

## EPA's Revisions to the National Ambient Air Quality Standards for Particulate Matter

On January 15, 2013, the Environmental Protection Agency (EPA) published [EPA-HQ-OAR-2007-0492; FRL-9761-8] final rule to revise the suite of standards for particulate matter (PM) to provide necessary protection of public health and welfare, and to make corresponding revisions to data handling conventions for PM and the ambient air monitoring, reporting, and network design requirements. States have until 2020 (five years after designations are effective) to meet the revised annual PM<sub>2.5</sub> health standard. Most states will have to adopt State Implementation Plans (SIPs) to reduce emissions of PM<sub>2.5</sub> and its precursors, which may require businesses in nonattainment areas to invest in pollution controls and comply with new permitting requirements. The rule will be effective on March 18, 2013.

### Why Did the EPA Propose These Revisions?

EPA last revised the PM<sub>2.5</sub> NAAQS in 2006. The Clean Air Act requires the agency to review new evidence on human health impacts and consider revising the NAAQS for each "criteria pollutant" (particulate matter, ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead) every five years. EPA is revising the annual PM<sub>2.5</sub> NAAQS to provide increased protection against health effects associated with long- and short-term exposures. EPA estimates that health protections from the revised PM<sub>2.5</sub> NAAQS would save the nation between \$4 billion and \$9.1 billion per year in 2020, providing a return of \$12 to \$171 for every dollar invested in pollution reduction. EPA is prohibited from considering compliance costs in setting new NAAQS, but following Executive Orders and guidance from the Office of Management and Budget, EPA estimates nationwide costs for the revised PM<sub>2.5</sub> NAAQS between \$53 million and \$350 million annually.

### EPA's Forecast for PM<sub>2.5</sub> Nonattainment Areas

There are 66 counties in the U.S. that currently do not meet the 12.0 µg/m<sup>3</sup> annual PM<sub>2.5</sub> standard (see map on following page). However, EPA estimates that by 2020 only seven counties in the U.S. will be nonattainment for the annual PM<sub>2.5</sub> standard. This improvement is due to emission control programs already in place, and accounts for emission reductions needed to attain new annual PM<sub>2.5</sub> standards.

### Summary of EPA's Final Rule

EPA finalized the PM standard as a result of Clean Air Act mandates for the periodic review of NAAQS, as well as recent federal court decisions. The final rule includes the following:

- Lowering the annual health standard (primary standard) for PM<sub>2.5</sub> to 12.0 µg/m<sup>3</sup> from the existing annual standard, 15.0 µg/m<sup>3</sup> set in 1997.
- Retaining the existing 24-hour health standard (primary standard) for PM<sub>2.5</sub> at 35 µg/m<sup>3</sup>.
- Retaining existing secondary standards (annual standard of 15.0 µg/m<sup>3</sup> and a 24-hour standard of 35 µg/m<sup>3</sup>) for PM<sub>2.5</sub> to address PM-related effects such as visibility impairment, ecological effects, damage to materials and climate impacts. EPA had proposed to set a separate secondary 24-hour standard to provide protection against PM-related visibility effects; however, after considering public comment on the proposal and further analyzing recent air quality monitoring data, the agency has concluded that the current secondary 24-hour PM<sub>2.5</sub> standard of 35µg/m<sup>3</sup> will provide visibility protection that is equal to, or greater than, 30 deciviews, the target level of protection the agency is setting today.
- Retaining the existing 24-hour PM<sub>10</sub> standards for health and environmental effects (primary and secondary standards).
- Revising the prevention of significant deterioration (PSD) permitting program with respect to the NAAQS revisions.



Louisiana | Texas | Mississippi | California

WWW.PROVIDENCEENG.COM

## Revised PM<sub>2.5</sub> Air Quality Index (AQI)

The Air Quality Index breakpoints used by states to forecast air quality has been revised to reflect the new primary PM<sub>2.5</sub> standard set by the EPA.

EPA AQI Category	Index Values	Previous Breakpoints (1999 AQI) ( $\mu\text{g}/\text{m}^3$ , 24-hour average)	Revised Breakpoints ( $\mu\text{g}/\text{m}^3$ , 24-hour average)
Good	0 - 50	0.0 - 15.0	0.0 - 12.0
Moderate	51 - 100	>15.0 - 40	12.1 - 35.4
Unhealthy for Sensitive Groups	101 - 150	>40 - 65	35.5 - 55.4
Unhealthy	151 - 200	>65 - 150	55.5 - 150.4
Very Unhealthy	201 - 300	>150 - 250	150.5 - 250.4
Hazardous	301 - 400	>250 - 350	250.5 - 350.4
	401 - 500	>350 - 500	350.5 - 500

## What are the Implications to Industrial Facilities?

For facilities located in areas that are currently in attainment but will become nonattainment once designation is made, these facilities will be subject to Nonattainment New Source Review (NNSR), a different set of permitting rules. Some elements of NNSR include acquiring emission credits to offset emissions of proposed projects and installing technology that meets the lowest achievable emission rate (LAER). In addition, states may impose additional controls in order to achieve attainment status within a specified timeframe. Areas currently in nonattainment may be bumped up to a more severe classification under the new PM<sub>2.5</sub> standard. Facilities located in such areas may be subject to a higher offset ratio.

The final rule revising primary annual PM<sub>2.5</sub> NAAQS will affect PSD permitting requirements beginning March 18, 2013. To ensure smooth transition to the revised standards, EPA will grandfather pending preconstruction permitting applications if:

- The permitting agency has deemed the application complete as of December 14, 2012; or
- Public notice for a draft permit or preliminary determination has been published prior to the date the revised PM standards become effective (March 18, 2013).

## What is the timeline for implementation of the new NAAQS for PM?

**December 13, 2013:** States (and any tribes that choose to do so) make recommendations for areas to be designated (based on the monitored values from 2010-2012).

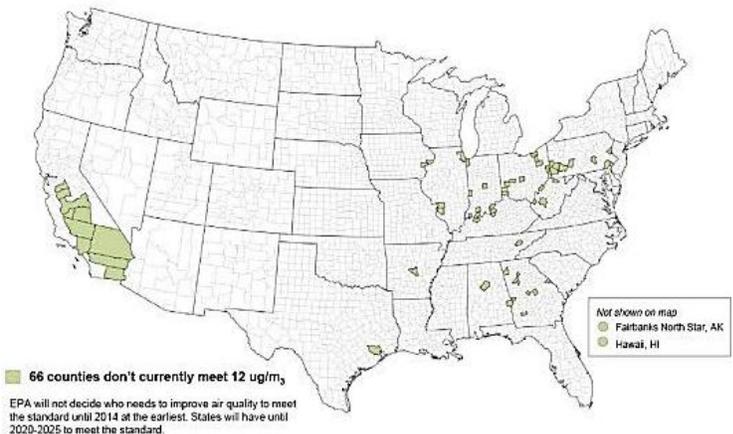
**August 14, 2014:** EPA responds to states' and tribes' initial recommendations for attainment and nonattainment areas.

**December 12, 2014:** EPA makes final designations likely to become effective in early 2015 (60 days after the designations are published in the Federal Register).

**Early 2018:** Implementation plans, outlining how states or tribes will reduce pollution to meet the standards, are due to EPA (three years after designations).

**Early 2020:** States are required to meet the standards. A state may request a possible extension to 2025, depending on the severity of an area's fine particle pollution problems and the availability of pollution controls.

Most of the U.S. Already Meets the Annual Fine Particle Health Standard of 12  $\mu\text{g}/\text{m}^3$



Source: 2009-2011 air quality data as of July 15, 2012  
For more information: [www.epa.gov/oaqps](http://www.epa.gov/oaqps)



**Headquarters**  
1201 Main Street  
Baton Rouge, Louisiana 70802  
Phone: (225) 766-7400  
Fax: (225) 766-7440  
Attn: Kevin Calhoun, PE

**Dallas**  
1200 Walnut Hill Lane, Suite 1000  
Irving, Texas 75038  
Phone: (972) 550-9326  
Fax: (972) 550-9396  
Attn: David Downard, PE

**Houston**  
11767 Katy Freeway, Suite 430  
Houston, Texas 77079  
Phone: (281) 497-5656  
Fax: (281) 497-5657  
Attn: Lisa Swanson, PE

**Fresno**  
1713 Tulare Street, Suite 124  
Fresno, California 93721  
Phone: (559) 549-6351  
Fax: (559) 579-1530  
Attn: Scott Nester

For further questions concerning this issue and other air quality management issues, please contact us.

PROVision is a publication of Providence Engineering and Environmental Group LLC. Every effort has been made to remain consistent with official statutes, regulations, policy, and guidance. If this article conflicts with a state or federal regulation or standard, then the regulatory language or standard prevails.