

# Particulate Matter/Clean Air Act National Ambient Air Quality Standard: U.S. Environmental Protection Agency Proposed Rule to Strengthen Standard



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The United States Environmental Protection Agency (“EPA”) announced on January 6th a proposed rule which will strengthen the National Ambient Air Quality Standard (“NAAQS”) for fine particulate matter..

EPA had previously announced on June 10, 2022, that it was reconsidering the Trump Administration’s prior decision to retain the PM<sub>2.5</sub> Clean Air Act NAAQS. Note that the particulate matter standard includes both fine particles (PM<sub>2.5</sub>) and coarse particles (PM<sub>10</sub>).

Particulate matter (“PM”) 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 (PM<sub>10</sub>) are generally the result of mechanical, evaporative, and suspension processes. Particulates designated PM<sub>2.5</sub> 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, as well as to provide a reasonable degree of protection against the adverse effects that may not have been discovered.

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 PM<sub>2.5</sub> is an example of this review process.

EPA's January 6th proposed rule is soliciting comments on strengthening the primary annual PM<sub>2.5</sub> standard from a level of 12 micrograms per cubic meter to a level between 9 and 10 micrograms per cubic meter. This is stated to be driven by the federal agency's belief that it reflects the latest health data and scientific evidence. It is also taking comments on the full range (between 8 and 11 micrograms per cubic meter) that is stated to be included in the Clean Air Scientific Advisory Committee's latest report.

EPA is proposing to retain the primary 24-hour PM<sub>10</sub> standard and the current secondary (welfare-based) standards for both PM<sub>2.5</sub> and PM<sub>10</sub>.

The proposed rule is also considering updating monitoring requirements. This includes modification of the PM<sub>2.5</sub> monitoring network design criteria to include the environmental justice factor. EPA states that the factor would account for proximity of populations at increased risk of PM<sub>2.5</sub>-related health effects to sources of air pollution.

The proposal also includes revisions to data calculation and other ambient air monitoring requirements that the agency states are intended to improve the quality of data used in regulatory decision making and to better characterize air quality in communities that are at increased risk of PM<sub>2.5</sub> exposure and health risks.

The revisions are stated to include:

- Updates in data calculations
- Approval of reference and equivalent methods
- Updates in quality assurance statistical calculations to account for lower concentration measurements
- Updates to support improvements in PM methods
- Updates to the Probe and Monitoring Path Siting Criteria for NAAQS pollutants

Note that the states are primarily responsible for ensuring attainment and maintenance of an NAAQS once the EPA has established or revised 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.

A link to the prepublication proposed rule can be found [here](#).