in the guidance memoranda.<sup>74</sup> EPA did not do so here. Perhaps EPA—as it should—has abandoned the justifications given in the memoranda, but nonetheless thinks—as it should not—that the addition of the percentages is nonetheless legitimate for some other reasons.

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<sup>68</sup> See generally 85 FR 22693-700.

<sup>69</sup> See generally EPA-RO5-OAR-2019-0031-0002, Attainment Demonstration for the 2008 Ozone National Ambient Air Quality Standard for the Chicago Nonattainment Area, Illinois Environmental Protection Agency (Jan. 9, 2019) (“Submittal”) at 8-14.

<sup>70</sup> <https://www.baseball-reference.com/players/w/willite01.shtml> (last visited May 20, 2020).

<sup>71</sup> <https://www.baseball-reference.com/players/r/ruthba01.shtml> (last visited May 20, 2020).

<sup>72</sup> <https://www.basketball-reference.com/players/j/jordami01.html> (last visited May 20, 2020).

<sup>73</sup> <https://www.basketball-reference.com/players/j/jamesle01.html> (last visited May 20, 2020).

<sup>74</sup> See *U.S. Magnesium LLC v. U.S. EPA*, 690 F.3d 1157, 1168 (10th Cir. 2012).

It is particularly problematic now, as it is unclear whether EPA still considers these memoranda to be in effect.<sup>75</sup> As explained in a memorandum from the Office of Information and Regulatory Affairs,<sup>76</sup> Executive Order 13891 established a deadline of February 28, 2020 for agencies “to establish a single, searchable, indexed website that contains, or links to, all of the agencies' respective guidance documents currently in effect.” EPA’s attempt to do so can be found at a web page entitled “EPA Guidance Documents.”<sup>77</sup> Neither of the two memoranda is listed under “Guidance Documents Managed by the Office of Air and Radiation.”<sup>78</sup> While EPA states that it anticipates updating the site by June 27, 2020, that is not adequate notice for a comment period that closes on May 26, 2020.

Thus, EPA must re-propose its action and explain whether the relevant guidance memoranda are in effect; whether EPA is adopting their positions here, and if not, why not; and how the combination of NOx and VOC emissions reductions achieves equivalent ozone reductions. If the guidance memoranda are not in effect, then there is simply no discernible basis for EPA’s proposed determination that the NOx substitution here meets the criteria of section 182(c)(2)(C).

Assuming for the sake of argument that the two memoranda are in effect and EPA did intend to adopt their positions here as its reasoning for equivalency, EPA’s proposed approval still fails as the submittal does not meet the recommendations in the guidance memoranda, which in any case are fatally flawed. Accordingly, the submittal does not demonstrate equivalency under the criteria in section 182(c)(2)(C) of the Act.

### ***3. The Submittal Does Not Demonstrate that the Equivalency Criterion for NOx Substitution in Section 182(c)(2)(C) is Met***

As discussed above, neither the submittal nor EPA’s notice explain why the combination of 10% NOx emission reductions and 5% VOC emission reductions results in equivalent ozone reductions as 15% VOC reductions. Lack of adequate notice aside, it appears that the submittal may be using the procedure recommended in EPA’s NOx Substitution

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<sup>75</sup> “EPA Proposes to Give Up Some ‘Guidance’ Power That Critics Hate,” Jennifer A. Dlouhy, Bloomberg Law, Environment & Energy Report (May 18, 2020), *available at* <https://news.bloomberglaw.com/environment-and-energy/epa-proposes-to-give-up-some-guidance-power-that-critics-hate>

<sup>76</sup> Memorandum from Dominic J. Mancini, Acting Administrator, Office of Information and Regulatory Affairs, Guidance Implementing Executive Order 13891, Titled ‘Promoting the Rule of Law Through Improved Agency Guidance Documents’, *available at* <https://www.whitehouse.gov/wp-content/uploads/2019/10/M-20-02-Guidance-Memo.pdf>. A copy of this memorandum is attached to these comments.

<sup>77</sup> “EPA Guidance Documents,” <https://www.epa.gov/guidance>. A copy of this webpage is attached to these comments.

<sup>78</sup> “Guidance Documents Managed by the Office of Air and Radiation,” <https://www.epa.gov/guidance/guidance-documents-managed-office-air-and-radiation>. A copy of this webpage is attached to these comments. The compilation “NOx Policy Documents for the 1990 Clean Air Act” is also not listed. A comma-separated value (.csv) spreadsheet containing the active documents is available at [https://www.epa.gov/sites/production/files/2020-03/oar\\_active\\_02.28.2020\\_2.csv](https://www.epa.gov/sites/production/files/2020-03/oar_active_02.28.2020_2.csv) and is attached to these comments.

Guidance. That procedure, however, does nothing to demonstrate equivalency. Instead, it's a bookkeeping gimmick that allows states to manipulate VOC and NOx emission reductions for other purposes, such as the motor vehicle emission budgets here.

Even assuming the NOx Substitution Guidance gave a legitimate procedure—and it does not—the submittal here fails to meet EPA's prerequisites for use of the procedure. So even on EPA's own terms the RFP plan must be disapproved.

### **a) EPA's NOx Substitution Guidance Is Fatally Flawed**

Typically, a guidance memorandum for SIPs gives States EPA's recommendations on how to implement the Act. EPA's NOx Substitution Guidance instead gives recommendations on how to evade the Act. It recommends a procedure that fails to demonstrate any equivalence between VOC and NOx reductions; relies on incorrect policy assumptions; and gives legal justifications that are without merit.

#### **(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 NOx 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 NOx" so long as it is:
  - a. "a logical step toward implementing" the control strategy; and
  - b. "results in a combined annual VOC and NOx reduction of 3% per year."<sup>79</sup>

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 NOx 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 NOx" 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 NOx reductions results in this particular amount of ozone reductions. A single data point is insufficient to establish an appropriate ratio for substituting NOx 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

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<sup>79</sup> NOx Substitution Guidance at 9 (emphasis added).

sufficient to attain the standards and the NOx reductions are ineffective, but the state chose to take credit for some NOx 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).<sup>80</sup>

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.”<sup>81</sup> Thus, the selection VOC and NOx controls may depend not just on what emission reductions are most effective in reducing ozone concentrations, but on other factors, such as politics. Thus there is no rational basis to conclude that the control strategy necessarily 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 or the shutdown of coal fired power plants which closed because they were uneconomical to continue to operate.

## **(2) The Policy Arguments in the Guidance Are Without Merit**

The guidance provides three reasons 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.<sup>82</sup>

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).<sup>83</sup> It too is without merit.

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<sup>80</sup> 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, NOx, or both—and ozone reductions.” 70 FR 25688, 25696 (May 13, 2005).

<sup>81</sup> *Union Electric Co. v. EPA*, 427 U.S. 246, 266 (1976) (citing *Train v. NRDC*, 421 U.S. 60, 79 (1975)).

<sup>82</sup> NOx Substitution Guidance at 4.

<sup>83</sup> *Id.*

(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.

(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 NOx substitution is simply not available.

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.<sup>84</sup>

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<sub>x</sub> 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 fails. First, that a state may not have the time, personnel, or resources to take advantage of an *option* is not a reason to allow an arbitrary use of that option.<sup>85</sup> 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. And there is nothing in the record to suggest that resource constraints apply to the Illinois Environmental Protection Agency, an agency in a large and relatively wealthy state.

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.<sup>86</sup>

In the SIP Requirements Rule, EPA itself contradicts this excuse in its justification for allowing NO<sub>x</sub> substitution for Moderate areas that have met the initial ROP requirement:

[O]ur understanding of the effects of reductions of VOC and NO<sub>x</sub> on ambient ozone levels and the technical tools to help predict what combinations of

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<sup>84</sup> 40 C.F.R. part 51, App’x W, 2.1.1 (citations omitted) (emphasis added).

<sup>85</sup> 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). EPA previously determined that Illinois does have adequate resources and personnel to implement the 2008 ozone NAAQS. 79 FR 62042, 62046 (Oct. 61, 2014). This requirement applies equally to attainment plans such as the one here. *Id.* § 7502(c)(7) (requiring compliance with the applicable requirements of section 110(a)(2)(a)). This reinforces the point that if a state does not have the resources to take advantage of an option, then that option is not available. EPA may argue that it interprets the infrastructure requirements of section 110(a)(2) to not cover nonattainment SIPs. Even if this were a valid interpretation, which it is not, section 110(a)(2)(E)(i) would still require a state to have adequate resources to implement its whole air program. EPA makes no attempt to bifurcate air programs into nonattainment and attainment implementation when doing its analysis of section 110(a)(2)(E) submittals and so cannot now, retroactively, claim that it does.

<sup>86</sup> “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](https://www.hamiltonproject.org/charts/cost_of_computing_power_equal_to_an_ipad2) (last visited Feb. 9, 2020).

reductions of ozone precursors will be most effective for ozone reduction in any area have improved.<sup>87</sup>

The NO<sub>x</sub> 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 computers. Use of it is contrary to the justification for NO<sub>x</sub> 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,"<sup>88</sup> even though the statute only explicitly requires this for areas classified Serious and above.<sup>89</sup> 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<sub>x</sub> 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 that photochemical modeling is the most technically credible method of estimating future year ozone concentrations based on projected VOC and NO<sub>x</sub> precursor emissions.<sup>90</sup>

Thus, EPA itself acknowledges that the resource justification in the NO<sub>x</sub> 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 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<sub>x</sub> 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<sub>x</sub> reductions over the three-year interval achieved the same ozone reductions as 9% VOC reductions, then EPA could reasonably conclude that the NO<sub>x</sub> reductions would achieve equivalent ozone reductions to 3% VOC reduction on an annual basis. This conclusion could be bolstered by showing that the NO<sub>x</sub> reductions are generally linear on an annual basis.

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

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<sup>87</sup> 80 FR at 12276.

<sup>88</sup> 40 C.F.R. § 51.1108(c). It would be laughable for EPA to argue that the procedure in the NO<sub>x</sub> Substitution Guidance is "at least as effective" as photochemical grid modeling in predicting ozone concentrations.

<sup>89</sup> 42 U.S.C. § 7511a(c)(2)(A).

<sup>90</sup> 83 FR at 63004.

memorandum for section 182(f) recommending modeling of several scenarios in order to take advantage of the option to demonstrate that NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> reductions for VOC on a ton for ton basis could yield calculated NO<sub>x</sub> reduction requirements which exceed the available NO<sub>x</sub> inventory in cases where the base VOC inventory greatly exceeds the NO<sub>x</sub> inventory. To illustrate, a 50% VOC reduction is analogous to a 100% NO<sub>x</sub> reduction assuming the VOC inventory is twice the NO<sub>x</sub> 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. 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<sub>x</sub> limited or NO<sub>x</sub> saturated; photochemical grid modeling of multiple scenarios is necessary to determine what, if any, NO<sub>x</sub> substitute reductions can be allowed. If the base VOC inventory greatly exceeds the NO<sub>x</sub> inventory, and NO<sub>x</sub> reductions approach the available NO<sub>x</sub> inventory, then the area is very likely NO<sub>x</sub>-limited and photochemical grid modeling can show what NO<sub>x</sub> reductions are necessary. The only potential case for a NO<sub>x</sub>-limited area in which full substitute NO<sub>x</sub> reductions are not available to the state is when NO<sub>x</sub> emission sources outside the state's jurisdiction contribute to ozone formation. But in that case full NO<sub>x</sub> substitution is simply not available, because the science does not support it.

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) (and without any statement in the record otherwise, necessarily also for the rule provision in the SIP Requirements Rule for Moderate areas) 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 such as Chicago 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<sub>x</sub> 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 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<sub>x</sub> substitution provisions within the Act.”<sup>91</sup>

However, it immediately gets off on the wrong foot:

“Equivalency” is not defined strictly in the context of, “What specified level of NO<sub>x</sub> reductions, compared to VOC, results in equivalent ozone reductions.” Instead, any combination of VOC and NO<sub>x</sub> 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.<sup>92</sup>

This argument fails at step 1 of the *Chevron* analysis. Congress cannot have possibly meant by “equivalent ozone reductions” anything other than “these NO<sub>x</sub> 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.<sup>93</sup>

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 15% VOC reductions required under section 182(c)(2)(B), and here, the SIP Requirements Rule. 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.<sup>94</sup>

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<sup>91</sup> NO<sub>x</sub> Substitution Guidance at 7.

<sup>92</sup> *Id.*

<sup>93</sup> 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<sub>x</sub> substitution memorandum, 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 and replace the consequences for failure to meet a milestone.

<sup>94</sup> See *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) 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.”<sup>95</sup>

In section 182(c)(2)(C)’s original context—Serious areas—EPA interprets the Act such that the 3% per annum VOC reduction requirement *replaces* the general RFP requirement in section 172(c)(2) for steady progress towards attainment.<sup>96</sup> This must reflect Congress’ considered judgment that for Serious areas (at least those that were previously Moderate), an attainment demonstration and general RFP have failed, and VOC reductions (or equivalent NO<sub>x</sub> reductions) must be mandated.

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

could be interpreted to mean that the amount of NO<sub>x</sub> 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<sub>x</sub> 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.

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<sup>95</sup> *North Carolina*, 531 F.3d at 910.

<sup>96</sup> See “Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirement,” 80 FR 12264, 12271 (Mar. 6, 2015) (“[W]e interpret the 15 percent VOC emission reduction requirement in CAA section 182(b)(1) such that an area that has already met the 15 percent requirement for VOC under either the 1-hour ozone NAAQS or the 1997 ozone NAAQS (for the first 6 years after the RFP baseline year for the prior ozone NAAQS) would not have to fulfill that requirement again. Instead, such areas would be treated like areas covered under CAA section 172(c)(2) if they are classified as Moderate for the 2008 ozone NAAQS, and would need to meet the RFP requirements under CAA section 182(c)(2)(B) if they are classified as Serious or above for the 2008 ozone NAAQS.”).

These arguments are also without merit. First, the objection that the demonstration might allow very small NO<sub>x</sub> reductions to substitute for large VOC reductions applies with greater force to EPA's interpretation. Indeed, 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. But it could also happen under EPA's interpretation if a state gamed the ratios. Second, as shown above, Congress in the 1990 Amendments was well aware of the possibility that EPA claims Congress cannot have intended. Finally, EPA is talking out of both sides of its mouth: it cites consistency with the attainment demonstration as a basis for equivalency for its approach, but then claims the proper approach is illegitimate because it might produce only minimal improvement in ozone concentrations. But demonstration of attainment is still required under the proper approach; thus the emission reductions in the control strategy under the proper approach ensure the necessary improvements in ozone concentrations. And EPA's approach does nothing to ensure equivalent 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<sub>x</sub> 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<sub>x</sub> substitution guidance does nothing to set forth the technical circumstances regarding how to substitute or combine NO<sub>x</sub> 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. EPA's recommended procedure does nothing to maximize reductions in ozone concentrations. 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<sub>x</sub> emission reductions which is reasonably calculated to achieve both the ozone reduction and attainment progress goals intended by Congress." This repeats an earlier argument: Congress (and EPA in the SIP Requirements Rule) specified VOC reductions *in addition to* the requirement for attainment and *instead of general RFP requirements*.

EPA then states: "Nothing in the Act or in the legislative history directly addresses the case where NO<sub>x</sub> 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 typical<sup>97</sup> EPA misdirection: to invent a supposed gap in the statute despite clear statutory language. The plain meaning of "equivalency" addresses the case.

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 requirements. As explained above, section 185B required EPA to study the relative roles

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<sup>97</sup> For another example, see *infra* section III.A.2 (discussing EPA's purported gap in the Act regarding already implemented contingency measures).

of VOC and NO<sub>x</sub> in ozone formation and consider scenarios in which NO<sub>x</sub> control would or would not be effective.

Finally, EPA's purported concerns about "insignificant ozone reductions" appear to be crocodile tears: EPA's NO<sub>x</sub> substitution guidance gives states a way to evade assessing the ozone reductions from NO<sub>x</sub> 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. The same is true of Congress' command for 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.<sup>98</sup>

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.<sup>99</sup>

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 NO<sub>x</sub> 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

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<sup>98</sup> *NRDC v. EPA*, 777 F.3d 456, 460 (D.C. Cir. 2014) (citations and quotations omitted).

<sup>99</sup> *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).

equivalency. Does EPA suppose it could disapprove that submittal, due to the supposed potential for “insignificant ozone reductions”?

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<sub>x</sub> 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<sub>x</sub> substitute reductions must result in the same amount of ozone reduction as the 3% per annum VOC reductions.

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

### **b) The Submittal Does Not Even Meet EPA’s Prerequisites for Use of the Bookkeeping Gimmick**

The first step of the recommended procedure in the NO<sub>x</sub> Substitution Guidance is to establish a control strategy and demonstrate that it attains the ozone standards by the attainment date.<sup>100</sup> That has not happened here: while the state submitted an attainment demonstration, EPA did not propose to act on it, and it cannot be presumed to be valid.

So, the submittal fails at the first step of the recommended procedure. It is therefore unable to carry out the second step, in which the NO<sub>x</sub> and VOC reductions should be “a logical step toward implementing” the control strategy.<sup>101</sup> Thus, even EPA’s sad fig leaf—consistency with the control strategy supposedly demonstrating equivalency—is not available here.

EPA’s Clarification Memorandum was intended to address NO<sub>x</sub> substitution “[i]n the absence of a complete modeled attainment demonstration.”<sup>102</sup> The prerequisites for use of the NO<sub>x</sub> Substitution Guidance procedure in that case are:

1. The NO<sub>x</sub> reasonably available control technology (RACT) regulations should be adopted and submitted to the EPA by the State seeking to substitute NO<sub>x</sub> for VOC to meet ROP requirements; EPA will have to approve the NO<sub>x</sub> RACT rules no later than the date of approval of the ROP plan featuring NO<sub>x</sub> substitution.
2. At least one of the two following conditions should be met: (a) modeling of at least one episode should have been completed with photochemical grid modeling which shows that NO<sub>x</sub> reductions are useful in reducing ozone concentrations; or (b) a regional modeling analysis supporting use of NO<sub>x</sub> controls to reduce ozone

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<sup>100</sup> NO<sub>x</sub> Substitution Guidance at 9.

<sup>101</sup> *Id.*

<sup>102</sup> Clarification Memorandum at 2.



within the area under consideration for use of NOx substitution should be available.<sup>103</sup>

The first prerequisite is not met. EPA has not approved or proposed approval of the submitted NOx RACT provisions. In fact, the submittal contains a request for a section 182(f) waiver of NOx RACT requirements, stating:

Section 182(f)(1)(A) provides for a waiver of the NOx RACT requirement if “additional reductions of oxides of nitrogen would not contribute to attainment of the national ambient air quality standard for ozone in the area...”<sup>104</sup>

Under EPA’s guidance, for a NOx RACT waiver there should be modeling showing NOx reductions are ineffective, the exact opposite of what is needed to show NOx emission reductions are equivalent to VOC reductions.

With respect to the second prerequisite, EPA points to no modeling showing NOx reductions are effective or supporting use of NOx controls. The second prerequisite is not met.

In addition, the prerequisites under the Clarification Memorandum fail to establish that the NOx Substitution Guidance procedure will result in equivalent reductions in ozone concentrations. At most, they establish that NOx reductions have some benefit, but that is not enough for equivalency.

As a result, the submittal does not even meet EPA’s own recommendations for use of the bookkeeping gimmick. EPA must disapprove the use of NOx substitution.

### **C. Conclusion**

The submittal does not and cannot demonstrate attainment and therefore the emission reductions are inconsistent with the Act’s definition of RFP. There is no notice of EPA’s basis for proposing to find that NOx substitution meets the criteria in section 182(c)(2)(C), and the potentially relevant guidance memoranda do not apply and in any case offer faulty technical and legal justifications for their recommendations. EPA must disapprove the RFP plan.

### **III. EPA MUST DISAPPROVE THE SHAM CONTINGENCY MEASURES**

Despite the opinion in *Bahr v. U.S. EPA*,<sup>105</sup> invalidating use of already implemented measures as contingency measures, EPA proposes to continue its discredited policy. EPA must recognize its error and disapprove these sham contingency measures. Even if it were legitimate to use already implemented measures—and it is not—the submitted NOx measures have not been shown to be effective in reducing ozone concentrations and therefore cannot be approved.

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<sup>103</sup> *Id.* at 2-3.

<sup>104</sup> Submittal at 19.

<sup>105</sup> *Bahr v. U.S. Environmental Protection Agency* (“*Bahr*”), 836 F.3d 1218 (9th Cir. 2016).

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

EPA continues to cite its discredited arguments for sham contingency measures.<sup>106</sup> EPA does acknowledge the Ninth Circuit Court of Appeals' rejection of EPA's sham.<sup>107</sup> 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 Act.

### 1. *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.<sup>108</sup>

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.”<sup>109</sup> 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, it should be noted that 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

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<sup>106</sup> 85 FR at 22698.

<sup>107</sup> *Id.* at 2968 (citing *Bahr*, 836 F.3d at 1235–37).

<sup>108</sup> *Bahr*, 836 F.3d at 1235.

<sup>109</sup> RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE 439 (2d. ed. unabridged, 1987) (emphasis added).

new planning obligations, are serious. The most serious consequence, of course, is that people, agriculture, and native ecosystems continue to be exposed to dangerous and even deadly levels of air pollution. Thus, states retain powerful incentives—much more powerful than potential use as a contingency measure—for early emission reductions.

EPA itself rejected a similar argument in the SIP Requirements Rule. A commenter argued:

[T]he EPA should allow states to model the baseline emissions used for setting RFP targets without including emission reduction measures that were adopted prior to the baseline year (such as the voluntarily adopted inspection and maintenance program in place in Travis and Williamson Counties) so as not to penalize areas for taking proactive measures prior to being designated nonattainment.<sup>110</sup>

In rejecting this “penalization” argument, EPA stated:

Emission reductions occurring prior to promulgation of the 2008 NAAQS from measures adopted into the SIP prior to promulgation of the 2008 NAAQS are certainly helpful for improving air quality and consequently, may lower the nonattainment classification of an area and the base year emissions level. However, they are not unquestionably tied to attainment planning for a standard that was not established final until 2008, and the associated nonattainment designation for that standard which did not exist until 2012. Therefore, we have determined these emissions reductions are not appropriate to be credited for fulfilling nonattainment area RFP requirements.<sup>111</sup>

Thus, EPA noted that early emission reductions have other benefits. So, there was nothing “illogical” about the structure of the Act disallowing credit for these early emission reductions, just as there is nothing “illogical” (to use EPA’s word) about disallowing credit for already implemented measures as contingency measures.

EPA’s supposed policy justification is particularly wrong-headed when a state tries to rely on existing federal measures, such as those for mobile sources, as contingency measures, as is the case here.<sup>112</sup> 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 standards fail as contingency measures not only because they are existing and therefore not implemented in the future, but potentially for another reason

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<sup>110</sup> Response to Comments on Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements, EPA-HQ-OAR-2010-0885-0191 at 76 (Feb. 13, 2015).

<sup>111</sup> *Id.* at 77.

<sup>112</sup> 85 FR at 22697 Tbl. 5. This table claims one year of RFP is 19 tons/summer day of NOx. The two shutdowns credited (which, as they are already implemented, should not be credited) only total about 12 tons/summer day. Therefore at least a portion of the contingency measures necessarily come from federal measures.

as well. Sections 172(c)(9) and 182(c)(9) require the SIP to “provide for implementation of specific measures” as contingency measures.<sup>113</sup> Unless the state has adopted a state equivalent of a federal standard and submitted that equivalent measure for adoption in the SIP, the SIP does not “provide for implementation” of the federal standard.

This point reinforces the interpretation of “to take effect” in the *Bahr* opinion; EPA generally does not have authority under the Act to promulgate federal national standards (for either stationary or mobile sources) that only take effect upon a failure of an area to attain or make RFP. EPA only has that contingent authority when promulgating a federal implementation plan for a particular area when the state has failed to submit contingency measures or the contingency measures have been disapproved.

In the case of mobile source standards, states are generally preempted from adopting standards, except in the case of a California waiver.<sup>114</sup> 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.

## **2. The LEAN Opinion**

In *Louisiana Env’tl. Action Network v. EPA*,<sup>115</sup> 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<sup>116</sup> 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.

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<sup>113</sup> 42 U.S.C. §§ 7502(c)(9), 7511a(c)(9).

<sup>114</sup> *Id.* § 7543.

<sup>115</sup> “LEAN,” 382 F.3d 575, 580 (5th Cir. 2004).

<sup>116</sup> For another example, see *supra* section II.B.2.

Thus, the *LEAN* opinion offers no support for sham contingency measures.

### **3. Conclusion**

EPA's 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. EPA must disapprove the contingency measures.

#### **B. The NO<sub>x</sub> Contingency Measures Have Not Been Shown to be Effective in Reducing Ozone Concentrations**

In its proposal for the SIP Requirements Rule, EPA reiterated its long-standing position that “[c]ontingency measures should represent 1 year’s worth of progress for the nonattainment area, which would be achieved while the area is revising its plan.”<sup>117</sup> EPA then proposed:

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 NO<sub>x</sub> 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.<sup>118</sup>

EPA finalized this position,<sup>119</sup> but did not set it forth in the Code of Federal Regulations. It is therefore non-binding and must be regarded as guidance.

In EPA’s proposal for this action, EPA proposed to adopt this position.<sup>120</sup> But EPA never explains how the state has demonstrated that NO<sub>x</sub> controls “would be most effective in bringing the area into attainment.” In fact, neither the state nor EPA have demonstrated that NO<sub>x</sub> controls have any effect whatsoever on ozone concentrations. While the attainment demonstration does model NO<sub>x</sub> reductions and is part of the submittal, EPA has not proposed to act on it and therefore it cannot be assumed valid. And, as explained above, an attainment demonstration is a single data point; it does not establish that the modeled NO<sub>x</sub> reductions were actually effective in reducing ozone concentrations. Attainment could be the result of the VOC emission reductions alone.<sup>121</sup> Some sort of modeling of additional scenarios is necessary to establish the effectiveness of NO<sub>x</sub> reductions.

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<sup>117</sup> 78 FR at 34199.

<sup>118</sup> *Id.*

<sup>119</sup> 80 FR at 12285.

<sup>120</sup> 85 FR at 22696.

<sup>121</sup> In this case, the VOC reductions are about 118 tons/summer day. 85 FR at 22695 Tbl. 1, 22697 Tbl. 4.

Furthermore, because neither the state nor EPA have demonstrated that NO<sub>x</sub> emission reductions can be substituted on a one-for-one percentage basis for VOC emission reductions, there is no basis to conclude that the contingency measures—3% NO<sub>x</sub> reductions—represent one year of RFP. EPA must therefore disapprove the contingency measures.

#### **IV. EPA MUST DISAPPROVE THE MOTOR VEHICLE EMISSION BUDGETS**

As explained above, EPA must disapprove the submitted RFP plan. As a result, EPA must also disapprove the submitted motor vehicle emission budgets (“MVEBs”).

Section 176(c)(2) of the Act contains the requirements for “transportation conformity.”<sup>122</sup> 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.<sup>123</sup>

A transportation project must either “come from a conforming plan or program,”<sup>124</sup> 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.<sup>125</sup>

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.<sup>126</sup>

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.<sup>127</sup> “SIP

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<sup>122</sup> 42 U.S.C. § 7506(c)(2).

<sup>123</sup> *Id.* § 7506(c)(2)(A).

<sup>124</sup> *Id.* § 7506(c)(2)(C)(i).

<sup>125</sup> 42 U.S.C. § 7506(c)(2)(D).

<sup>126</sup> *Id.* § 7602(q).

<sup>127</sup> 58 FR 62188, 62193 (Nov. 24, 1993).

demonstrations of reasonable further progress, attainment, and maintenance contain these emissions estimates and ‘necessary emission reductions.’”<sup>128</sup>

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.<sup>129</sup>

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.<sup>130</sup>

As EPA must disapprove the submitted RFP plan, 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 RFP plan and therefore no basis for approval of the MVEBs.

Furthermore, as EPA notes, the submitted 2017 MVEBs significantly exceed estimated 2017 motor vehicle emissions. The transportation conformity rules allow for a so-called “safety margin”—more properly, a “pollution margin”—that inflates the MVEBs so long as applicable requirements, including RFP, are met.<sup>131</sup> Here, the projected 2017 VOC and NOx on-road emissions are 80 and 164 tons/summer day, respectively, and the MVEBs are 133 and 204 tons/summer day, respectively.<sup>132</sup> However, as RFP requirements are not met, the “safety margin” does not satisfy the definition, and therefore the inflated MVEBs cannot be approved.

This highlights the consequences of EPA’s arbitrary implementation of section 182(c)(2)(C). The purportedly surplus VOC reductions used to inflate the MVEBs are only “surplus” because EPA allows states to pick virtually any combination of VOCs and NOx reductions without any scientific or technical determination that the NOx reductions achieve equivalent reductions in ozone concentrations. According to the notice, the 5% VOC emission reductions total 26 tons/summer day.<sup>133</sup> In the absence of a proper demonstration, the area must achieve 15% VOC reductions, which would result in an additional 52 tons/summer day of VOC emission reductions. This would almost

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<sup>128</sup> *Id.*

<sup>129</sup> *Id.* at 62194.

<sup>130</sup> 40 C.F.R. § 93.101.

<sup>131</sup> 40 C.F.R. § 93.101 (definition of “safety margin”).

<sup>132</sup> *Id.* at 22699 Tbl. 6.

<sup>133</sup> *Id.* at 22697 Tbl. 5.

entirely wipe out the supposed “safety margin” for VOC that relies on 53 tons/summer day of “surplus” VOC reductions.<sup>134</sup>

EPA’s prior “adequacy” determination, mentioned in the proposal, does not change the outcome. The adequacy review checks that the MVEBs are “consistent with” the submitted emissions inventory and with “applicable requirements regarding reasonable further progress,”<sup>135</sup> but does not determine whether the submitted plan satisfies RFP requirements. As EPA stated in promulgating the adequacy determination process:

EPA’s 45-day adequacy review should not be used to prejudge EPA’s ultimate approval or disapproval of the SIP. As stated in the proposal, EPA cannot ensure that a submitted SIP is consistent with RFP, attainment, or maintenance until EPA has completed its formal review process and the SIP has been approved or disapproved through notice-and-comment rulemaking. Although the minimum criteria for adequacy allow EPA to make a cursory review of the submitted motor vehicle emissions budget for conformity purposes, EPA recognizes that other elements must also be in the SIP for it to ultimately be approved. Therefore, a budget that is found adequate in the 45-day review period could later be disapproved when reviewed with the entire SIP submittal.<sup>136</sup>

So it is here. The submitted MVEBs must be disapproved and EPA’s adequacy determination must be withdrawn.

## V. CONCLUSION

The Chicago area failed to attain the 2008 ozone standards by the attainment date, and EPA has not approved nor proposed to approve the attainment demonstration. There is therefore no basis to conclude that the submitted RFP plan ensures attainment by the attainment date. Furthermore, the record fails to contain any basis for concluding that the NO<sub>x</sub> substitution in the RFP plan meets the criteria in section 182(c)(2)(C) of the Act. EPA’s guidance memoranda on NO<sub>x</sub> substitution are inapplicable, and even if for the sake of argument they were applicable, are fatally flawed. EPA must disapprove the RFP plan.

The Ninth Circuit’s rejection of sham contingency measures is compelling. Even if for the sake of argument sham contingency measures were allowable, the submitted NO<sub>x</sub> contingency measures have not been demonstrated to be effective in reducing ozone concentrations and therefore EPA cannot conclude they are equivalent to one year of RFP. EPA must disapprove the contingency measures

Because the motor vehicle emission budgets rely on the assumptions in the RFP plan, the motor vehicle emission budgets must be disapproved. EPA must also withdraw its adequacy determination.

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<sup>134</sup> *Id.*

<sup>135</sup> 40 C.F.R. § 93.118(e)(4)(iv), (v).

<sup>136</sup> 62 FR 43780, 43782 (Aug. 15, 1997).



Respectfully,

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