

FACT SHEET
FINAL RULEMAKING
REVIEW OF THE PRIMARY NATIONAL AMBIENT AIR QUALITY STANDARDS
FOR OXIDES OF NITROGEN

ACTION

- On April 6, 2018, the U.S. Environmental Protection Agency (EPA) retained, without revision, the health based or primary national ambient air quality standards (NAAQS) for oxides of nitrogen.
- Nitrogen dioxide (NO₂) is the component of oxides of nitrogen of greatest concern for health and is the indicator for the primary NAAQS. There are currently two primary NO₂ standards:
 1. a 1-hour standard established in 2010 at a level of 100 parts per billion (ppb). It is based on the 98th percentile of the annual distribution of daily maximum 1-hour NO₂ concentrations, averaged over 3 years.
 2. an annual standard, originally set in 1971, at a level of 53 ppb. It is based on annual average NO₂ concentrations.
- There continues to be strong scientific evidence indicating that short-term exposures to NO₂ can worsen asthma symptoms in people with the disease. Some new evidence also supports an association between long-term NO₂ exposures in children and the development of asthma.
- Based on a review of the full body of scientific evidence, and of the information available from analyses of potential NO₂ exposures, EPA is retaining the current 1-hour and annual primary NO₂ standards. EPA concludes that the current standards protect the public health with an adequate margin of safety, and that the available evidence and information does not support revising those standards in order to provide a different degree of public health protection.
- Based on its review of draft documents in this review, EPA's independent scientific advisors, the Clean Air Scientific Advisory Committee (CASAC), concluded that the available evidence, together with updated analyses of potential NO₂ exposures, supports retaining the current 1-hour and annual primary NO₂ standards without revision.

NO₂ AND PUBLIC HEALTH

- The strongest evidence indicates asthma-related health effects following both short- and long-term NO₂ exposures. Exacerbation of asthma symptoms, in some cases resulting in hospitalization, has been shown to occur following short-term exposures (i.e., typically hours to days). The development of asthma in children has been shown to be associated with long-term exposures (typically years).
- Consistent with the prior review completed in 2010, the evidence indicates that people with asthma, children (under the age of 18), and older adults (over the age of 65) are at

increased risk for NO₂-related health effects.

- Exposures to elevated ambient concentrations of NO₂ can occur near significant emissions sources, such as major roadways.

PROGRESS IN REDUCING EMISSIONS AND EXPOSURE

- Nationwide estimates indicate a 61 percent decrease in total NO_x emissions from 1980 to 2016 as a result of multiple regulatory programs. NO_x is a term commonly used to describe the combination of nitric oxide (NO) and NO₂.
- As NO_x emissions have declined, ambient concentrations of NO₂ have also declined broadly across the U.S. Since 1980, the median of annual average NO₂ concentrations, also known as the annual design value, has decreased by about 65 percent and the median 1-hour design value has decreased by about 50 percent.
- Currently, there are no monitors with design values exceeding either the 1-hour or annual standard.

BACKGROUND

- The Clean Air Act requires EPA to set national ambient air quality standards for “criteria pollutants.” Currently, oxides of nitrogen and five other major pollutants are listed as criteria pollutants. The others are ozone, lead, carbon monoxide, sulfur oxides, and particulate matter. The law also requires EPA to periodically review the relevant scientific information and the standards, and to revise them if appropriate to ensure that the standards provide the requisite protection for human health and the environment.
- In the prior review, which was completed in 2010, EPA increased the protection provided against NO₂ exposures by adding the current 1-hour standard. This decision was based on scientific evidence, together with analyses of NO₂ exposures and health risks, showing that the annual standard alone would not be sufficiently protective against the respiratory effects that can occur following short-term NO₂ exposures, particularly in people with asthma.
- While NO_x is emitted from a wide variety of source types, the top three categories of sources of NO_x emissions are highway vehicles, off-highway vehicles, and stationary fuel combustion sources. NO_x emissions from stationary fuel combustion sources are primarily from electric utility sources, both coal and gas-fired.

FOR MORE INFORMATION

- To download a copy of the final rules, go to EPA’s website at: <https://www.epa.gov/no2-pollution>.
- Today’s decision and other background information are also available either electronically at <http://www.regulations.gov>, EPA’s electronic public docket and comment system, or in hardcopy at the EPA Docket Center’s Public Reading Room.

- The Public Reading Room is located at the EPA Headquarters, Room Number 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, D.C. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding Federal holidays.
- Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.
- Materials for this proposed action can be accessed using Docket ID No. EPA-HQ-OAR-2013-0146.