

Particulate Matter NAAQS/Clean Air Act: U.S. Environmental Protection Agency Retains Current NAAQS



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The United States Environmental Protection Agency (“EPA”) announced it is finalizing a rule to retain the current Clean Air Act National Ambient Air Quality Standard (“NAAQS”) for particulate matter (“PM”).

The PM standard includes both fine particles (PM_{2.5}) and coarse particles (PM₁₀).

Particulate matter is a generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes. It is composed of two major components.

Primary particulates or soot are emitted directly into the atmosphere. Secondary particulates can also be formed through a secondary process. They might be formed from condensation of high-temperature vapor from vapors generated as a result of chemical reactions involving gas-based precursors.

Larger particulates (PM₁₀) are generally the result of mechanical, evaporative, and suspension processes. Particulates designated PM_{2.5} typically consist of sulfates, nitrates, elemental carbon, organic carbon, compounds and metals. Because of their small size, these particulates can remain in the air for significant periods of time.

Sections 108 and 109 of the Clean Air Act require EPA to identify air pollutants utilizing certain criteria and set NAAQS for each. Particulates are one of the six air pollutants currently designated as criteria air pollutants and subject to NAAQS. Section 109 requires that EPA promulgate primary NAAQS for the pollutants identified under Section 108.

Section 109(b)(1) defines a primary standard as one “the attainment and maintenance of which, in the judgment of the Administrator, based on the criteria and allowing an adequate margin of safety, are requisite to protect the public health.” The margin of safety requirement addresses the uncertainties associated with the inconclusive scientific and technical information available at the determined NAAQS, as well as to provide a reasonable degree of protection against the adverse effects that may not have been discovered.

The states are primarily responsible for ensuring attainment and maintenance of NAAQS once the EPA has established them. Each state is, therefore, required to formulate, subject to EPA approval, an implementation plan (i.e., “SIP”) designed to achieve each NAAQS.

The SIPs will contain the measures and actions the state proposes to undertake to attain each NAAQS. These measures or actions must be enforceable through state regulations and typically include emission

limits applicable to certain types of stationary sources. The states are generally free to make their own choices as to how they will attain the NAAQS through their SIPs.

Section 109(d)(1) of the Clean Air Act mandates a periodic review of each NAAQS. Depending on the results of the review, EPA must determine whether the existing air quality criteria and NAAQS must be revised. EPA's review of the PM and PM2.5 is an example of this review process.

By way of summary, EPA states in support of its decision to retain the current NAAQS:

For the primary PM2.5 standards, the Administrator concludes that there are important uncertainties in the evidence for adverse health effects below the current standards and in the potential for additional public health improvements from reducing ambient PM2.5 concentrations below those standards. Based on the available evidence, the Administrator has concluded that the current primary PM2.5 standards are requisite to protect public health, with an adequate margin of safety, from effects of PM2.5 in ambient air and should be retained, without revision. Therefore, the EPA is retaining those standards (i.e., both the annual and 24-hour standards), without revision.

For the primary PM10 standard, the Administrator observes that, while the available health effects evidence has expanded, recent studies are subject to the same types of uncertainties that were judged important in the last review. He concludes that, based on the newly available evidence with its inherent uncertainties, the current primary PM10 standard is requisite to protect public health, with an adequate margin of safety, from effects of PM10 in ambient air, and should be retained, without revision. Therefore, the EPA is retaining that standard, without revision.

Note that EPA scientists in one of the technical documents did conclude that:

. . . the available scientific evidence, air quality analyses, the risk assessment can reasonably be viewed as calling in question the adequacy of the public health protection afforded by the combination of the current annual and 24-hour primary PM2.5 standards.

EPA's decision to retain this NAAQS has been and will be divisive. For example, the National Resource Defense Council states:

In its waning days, the Trump administration is still letting polluters off scot free and leaving the rest of us to keep breathing the industry's deadly pollution—even in the midst of a respiratory pandemic. This administration could have strengthened the limits on soot to protect our lungs and give people at the highest risk of dying from Covid-19 a better chance at fighting off this virus. But it chose not to—leaving the health of tens of millions of Americans at risk.

Today's reckless decision can and should be swiftly undone by the incoming administration. Fortunately, the incoming administration has signaled it will make restoring the EPA's mission to protect people over polluters a top priority. It's time polluters stopped making us sick.

In contrast, the American Petroleum Institute states:

Under existing standards, the U.S. has made remarkable progress in reducing emissions and improving air quality," API Senior Vice President of Policy, Economics and Regulatory Affairs Frank Macchiarola said. "Thanks to cleaner fuels and industry action, we have the cleanest air in half a century, and with smart regulations and continued innovation, we can build on this progress while delivering affordable, reliable energy around the world."

According to the EPA, the U.S. has reduced emissions that can contribute to particulate matter - including an 84 percent drop in sulfur dioxide (SO2), and a 54 percent decrease in nitrogen oxide (NOx) – since 2000. The continued transition to [cleaner natural gas](#) in the power sector played an important role in those emissions reductions and is important progress that can endure with continued implementation of existing regulations.

Certainly it is likely that various groups will challenge this decision.

A link to the 242-page prepublication version of the final rule can be downloaded [here](#).