

16 December 2019

US Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Docket Number: EPA-HQ-OAR-2018-0279 (84 FR 58711, November 1, 2019)

Gentlemen:

The [Environmental Protection Network](https://www.epn.org/) (EPN) submits the following comments to the Draft Policy Assessment (PA) for the National Ambient Air Quality Standards (NAAQS) for ozone. EPN is an organization comprised of over 450 U.S. Environmental Protection Agency (EPA) alumni volunteering their time to protect the integrity of the EPA, human health and the environment. We harness the expertise of former EPA career staff and confirmation-level appointees to provide insights into regulations and policies proposed by the current administration that have a serious impact on public health and environmental protections. These comments address exclusively the draft PA's discussion of potential secondary standards for ozone.

The draft PA recommends that the current secondary standard not be revised, and does not analyze any alternative standards. The draft PA was evidently prepared before the D.C. Circuit's decision in *Murray Energy v. EPA*, 936 F. 3d 597 (D.C. Cir. 2019), because it perpetuates the same errors that occasioned the court's remand of the secondary standard. As such, the draft PA does not recommend legal alternatives. Moreover, the agency failed to inform the Clean Air Scientific Advisory Committee (CASAC) of that significant deficiency. As such, CASAC review of the secondary standard is essentially meaningless, because the agency has failed to present legal alternatives for CASAC review. If the agency proceeds without CASAC review of legally legitimate standards, the agency will be proceeding essentially without CASAC review, which would render any secondary standard illegal from the get go. The agency should prepare a draft PA that accounts for the court's remand in *Murray Energy*, and resubmit that draft to CASAC for review.

In *Murray Energy*, the court held that the agency had failed to explain how a secondary standard with a three-year averaging time provided requisite protection against tree damage. Specifically, the court cited to record evidence showing that a three-year averaging time masked documented one-year exposures,

which resulted in an “unacceptably high” degree of relative biomass loss (RBL). 936 F. at 616. These one-year adverse exposures were masked by the three-year averaging period, but the damage was not offset by the later year lower exposures. *Id.* The court further held that EPA had improperly invoked uncertainties as a basis for not considering a standard to provide requisite protection against visible foliar injury. *Id.* at 618-19. Rather than addressing these issues, the draft PA contains a footnote at 4-28 that “[w]e are also considering the August 2019 court decision on the 2015 standard, recognizing that issues raised by the court in its remand of the secondary standard will be considered over the course of this review.” Rather than making recommendations that have already been rejected in court, the PA should focus on compliance with the applicable court mandates.

1. The draft PA has not justified a three-year averaging period.

The draft PA’s stated reasons for maintaining the three-year averaging period without lowering the standard are unfortunately the same as those which occasioned the court’s remand. The draft PA states that the single-year values around the 17 ppm-hrs range—the level which correlates with 6% RBL, a degree of biomass loss on which there is consensus of adversity—do not differ from the three-year-average values that much, e.g., “near or less than 5 ppm-hrs different,” p. 4-70. Specifically, the draft PA acknowledges that single-year W126 values varied from three-year averages by “no more than 12 ppm-hrs from the average for the 3-4 year period, with 98% of them varying by no more than 5 ppm-hrs from the average.” Draft PA at 4-56. Even in the most recent air quality data set (2015-2017), 20% of the sites with air quality meeting the current primary standard nonetheless had W-126 values higher than 17 ppm-hrs. *Id.* at 4-56. Differences of 5 to 12 ppm-hrs are evidently significant compared to the 17 ppm-hrs level that would lead to “unacceptably high” RBL.

One-year values are critical because that damage is not offset by exposure levels in later years. *Murray Energy*, 936 F. 3d at 617 (citing to CASAC Letter of June 26, 2014, and EPA finding at 80 FR 65373); see also *National Ass’n of Mfr’s v. EPA*, 750 F. 3d 921, 925 (D.C. Cir. 2014) (upholding EPA’s elimination of spatial averaging—averaging of results among various monitors—from the form of the particulate matter primary NAAQS, since such averaging masked higher exposure levels in some areas; this is analogous to the three-year averaging period masking unacceptable single-year ozone exposures). Even looking at data with average W126 values of 20 ppm-hrs or less, the best the draft PA can say is that “over 99% of single-year W126 values in this subset vary 7 from the three-year average by no more than 5 ppm-hrs, and 86% by no more than 2 ppm-hrs.” *Id.* These remain drastic variances that would lead to unacceptable loss in tree growth. Again, it is evident that differences of “a few percent” are significant when there is consensus that 6% RBL is unacceptable¹. The draft PA indeed concedes implicitly that its discussion is inconsistent with

¹ It also bears mention that at least one of the summary slides EPA staff presented to CASAC at the December 5 meeting contain significant misstatements. Slide 21 states that the 2015 CASAC endorsed a standard based on 17

the court's mandate in *Murray Energy*, dropping the grudging footnote, after discussing a three-year averaging time, that the discussion had not yet accounted for the court's opinion. *Id.* at n. 61.

If the agency is determined to retain a three-year averaging time, then it must adjust the level of the secondary standard to avoid the one-year exposure spikes that result in unacceptable biomass loss. The 2015 CASAC spoke to this issue, and made the science-based recommendation for a level no greater than 13 ppm-hrs if a three-year averaging time is adopted. CASAC Letter of June 26, 2014 at 15. The PA must present a proper analysis of this alternative.

2. The draft PA has not properly justified its failure to identify a level of ozone requisite to protect against visible foliar injury.

The draft PA also fails to identify a level of air quality requisite to protect against the adverse effects of visible foliar injury. There is no dispute exposure to ozone is causally linked to visible foliar injury. Draft Integrated Science Assessment (ISA) at 8-12. This injury can be significant to the public welfare. Draft PA at 4-28 (“[S]ome level of severity and widespread occurrence of visible foliar injury, particularly if occurring in specially protected areas, such as Class I areas, where the public can be expected to place value (e.g., for recreational uses), might reasonably be concluded to impact the public welfare”). The previous CASAC made the “science judgment” that a one-year standard level of 10 ppm-hrs is required to reduce foliar injury. CASAC Letter of June 26, 2014, at 15.

The draft PA invokes uncertainties for its failure to identify a level. Particular uncertainties invoked are ability to quantitate endoplasmic reticulum (ER) functions for ozone exposure, which reliably account for other relevant variables (notably soil moisture), and the public welfare implications of foliar injury in areas meeting the current standard (citing to sparse evidence that documented instances in US Forest Service biosite records of high W126 values with significant foliar injury were not observed in Class I areas). Draft PA at 4-76 to 77. The D.C. Circuit has already rejected the agency's argument that it lacks criteria for assessing the welfare effects of visible foliar injury. 936 F. 3d at 619. Nor does the draft PA address the 2015 CASAC's scientific conclusions. For these reasons, the draft PA again appears to be perpetuating the same errors that occasioned court remand.

3. Adverse climate effects of ozone require a robust secondary standard.

The Draft ISA properly finds a causal relationship between changes in tropospheric ozone concentrations and radiative forcing. It further finds a likely causal relationship between tropospheric ozone concentrations

ppm-hrs with a three-year averaging time, and that draft PA analyses find “little difference” in three-year and one-year W-126 averages. Neither statement is accurate, as shown in the text above.

and climate change in the form of terrestrial temperatures, precipitation, and other “related climate variables.” See Draft PA at 4-44; see also Draft ISA at IS-1, IS-80, Fig. IS-8, 9-1, and 9-16. The ISA further finds that tropospheric ozone ranks third in contribution to detrimental climate change, behind only CO₂² and CH₄. Draft ISA at 9-2 and 9-6; Draft PA at 4-23. There is thus a deleterious feedback loop in play: increased levels of ozone increase positive radiative forcing, which results in higher terrestrial temperatures, which in turn leads to more ozone formation, etc., etc. ISA at 9-4; see also U.S. Global Change Research Program, *Climate Impacts in the U.S. (2014) (Third Assessment)* (<http://nca.2014.globalchange.gov>) at 70. Absence of aggressive control of CH₄ exacerbates this feedback loop. These effects are most pronounced in the northern hemisphere, Draft ISA at 9-15, and so have profound implications both for domestic health and welfare generally, and for consideration of the ozone secondary standard specifically (“climate,” of course, being a welfare effect expressly enumerated in the Clean Air Act (CAA); see CAA section 302 (h)).

To be sure, both the ISA and the PA note the difficulties of quantifying the effect of ozone radiative forcing on temperature and other climate change effects, particularly when assessing the effects on a regional scale. ISA at 9-5; PA at 4-44 to 45. Difficulty in quantifying effects or, more properly, levels at which known effects occur, however, is no bar to setting NAAQS. See *American Trucking Ass’n*, 283 F. 3d at 369-70 (qualitative determination allowed in setting primary NAAQS); *American Farm Bureau v. EPA*, 559 F. 3d 512, 535 (D.C. Cir. 2009) (same). Only when uncertainties are so “unusually profound” as to preclude formation of a reasoned judgment as to a requisite level of protection can uncertainty form a basis for inaction in establishing a NAAQS. *Murray Energy*, 936 F. 3d at 620 (discussing *Center for Biological Diversity v. EPA*, 749 F. 3d 1079, 1088, 1090-91 (D.C. Cir. 2014)). There is no indication that the quantification difficulties noted in the draft ISA and PA rise to this “profound” degree. At the least, the adverse implications for ozone and climate change militate for a robust secondary standard.

4. Conclusion

Because the draft PA has failed to produce recommendations consistent with the mandate of *Murray Energy*, CASAC and the public must have another opportunity to comment on a draft PA that does. The rationale put forward in this draft will have to be altered, or a different justification provided, and there has been no opportunity to comment on either. Such opportunity is a prerequisite for proper review of the 2015 standard. CAA section 109 (d)(2) (A) and (B). The agency must therefore redo its analysis and recommendation as to a secondary standard, and resubmit that effort to CASAC and the public for comment.

²Note the tortured locution elsewhere, when the draft PA refers obliquely to “the pollutant ranked first in importance as a greenhouse gas and radiative forcing agent” - i.e CO₂! Draft PA at 4-45.

Sincerely,

Steven Silverman for the Environmental Protection Network