

Oral Comments by Steven Silverman on EPA's Proposed Action on National Ambient Air Quality Standards for Particulate Matter

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Good morning. My name is Steven Silverman. I was a member of EPA's Office of General Counsel from 1980-2017, and among other things, was EPA's staff counsel for the 2006 and 2013 reviews of the PM NAAQS. I am speaking today on my own behalf.

I am not a scientist, but I know illegality when I see it. The proposed primary annual standard for PM_{2.5} is without legal merit. First, its basic approach is exactly backwards. Mr. Wheeler would resurrect the soundly rejected position that primary NAAQS are "aimed at protecting the public against health effects which are known to be clearly harmful."¹ In fact, "requiring EPA to wait until it can conclusively demonstrate that a particular effect is adverse to health before it acts is inconsistent with both the Act's precautionary and preventive orientation and the nature of the Administrator's statutory responsibilities."² Primary NAAQS must in fact provide an "adequate margin of safety" precisely "to build a buffer against uncertain and unknown dangers to human health."³

Mr. Wheeler's disregard of epidemiological evidence, stress on controlled human exposure studies as his principal evidence for harm, and weaponization of unspecified uncertainties is antithetical to these statutory requirements.

Second, the proposal is contrary to the evidence of record.⁴ The expository part of the preamble accurately states that there are a group of well-conducted epidemiological studies showing statistically significant associations with adverse effects, inducing mortality, where the studies' long-term means and pseudo-design values were less than the current annual standard. In other words, these associations occurred in areas with air quality distributions allowed by the current annual primary standard. These associations remained statistically significant even when all days with concentrations of 12 ug/m³ were removed. Some of these studies, the Medicare studies in particular, have statistical power orders of magnitude greater than any previous PM epidemiological study. Courts have repeatedly stated that such evidence supports the finding that a NAAQS which allows such associations is insufficiently protective.⁵

¹ *Lead Industries Ass'n v. EPA*, 647 F.2d 1130, 1148 (D.C. Cir. 1980). Witness the refusal to strengthen the annual standard because 1) there is no absolute proof that reductions "identify particular PM_{2.5} exposures which cause effects," 2) looking to controlled human exposure studies as the critical evidence, and 3) reference to nebulous uncertainties, notably unspecified "unmeasured confounding and other potential sources of error and bias." Of course, "[i]t is a familiar principle that agencies may not 'merely recite the terms 'substantial uncertainty' as a justification for their actions'; instead, they 'must explain the evidence which is available, and must offer a rational connection between the facts found and the choice made.'" *State of Mississippi v. EPA*, 744 F.3d 1334, 1357 (D.C. Cir. 2015).

² *Lead Industries*, 647 F.2d at 1155.

³ *State of Mississippi*, 744 F.3d at 1353.

⁴ See, e.g. *State Farm*, 463 U.S. 29, 43 (1983).

⁵ See, e.g. *ATA III*, 283 F.3d 355, 370 (D.C. Cir. 2002); *American Petroleum Inst. v. EPA*, 655 F.2d 1176, 1185 (D.C. Cir. 1981); *National Ass'n of Mfr's v. EPA*, 750 F.3d 921, 924 (D.C. Cir. 2014).

Mr. Wheeler ignores all of this evidence. He also impermissibly ignores staff recommendations that the current standard is not requisite and should be lowered to within a range of 8 ug/m³-10 ug/m³.⁶ The suggestion by some CASAC members that post-2009 scientific information adds nothing new flies in the face of this same evidence.

Third, Mr. Wheeler selectively considers post-2018 studies which suit his purpose (see his citation to Burns (2019)),⁷ but does not consider any other post-2018 studies. Such selective consideration of similarly-situated evidence is arbitrary.⁸

Finally, Mr. Wheeler places significant reliance on advice from certain members of CASAC. To the extent he does so, he is taking action not based on the section 108 (a)(2) air quality criteria. Unfortunately, as has been well documented by Dr. Chris Frey and others, the current CASAC, as constituted, is incapable of distinguishing what information “accurately reflect[s] the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant” in the ambient air. Lacking a single epidemiologist, small wonder that CASAC itself admitted its inability to properly review the information presented to it.⁹ A NAAQS must, of course, be based on the air quality criteria. CAA section 109 (b) (1) and (d) (1). This proposal is not.

In conclusion, it is high time EPA reverted to its statutory role. The current primary PM_{2.5} annual standard is insufficiently protective, and must be amended to provide requisite protection with an adequate margin of safety.

⁶ American Farm Bureau v. EPA, 559 F. 3d 512, 521 (D.C. Cir. 2009).

⁷ Proposal (April 14 version) at p. 92.

⁸ ATA I, 175 F. 3d 1027, 1052-53 (D.C. Cir.) reversed on other grounds sub nom. Whitman v. American Trucking Ass’n, 531 U.S. 437 (2001).

⁹CASAC Letter of April 11, 2019, p. 2 (“The CASAC recommends that the EPA reappoint the previous CASAC PM panel (or appoint a panel with similar expertise) as well as adding expertise in biological mechanisms of causation, causal inference, multi-stressor interactions, and potentially others such as: epidemiology, human clinical studies; comparative toxicology, dosimetry, and extrapolation of findings in animals to humans; characterization of sampling errors and biases from continuous ambient PM measurements and satellite remote sensing aerosol optical depth (AOD) analysis; errors and biases in dispersion modeling and photochemical grid modeling; errors-in-variables methods and effects of exposure (and covariate) estimation errors on epidemiologic study results; epidemiology of low-dose causal concentration-response functions; and effects of PM on visibility impairment, climate, and materials. The panel should be appointed in time to review the Second Draft ISA.”)