

# **Review of the National Ambient Air Quality Standards (NAAQS)**

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# NAAQS

- Established under section 108 of the Clean Air Act (CAA)
- Six Common/Criteria Pollutants:
  - Ozone ( $O_3$ )
  - Particulate Matter (PM<sub>2.5</sub> and PM<sub>10</sub>)
  - Lead (Pb)
  - Oxides of Nitrogen/Nitrogen Dioxide ( $NO_2$ )
  - Oxides of Sulfur/Sulfur Dioxide ( $SO_2$ )
  - Carbon Monoxide (CO)

# Review and Revision of the NAAQS

- Required by CAA Section 109
- Directs the EPA to propose and promulgate “primary” (public health) and “secondary” (public welfare) NAAQS for pollutants for which air quality criteria are issued.
- Section 109(d)(1) requires that “at 5-year intervals thereafter, the EPA shall complete a thorough review of the criteria ... and the [NAAQS] . . . and shall make such revisions ... as may be appropriate ....”

# Primary and Secondary NAAQS

- The primary NAAQS are set at a level “requisite” to protect public health with an adequate margin of safety.
  - EPA may not consider costs of implementing, ability to attain, technological feasibility, or background ozone in setting NAAQS
- The secondary NAAQS are to specify a level of air quality ... requisite to protect the public welfare from any known or anticipated adverse effects associated with the pollutant in the ambient air.
  - effects on welfare include soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility and climate; damage to and deterioration of property; hazards to transportation; and effects on economic values and on personal comfort and well-being.”

# Elements of the NAAQS

► Each NAAQS has four elements which together serve to define each standard and must be considered collectively in evaluating the health and welfare protection afforded by the standards.

- Indicator
- Averaging time
- Form
- Level

# NAAQS Review Process

- Federal Register Announcement inviting submissions of research studies and data.
- The office of Air Quality Planning and Standards (OAQPS) and office of Research & Development (ORD) prepare an Integrated Review Plan
- ORD prepares an Integrated Science Assessment.
- OAQPS prepares Risk and Exposure Assessment documents.
- OAQPS prepares a Policy Assessment.
- Clean Air Scientific Advisory Committee (CASAC) reviews at least one draft of each document and provides its advice to EPA on how to revise the NAAQS, as appropriate.
- The public provides comments on the drafts.
- After this process is complete, EPA undertakes notice and comment rulemaking.

# Clean Air Scientific Advisory Committee (CASAC)

- CAA Section 109(d)(2) requires establishment of “an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies.”
- The committee reviews the air quality criteria and the NAAQS and recommends to the EPA any new standards and revisions of existing criteria and NAAQS as may be appropriate.
- Pursuant to CAA section 307(d), if the NAAQS proposal or final rule differs in any important respect from any of CASAC’s recommendations, EPA must provide an explanation of the reasons for such differences.

# Status of NAAQS Reviews

- Ozone - reviewed/not revised in 2020; being reconsidered
- PM – reviewed/not revised in 2020; being reconsidered
- Lead (Pb) – reviewed and not revised in 2016.
- NO<sub>2</sub> – Primary NAAQS reviewed and not revised in 2018; call for studies for next ISA
- SO<sub>2</sub> – Primary NAAQS reviewed and not revised in 2019.
- Secondary NAAQS for NO<sub>2</sub> and SO<sub>2</sub> reviewed/not revised in 2012; currently under review and includes PM.
- CO – reviewed and not revised in 2011.



## Current NAAQS (prior NAAQS may apply in some areas)

Pollutant	Primary/ Secondary	Averaging Time	Level	Form	
Carbon Monoxide (CO)	Primary	8 hours	9 ppm	Not to be exceeded more than once per year	
		1 hour	35 ppm		
Lead (Pb)	Primary and secondary	Rolling 3 month period	0.15 $\mu\text{g}/\text{m}^3$	Not to be exceeded	
Nitrogen Dioxide (NO <sub>2</sub> )	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	Primary and secondary	1 year	53 ppb	Annual Mean	
Ozone (O <sub>3</sub> )	Primary and secondary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	
Particle Pollution (PM)	PM 2.5	Primary	1 year	12.0 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		Secondary	1 year	15.0 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		Primary and secondary	24 hours	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
	PM 10	Primary and secondary	24 hours	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO <sub>2</sub> )	Primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year	

# Links and Contacts

- ▶ EPA's review of each of the NAAQS:
  - ▶ <https://www.epa.gov/naaqs>
- ▶ EPA Legal Tools to Advance Environmental Justice:
  - ▶ <https://www.epa.gov/ogc/epa-legal-tools-advance-environmental-justice>
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