



October 1, 2020

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

RE: Review of the Ozone National Ambient Air Quality Standards, Docket ID No. EPA-HQ-OAR-2018-0279

Dear Administrator Wheeler:

EPA has wisely determined that the current National Ambient Air Quality Standards (NAAQS) ozone standard of 70 ppb protects public health and that lowering the ozone standard is not necessary. EPA has arrived at that conclusion by drawing upon the most recent scientific evidence and EPA data that show the country has consistently lowered emissions over five decades and improved ambient air quality even as the economy has grown. However, there are methodologies EPA could more broadly address to adequately justify the standard's retention. These factors, when combined with the best available science and research, could avoid future ratcheting down of the ozone standard beyond levels that provide additional public health benefits, thereby avoiding unnecessary harm to economic development, job creating, and quality of life. Western Energy Alliance appreciates this opportunity to comment, while continuing to urge EPA to acknowledge that lowering the NAAQS without considering the high levels of background ozone in the West could disproportionately harm the regional economy.

Western Energy Alliance represents 300 companies engaged in all aspects of environmentally responsible exploration and production of oil and natural gas in the West. Alliance members are independents, the majority of which are small businesses with an average of fourteen employees.

Western Energy Alliance values clean air, and oil and natural gas companies not only comply with current state and federal ozone requirements, but often commit to further controls for ozone precursor emissions in National Environmental Policy Act (NEPA) documents. Our members commit to such measures as installing low-bleed pneumatic devices, centralizing facilities, and reducing truck trips to reduce air emissions and in many cases, voluntarily control emissions to the levels that are over and beyond the regulatory requirement. Such efforts ensure that we continue the steady decline in emissions per unit of production and continue to contribute to cleaner air. The steady increase in clean-burning natural gas electricity generation has likewise helped clear the air.

I. Background Ozone Levels

a. EPA Should Consider Western Background Ozone

Alliance members operate in several regions around the country that were designated nonattainment under the 2015 ozone standard. The Alliance takes air quality concerns seriously: our employees and the communities in which we operate are impacted by air quality. As an industry, we are committed to taking meaningful and cost-effective steps to improve air quality. For example, in the Uinta Basin in Utah, we've invested millions of dollars into wintertime ozone research, taken voluntary measures to reduce emissions, participated in numerous scientific studies, and developed emissions inventories with the State of Utah, Ute Indian Tribe, and EPA.

Similarly, in Colorado, Western Energy Alliance members regularly track ozone levels and implement voluntary strategies to delay, reduce, or eliminate ozone-precursor-generating activities to help maintain lower ozone levels. These activities go beyond work-related tasks, and extend to activities employees do in their daily lives, including vehicle fueling, using electric yard equipment, and encouraging car-pooling and the use of public transportation.

Under the Clean Air Act (CAA), the NAAQS must be both "requisite" to protect public health and achievable by states and the state-regulated emission sources that bear the brunt of required emission reductions. As correctly stated in the proposal, "the CAA does not require the Administrator to establish a primary standard at a zero-risk level or at background concentration levels, but rather at a level that reduces risk sufficiently so as to protect public health, including the health of sensitive groups, with an adequate margin of safety."¹

A NAAQS that is set at a level that is physically unattainable even if all emissions of a particular pollutant in a state were to cease, and all domestic transported emissions contributing to nonattainment had been addressed, would hardly be "requisite" to protect public health, as the only way to achieve such a situation would be to cease all industrial activity. The impact to public health from such a scenario would be devastating, as there is a direct relationship between a vibrant economy that enables healthy lifestyles while providing the societal resources to protect the environment. If a NAAQS is set below background levels it loses all rational meaning.

In many areas of the West, the current standard is at or near the level of background ozone that is naturally occurring or internationally transported. An ozone NAAQS below the current 70 parts per billion (ppb) primary standard could push even rural counties without significant industrial activity into nonattainment, particularly at higher elevations. If the ozone NAAQS is set at or near western background ozone levels, CAA mechanisms to

¹ Lead Industries Association v. EPA, 647 F.2d 1130, 1156 n.5 1 (D.C. Cir. 1980).

reach attainment for many rural counties become ineffective, and communities could be needlessly prevented from undertaking economic activities that create jobs and improve quality of life for their citizens. In rural areas, options for offsets to reduce emissions are often lacking. At that point, the ozone NAAQS becomes an environmental justice issue, as very small environmental benefits would be gained at the expense of denying local populations means of employment and access to essential services. Constraints on development lead to lack of access to or improvement of public services such as hospitals, sanitization, and public transportation, with a commensurate impact on public health. Lack of employment also denies western communities tax revenue that supports those public services, compounding the damage done to communities.

Whereas ozone has been declining steadily to levels approaching background in the West, the Administrator bears a particular burden to demonstrate that further reductions would be “requisite” and would contribute to protecting public health.² One of the governing principles of the CAA is the *attainability* of the NAAQS.³ It is therefore incumbent upon EPA to fully consider the extent to which a particular standard would be possible (or impossible) to ever attain through the available implementation tools.

EPA’s own modeling shows that ozone levels in many western states are about 85% attributable to background. Rural areas show rates above 90% attributable to background. These high background rates, caused by stratospheric ozone intrusion, transport from Asia, and natural emissions including natural events such as wildfires, put the West at a severe disadvantage to the East, where background levels are much lower. This also indicates that the West is not creating a downwind problem for the East through transport. Economies of western states disproportionately suffer from a lower ozone NAAQS.

EPA is well aware of the implications of background ozone in the West, yet made the conscious decision to exclude background ozone from the standard-setting process.⁴ This change prompted the Clean Air Scientific Advisory Committee (CASAC) to downplay the role of background in conducting risk assessments.⁵

A study published in the *Journal of Geophysical Research* finds that Asian pollution contributes as much as 20% of total ozone in the West, particularly in rural areas.⁶ The authors also found that 53% of instances where the old, 75 ppb limit was exceeded would

² See EPA ISA at 3-120 (“The median annual 4th highest 8-h daily max dropped from 80 ppb in 1998 to 71 ppb in 2010”).

³ CAA § 107(a); CAA § 110(a)(2)(C).

⁴ EPA Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards Second External Review Draft 2–11 (Jan. 2014) (EPA PA Draft 2).

⁵ CASAC Review of EPA’s Second Draft Policy Assessment, Letter to Gina McCarthy, June 26, 2014, at 31.

⁶ [“Transport of Asian Ozone Pollution Into Surface Air Over the Western United States in Spring,”](#) Meiyun Lin et al., *Journal of Geophysical Research*, November 2012.

not have occurred without the contribution of Asian air pollution. In addition, these emissions are increasing each year.⁷ EPA could cause human activities to practically cease in rural areas of the West and they would still experience high levels of ozone. Even the current standard of 70 ppb could cause additional dislocation of American industry to Asia, further contributing to ozone transport into the West. While it is nearly impossible to quantify how much EPA regulation has already contributed to companies relocating to Asia and other overseas locations, EPA should be mindful of such unintended consequences.

b. Not Infrequent Events

The high levels of background ozone in the West are not “relatively infrequent” events, as asserted by EPA.⁸ Instead, background ozone is the predominant contributor to ambient ozone levels in states such as Utah, New Mexico, Colorado, and Wyoming. These high background ozone levels must be meaningfully considered as part of EPA’s consideration of what level is “requisite” to protect public health, not an afterthought to be addressed after an unattainable standard has been set.⁹

Under the CAA, EPA must consider background ozone levels as an important aspect when reviewing the NAAQS.¹⁰ It was arbitrary and capricious for EPA to establish a 70 ppb NAAQS without expressly considering and accounting for background ozone in the West in 2015, and to consider lowering the standard further in the future could eliminate industrial activities all together.

Of the three provisions, the rural transport area and international transport area designations only apply to limited geography and therefore cannot be broadly applied to background conditions. Additionally, the rural transport area determination only provides relief for areas that would otherwise receive a marginal determination. Should the ozone standard be lowered beyond the current standard, ozone concentrations that would render an area marginal could come from background alone, rendering the rural transport area provision useless.

⁷ See, e.g., Jacob et al., 1999; Zhang et al., 2008; Lin 2010; Zhang et al 2011; Cooper et al 2012; LeFohn et al 2014.

⁸ 85 Fed. Reg. at 49838. See also *id.* (noting that background ozone can be “significant in some areas on some days” and “may present a challenge to air agencies” preparing SIPs).

⁹ *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983) (defining an action as arbitrary and capricious where an agency “entirely failed to consider an important aspect of the problem”); *Am. Farm Bureau Fed’n v. EPA*, 559 F.3d 512, 525 (D.C. Cir. 2009) (finding EPA action arbitrary and capricious where it “too hastily discounted” relevant information); see also *North Carolina v. EPA*, 531 F.3d 896, 906 (D.C. Cir. 2008) (citing *State Farm* in remanding Clean Air Interstate Rule because EPA inappropriately aggregated emissions reductions at regional level instead of at individual state level in creating rule); *Nat’l Ass’n of Clean Water Agencies v. EPA*, 734 F.3d 1115, 1147 (D.C. Cir. 2013) (agency must support assumptions on which it relies in reaching its decision in a rulemaking).

¹⁰ *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983).

Only the exceptional events provision could theoretically allow an area adjacent to a metropolitan area but not near an international transport boundary to avoid a nonattainment designation. However, this provision is of little use in addressing background ozone. EPA should first develop an appropriate provision to allow states to mitigate or avoid the regulatory burden arising from nonattainment designations due to background before setting a standard below those background levels. EPA should not avoid the difficult task of addressing background ozone during the standard-setting process by kicking the proverbial can down the road and shifting to the states the burden of managing what is an insurmountable barrier to attainment.

The problem with EPA's exceptional events policy is summarized by Daniel Jacob, a professor of atmospheric chemistry at Harvard University:

“If you have a standard that's somewhere between 60 and 70 parts per billion, you're not talking about events anymore. You're talking about the routine. You're talking about things that happen rather frequently. The events are not exceptional anymore. And at that point, I think the system is going to break.”¹¹

Based on the lack of appropriate existing mechanisms to address high background levels, EPA should develop a practical pre-designation method that takes into consideration exceptional events and international transport. Doing so would help avoid future ratcheting down of the NAAQS *ad infinitum*. Because states should not be responsible for emissions beyond their control, taking these factors into account now as further justification for retaining the current NAAQS helps set the precedent for the future. Determining what is “requisite” to protect the “public health” with an “adequate” margin of safety includes contextual considerations and evaluations of acceptable or unavoidable risk.¹²

c. Disadvantaging Rural Areas

Rural areas throughout the intermountain West face compounding barriers to attaining the current NAAQS: (1) non-U.S. emissions disproportionately contribute to high ozone events in the West while; (2) emissions reductions used in domestic urban areas are often not applicable to rural areas. Additional relief measures should be developed for rural areas with few or no options for offsets or major sources of emissions. A large portion of Alliance members' operations are in rural western areas, some of which are currently subjected to onerous attainment scenarios. As discussed above, although EPA and peer-reviewed studies acknowledge that background has been a key cause of nonattainment designations, EPA has historically misinterpreted the CAA and not considered background

¹¹ [Regulators Squirm As Good Ozone Breaks Bad](#), Greenwire, Nov. 17, 2014.

¹² See *Whitman*, 531 U.S. at 494–95, 121 S.Ct. 903 (Breyer, J., concurring in part and concurring in the judgment); *Mississippi v. E.P.A.*, 744 F.3d 1334, 1343 (D.C. Cir. 2013) cert. denied sub nom. *Util. Air Regulatory Grp. v. E.P.A.*, 135 S. Ct. 53, 190 L. Ed. 2d 30 (2014).

air quality in the West as a relevant factor when setting the NAAQS. Background air quality levels in the West are inextricably linked with attainability of the NAAQS.

Amplifying the problem of high background levels, remote rural areas in the intermountain West are much less likely to see the benefits of domestic emission reductions.¹³ Because these rural areas often have no major sources of ozone precursors, the areas designated nonattainment are unable to avail themselves of the tools provided by the CAA to continue to function and grow while under the nonattainment designation. Stringent NAAQS will continue to increase the number and size of areas in the West designated nonattainment without an ability to overcome due to high background levels and no anthropogenic sources to control or offset. Furthermore, with no anthropogenic sources to control, these areas cannot generate the offsets required to build new industry needed to support local economies.

Many rural areas in the western United States are already struggling to preserve economic development and employment opportunities. Development restrictions and delays imposed on oil and natural gas operations in these areas by a nonattainment designation for emissions beyond their control could place severe strain on economic development and the social infrastructure in these areas.¹⁴

In addition, some rural areas in the West experience elevated levels of ozone under specific weather conditions (temperature inversion with snow cover) during the winter. Western Energy Alliance has been a leader in supporting scientific research to understand winter ozone, which is formed under very different conditions than the urban, summer ozone that EPA and most scientific efforts have focused on for decades. Impacts to winter ozone from background levels are not yet well understood. The contribution from background ozone has not yet been isolated to understand how it impacts the process.

Winter ozone results from very different photochemical phenomena than traditional summer ozone. While summer ozone has been widely monitored and studied, scientists are still wrestling to determine the exact causes of winter ozone, which appears to result from a different mix of the ozone precursors nitrogen oxides (NO_x) and volatile organic compounds (VOCs) precursors.¹⁵ Such winter episodes have occurred in the Uinta Basin of Utah and the Upper Green River Basin of Wyoming. While numerous studies have been conducted, with the support and participation of Western Energy Alliance members, more science is needed to fully understand both the formation of winter ozone and how it responds to specific emission reductions to find the best ways to address the complex and

¹³ Cooper *et al* 2012.

¹⁴ See Brown et al, 2013, finding natural gas development associated with a 12% increase in total employment over eight years; Rural America at a Glance, 2014 Edition (contrasting positive employment growth in rural areas with oil and natural gas development against general rural trends of decreasing or stagnant employment).

¹⁵ [High Winter Ozone Pollution from Carbonyl Photolysis in an Oil and Gas Basin](#), Edwards et al., October 16, 2014.

non-linear reactions of the two principal precursors. This is a significant but necessary challenge to develop effective ozone pollution management. The one-size fits all approach EPA currently utilizes is not effective in these areas. Prescribing methods and strategies that apply to reductions in summer ozone to areas where winter ozone is most prevalent will have little to no public health benefit, as they will have limited effectiveness in actually reducing ozone concentrations.

II. Scientific Support for Maintaining the NAAQS

Scientific uncertainties regarding the benefits of more stringent ozone standards have increased. Indeed, stringent ozone standards may have severe unintended consequences for public health. Studies show that by increasing the costs of goods and services such as energy and decreasing disposable incomes, regulation can inadvertently harm the socio-economic status of individuals and thereby contribute to poor health and premature death.¹⁶

We appreciate EPA acknowledging the overwhelming body of scientific evidence that further lowering the ozone standard will not provide added health benefits beyond those achieved with the current standard. The hundreds of scientific studies on ozone exposure and possible health effects show this. In respecting these studies, EPA is further advancing the goals set forth in the proposed Strengthening Transparency in Regulatory Science rule by ensuring that significant regulatory decisions and influential scientific information made and used by EPA are based on science that meets high standards of data transparency.

Good science requires transparency of data and reproducibility of results. Without transparency, the public cannot assess if EPA's health claims are legitimate, or the result of a few poorly conducted scientific studies that are not reproducible. One example of such science is that most studies examining connections between ozone and health effects do not adequately account for smoking or other factors such as diet and exercise that could contribute to diseases or mortality attributed to ozone. By not fully considering these other factors, the EPA is at risk of assuming that ozone causes more health effects than what the science supports.

One study clearly highlighting how science has been misinterpreted to indicate ozone is more harmful than it likely is was conducted by Dr. William C. Adams, professor emeritus at the University of California Davis. He published a peer-reviewed paper in 2006 finding no statistical difference in lung function in humans exposed to 80 ppb compared to 60 ppb ozone exposures when exercising for six hours. However, EPA misinterpreted his study and determined that it showed harmful effects. Dr. Adams later said on the EPA Docket for public comment on the 2015 standard that the "EPA has misinterpreted the statistics

¹⁶ [Communities in Action: Pathways to Health Equity](#), A. Baciu et al., The National Academies of Press, January 11, 2017.

contained in my published, peer-reviewed paper.”¹⁷ Research published in the *American Journal of Respiratory and Critical Care Medicine* also found no statistical difference in lung function at 60 ppb compared to higher levels.

Furthermore, other scientific studies show a lowered ozone NAAQS could actually worsen public health. EPA can draw upon such studies to support its decision to maintain the current NAAQS. EPA has routinely cited asthma as a justification for stricter ozone standards in the past. However, studies show that poverty and indoor air pollution are greater contributors to asthma rates than outdoor air pollution. Dr. Corrine Keet et al. conducted a study of over 23,000 children and found no statistical difference between rates of asthma for children in higher-pollution areas of inner-cities versus other children, after controlling for other factors.¹⁸ The research team concluded that poverty is a better predictor of higher asthma rates than outdoor air pollution. In so far as the NAAQS is set too low, it artificially contributes to lower prosperity and hence, poorer health outcomes. The study helps to support a continual ratcheting down of the ozone standard. The Keet study also found that indoor air pollution, particularly second-hand smoke, mold, and pest allergens is a greater factor than outdoor air pollution. Poverty resulting from the job destruction caused by a lower ozone standard could actually result in lower public health levels, providing further justification for EPA’s decision to maintain the current NAAQS.

III. EPA’s Evidence Review Process Still Needs Improvement

EPA has improved the transparency and quality of its scientific review process through the 2020 Integrated Science Assessment (ISA) for Ozone. However, there are still improvements that should be made to avoid future assessments that further ratchet down the standard without providing a commensurate public health benefit. While the 2020 ISA improves upon past assessments in its evaluation of study quality and relevance, these factors of quality and relevance should be evaluated throughout the assessment, and not limited to the final study screening step.

For example, studies that evaluate impacts from ozone concentrations far out of range of the current standard should not be granted the same weight as those that evaluate or identify concrete impacts from lower concentration levels.¹⁹ Additionally, epidemiological studies that suffer from deficiencies such as confounding co-pollutants and lack of actual exposure data should not be granted significant weight in causal determinations of the

¹⁷ [The Dubious Benefits of Further Ozone Reductions](#), Drs. Julie E. Goodman and Sonja Sax, Wall Street Journal, May 11, 2014.

¹⁸ [Neighborhood Poverty, Urban Residence, Race/Ethnicity and Asthma: Rethinking the Inner-city Asthma Epidemic](#), Corrinne At. Keet et al., The Journal of Allergy and Clinical Immunology Vol. 135, 3, January 20, 2015.

¹⁹ [Respiratory Responses to Ozone Exposure, MOSES \(The Multicenter Ozone Study in Older Subjects\)](#), M. Arjomandi, et al., American Journal of Respiratory and Critical Care Medicine. 2018.; The [Temporal Dynamics of Ozone-Induced FEV1 Changes in Humans: An Exposure-Response Model](#), W. McDonnell et al., National Library of Medicine. 2007.

adequacy of current standards. These deficiencies, when combined with contradicting evidence from other epidemiological studies that show no impact or correlation should lead EPA to more carefully consider their utility.²⁰ Without new, statistically significant, and scientifically robust studies identifying actual impacts that could create adverse public health effects from ozone exposure below the current standard, no lower standard is justified. EPA should make this clearer in the final rule.

EPA's annual air trends report shows that the air is getting cleaner and ozone levels continue to decline even as the economy continues its long-term expansion. We appreciate that by maintaining the current standard, EPA is allowing the current ozone standard the opportunity to work, rather than changing it before the country fully realizes the benefits. In light of the economic hardship from further ratcheting down the ozone NAAQS without a clear public health benefit, Western Energy Alliance supports EPA retaining the existing ozone standard.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K M Sgamma', with a long horizontal flourish extending to the right.

Kathleen M. Sgamma
President

²⁰ [Estimating Error in Using Ambient PM2.5 Concentrations as Proxies for Personal Exposures](#), C. Avery et al., *Epidemiology* Volume 19, Issue 6. 2008.; [Strengthening the Foundation of Next Generation Risk Assessment](#), J. Goodman et al., *Regulatory Toxicology and Pharmacology*, 2013.