

The 2015 National Ambient Air Quality Standards for Ozone

Testimony of Jeffrey R. Holmstead before the U.S. House Committee on Science, Space, and Technology

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Thank you Chairman Smith, Ranking Member Johnson, and distinguished members of the Committee for inviting me to participate in today's hearing.

My name is Jeff Holmstead. I am a partner in the law firm of Bracewell & Giuliani and have been the head of the firm's Environmental Strategies Group (ESG) since 2006. However, I am not submitting this testimony on behalf of my law firm or any of my clients or the firm's clients. Rather, I am sharing my views as a former government official and an attorney in private practice who has spent more than 25 years working on issues arising under the Clean Air Act.

I have worked on Clean Air Act issues since 1989, when I joined the White House Staff of President George H.W. Bush. In that capacity, I worked closely with the Environmental Protection Agency (EPA) and a number of other stakeholders on the implementation of the 1990 Amendments to the Clean Air Act. I served at the White House until 1993 and then, from 1993 until 2001, I worked as attorney in private practice, where I represented companies and trade associations in a number of different industries on Clean Air Act issues. Beginning in 2001, I had the opportunity to serve for more than four years as the head of the EPA Air Office – the office in charge of implementing the Clean Air Act. My official title was Assistant Administrator of EPA for Air and Radiation. Since 2006, I have been a partner at the law firm of Bracewell & Giuliani, where I work with many different industry groups and companies on a variety of issues related to the Clean Air Act. I am well acquainted with the legal, policy, and practical issues associated with the Clean Air Act.

I am pleased to come before you today to discuss EPA's decision to lower the national ambient air quality standard (NAAQS) for ozone from 75 to 70 parts per billion (ppb). Although this may not seem like a dramatic change, it will have a very substantial impact on many state and local government, on many industries – and especially on anyone seeking to build or expand any type of industrial facility.

The Lessons of History

Ozone is not a new issue. EPA and state environmental agencies have been focused on reducing concentrations of ozone for more than 40 years (although the term ozone was not used in the early years).

In light of this 40-year history, I would like to highlight two key facts related to ozone:

- Ozone levels have been reduced substantially since the 1970s in most parts of the U.S. and especially in urban areas that had previously suffered from the highest levels of ozone.
- Notwithstanding the considerable progress that has been made in reducing ozone concentrations, there are many areas of the country that have not attained the previous standard of 75 parts per billion (ppb), even though it was established in 2008. In fact, there are 8 major urban areas that are still not meeting the standard of 84 ppb that was established in 1997 – almost 20 years ago.

These areas have not been negligent in their efforts to regulate sources of air pollution. In fact, many of them – in California, Texas, and the mid-Atlantic region in particular – have been extremely aggressive (and creative) in regulating virtually every imaginable source of ozone precursors. In fact, as a country, we have already spent more money to address ozone than to address any other air pollutant – even though EPA and most air quality researchers believe that other pollutants pose a much greater health risk.

To be sure, ozone concentrations in these areas will continue to decrease gradually as new, lower-emitting cars, trucks, and non-road engines replace older vehicles and engines. But these decreases will fall far short of what is needed to attain the new ozone standard in many areas of the country. And under the Clean Air Act, states have a legal obligation to make up the difference – to impose additional regulatory requirements that will bring every part of their states into compliance with the new standard. The problem, in many states, is that they have no way to do so.

In my discussions with regulatory officials in these areas, they say that there is little more that they can do to achieve further reductions. When it comes to reducing emissions that affect ozone formation, they have already picked all the low-hanging fruit and most of the high-hanging fruit as well. In some cases, they have picked all the trees bare. Regardless of what EPA says, these states will simply not be able to meet the new legal obligation that EPA has imposed on them. This is a long-term issue that will have an impact businesses and consumers located in these areas, but there is also an immediate impact – a *de facto* ban on new industrial development not only in these areas, but in many other parts of the country as well.

**The Immediate Impact of the New Ozone Standard:
An Effective Ban on Industrial Development in Many Parts of the Country**

The new ozone standard has not yet been published in the Federal Register, but this is expected fairly soon. The new standard will not go into effect, as a legal matter, until 60 days after it is published in the Federal Register, but it has already created a effective prohibition against building or expanding industrial facilities in many parts of the country.

Under the previous ozone standard of 75 ppb, with few exceptions not relevant here, every area of the country is designated as either “attainment” (meaning that it meets the standard) or “nonattainment” (meaning that it does not). Within the next few years, EPA and states will go through the process of re-designating every part of the country as either attainment or nonattainment with the new ozone standard of 70 ppb. The number of nonattainment areas will

increase substantially, and all these new nonattainment areas will face major new regulatory burdens.

But even now – before the final standard is even published in the Federal Register – the new ozone standard has effectively created a ban on industrial development in many parts of the country because of the permitting requirements of the Clean Air Act. Under the Act, any company that wants to build a new industrial facility or expand an existing facility must obtain a “new source review” (NSR) permit before it can begin any type of construction. To obtain an NSR permit for a facility in a current “attainment area” – one that meets the previous ozone standard – a company must first make a showing that the potential emissions from the new or expanded facility will not “cause or contribute” to a violation of any national ambient air quality standard, including the new ozone standard.

But here’s the problem. Now that the standard has been lowered from 75 to 70 ppb, many areas of the country suddenly do not meet the new standard. In such areas, it will be impossible to show that a new facility will not “contribute to” a violation of the new standard because the area is already in violation of the standard. And if a company cannot make this showing, it will not be able to get a permit build or expand any new industrial facility in the area, even if the facility would use state-of-the-art technology to control its emissions as much as possible, and even if the local community desperately wants it to be built.

To be fair, EPA has said that a company may be able to get around this problem by paying the owners of another facility in the area to reduce their emissions enough to offset emissions from the new plant or plant expansion. This is called getting “offsets.” But in many cases, this will simply not be possible. As EPA’s analysis has shown, many areas that exceed the new 70 ppb standard are rural areas, where there is little or no industrial activity. They exceed the standard not because of local emissions, but because of background ozone and emissions in other areas. In these cases, there are no offsets to be purchased. A company won’t have the option of paying someone else to reduce current emissions in the area because, with no existing sources of emissions in the area, there is no one to pay.

A related problem will occur in areas that are currently designated as nonattainment areas under the previous standard of 75 ppb. Because these areas have already been designated as nonattainment, someone who wants to build or expand a facility in such an area does not need to show that the new facility will not cause or contribute to a violation of the standard. However, the new facility may only be built if the permit applicant is able to obtain offsets to cover emissions from the new facility. In other words, it must pay someone else to reduce emissions in an amount that exceeds the emissions that will come from the new facility. In fact, depending on the area, it must obtain offsets that are between 10 and 50 percent greater than the emissions from the new facility.

Not surprisingly, offsets cannot be created by taking actions required by EPA or state regulations. To be counted as an offset, an emission reduction must go beyond what is required by law. But remember, for more than 40 years, EPA and states have been looking for every conceivable way to reduce emissions related to ozone. In many areas, all the cost-effective emission reductions have been mandated by regulation. Where there are any reductions to be had, they are very expensive. For example, in the Houston area, and especially near the Houston

Ship Channel, there are hundreds of industrial facilities, but they already are well controlled. Because there is so much industry, it is possible to purchase offsets, but they are enormously expensive – as much as \$300,000 a ton for ozone precursors. Even a relatively small facility with state-of-the-art controls will emit more than 100 tons per year. The so-called “offset ratio” in the Houston area is 1.4 to 1, meaning that the new facility would need to offset 140 percent of its projected emissions. Thus, even if the new facility will only emit 100 tons per year, the company trying to build it would need to purchase 140 tons of offsets. With offsets selling for \$300,000 a ton, this means an upfront cost of \$42 million just to purchase emission offsets.

As noted above, however, at least there are offsets available in Houston – at least for now. In many parts of the country, there simply are no offsets to be had for any price. In these areas, the new ozone standard will be a de facto ban on most types of industrial development.

Why “Background” Ozone Matters

The basic structure of the Clean Air Act program for dealing with ozone was established back in the 1970s and has remained relatively unchanged since that time. Ozone (then in the form of “total photochemical oxidants”) was thought to be primarily a local issue. If a city had high ozone levels, policymakers believed that it was caused by local sources of emissions. It was understood, of course, that vehicle emissions were the single largest part of the problem in many areas, and EPA was given primary responsibility for regulating those emissions. Otherwise, it was thought that states could meet the ozone standard (which was 120 ppb from 1979 - 1997) simply by adopting more stringent regulations to reduce emissions from industries within their borders.

By the mid-1990s, EPA came to understand that ozone was also a regional issue – not just a local one – and began to develop programs to control emissions from power plants in the eastern U.S. as a way to reduce ozone levels throughout the region.

More recently, government and academic researchers have noted that ozone is truly a global issue. Even without any human activity, there would be natural levels of ozone (not necessarily a constant background level but a level that would vary from time to time and place to place over the year). In addition, it is now clear that a range of industrial and other human activities (like biomass burning) throughout the world contribute to ozone concentrations in the U.S. In a 2011 report, EPA scientists noted that:

A growing body of observational and modeling studies suggests that the international anthropogenic [man-made] contribution to U.S. background ozone levels is substantial and is expected to rise in the future as rapid economic development continues around the world. Of particular concern is rising Asian emissions of nitrogen oxides (NO_x), which can influence U.S. ozone concentrations in the near-term, and methane, which affects background ozone concentrations globally over decadal time scales.

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In particular, [a 2010 Report by the Task Force on Hemispheric Transport of Air Pollution] estimated that the contribution of NO_x, non- methane VOC, and

CO emissions in Europe, South Asia, and East Asia to North American ozone concentrations at relatively unpolluted sites is 32% of the contribution of emissions from all four regions (including North America) combined. That contribution is projected to rise to 49% in a conservative emissions growth scenario and to 52% in a scenario of aggressive global economic development.¹

The U.S. can certainly work with other countries to encourage them to reduce emissions that contribute to air quality problems in the U.S. However, for U.S. policymakers, it is important to understand how much we can actually do, within our own borders, to reduce ozone concentrations in the U.S. As far as I know, however, EPA has never made a serious effort to study this issue.

When the ozone standard was still 75 ppb, the former Chair of EPA's Clean Air Science Advisory Committee, Dr. Jonathan Samet, called attention to the significance of EPA standards converging with background levels of ozone:

Although health and welfare effects of ozone will occur regardless of the origin of the ozone (i.e., natural, U.S. anthropogenic emissions or internationally transported emissions), we note that as levels for ozone standards move closer to "background" levels, new issues may arise with implementation. As the Agency moves forward with the next ozone review cycle, it would be well advised to carefully consider any new monitoring and implementation issues that may arise, particularly as background levels vary throughout the country.²

With the ozone standard now set at 70 ppb, we have reached the point where some parts of the country would fail to meet the standard even if they were to eliminate all industrial activity within their borders. EPA officials have finally acknowledged concerns about background ozone and said that they will be adopting new policies to deal with it. But we have not yet seen any of these policies.

In EPA's view, however, the issue of background ozone is not relevant to the question of where the NAAQS should be set. This position is based on the Supreme Court's decision in *Whitman v. American Trucking*, 531 U.S. 457 (2001), which said (among other things) that EPA must set the NAAQS based purely on an assessment of health effects and without considering the cost of meeting any particular standard. Most surprising, the Court also suggested that EPA must set air quality standards without even considering whether they are achievable. As a result, the Clean Air Act appears to give rather remarkable authority to EPA – the authority to impose legal obligations that are impossible to meet. To me, at least, this seems contrary to our long-standing notions about the rule of law.

¹ EPA, Ozone National Ambient Air Quality Standards; Scope and Methods Plan for Health Risk and Exposure Assessment (2011).

² Dr. Jonathan M. Samet, Chair, Clean Air Scientific Advisory Committee. Letter to Lisa Jackson. February 19, 2010.

[http://yosemite.epa.gov/sab/sabproduct.nsf/610BB57CFAC8A41C852576CF007076BD/\\$File/EPA-CASAC-10-007-unsigned.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/610BB57CFAC8A41C852576CF007076BD/$File/EPA-CASAC-10-007-unsigned.pdf)

To be fair, this issue has only arisen as background levels of ozone have continued to increase while EPA has simultaneously regulated ozone to lower and lower levels. Certainly, when the Clean Air Act was enacted back in 1970, and even when it was last amended in 1990, Congress did not appear to contemplate this issue – that background emissions would make it impossible for states to meet national ambient air quality standards. Perhaps it is time for Congress to consider this problem. I recognize that it is perhaps beyond the purview of this Committee, but I do believe that this Committee – and EPA’s Clean Air Science Advisory Committee – should take steps to ensure that this issue is fairly presented to policymakers and the public.

The Role of CASAC

As part of the Clean Air Act, Congress created an outside group of science advisors known as the Clean Air Science Advisory Committee (CASAC). Congress created CASAC back in 1977, when it enacted what has now been codified as section 109 of the Clean Air Act.

For many years, CASAC has largely just responded to questions posed by EPA staff. Congress, however, envisioned a broader role for CASAC and also gave CASAC a specific list of responsibilities. Unfortunately, CASAC has largely overlooked two things on this list.

Section 109(d)(2)(C) specifically states that CASAC “*shall*” (1) “advise the Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity” and (2) “advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards.”

Some CASAC observers have downplayed the importance of these responsibilities, arguing that they are not relevant to the question of where the NAAQS should be set. But Congress clearly wanted CASAC to play a broader role than simply advising EPA on the level of the NAAQS.

As noted above, in the effort to reduce ground-level ozone, regulators have already mandated the emission reductions that are the most-cost effective to achieve. In many areas, it will be very costly to businesses and consumers to obtain additional reductions. Under these circumstances, it is especially important for CASAC to advise the Administrator – and through her, other policymakers – about “the relative contribution to [ozone] concentrations of natural as well as anthropogenic activity.” In considering the contribution from anthropogenic sources, CASAC should distinguish between (i) anthropogenic sources that are within the U.S. and therefore subject to control under the Clean Air Act and (ii) anthropogenic sources from outside the U.S., which are not. As a practical matter, the contribution from non-U.S. anthropogenic sources is essentially part of the uncontrollable background. Policymakers and regulators around the country need a valid source of information about background concentrations (attributable to both natural and non-U.S. anthropogenic sources) and the degree to which they effect the ability of certain areas to achieve the ozone NAAQS.

It is perhaps even more important for CASAC to advise the Administrator and other policymakers about the “adverse public health, welfare, social, economic, or energy effects which may result from” further efforts to reduce ozone formation. If, as most experts believe, the low hanging fruit has been picked when it comes to reducing emissions of ozone precursors,

additional actions will be ever more costly in terms of the cost-per-unit of ozone reduced. CASAC clearly has a role in advising policymakers about the tradeoffs that we all face as our society spends more resources to achieve a goal that may not even be achievable in many parts of the country.