

FACT SHEET
PROPOSAL TO REVISE THE NATIONAL AMBIENT AIR QUALITY STANDARDS
FOR OZONE

ACTION

- On June 20, 2007, EPA proposed to strengthen the national ambient air quality standards for ground-level ozone, the primary component of smog. The proposed revisions reflect new scientific evidence about ozone and its effects on people and public welfare.
- Breathing air containing ozone can reduce lung function, thereby aggravating asthma or other respiratory conditions. Ozone exposure has also been associated with increases in respiratory infection susceptibility, medicine use by asthmatics, doctors visits, emergency department visits and hospital admissions. Ozone exposure also may contribute to premature death in people with heart and lung disease.
- Scientific evidence indicates that adverse public health effects occurs following exposure to ozone at levels below the current standard, particularly in those with respiratory illnesses.
- In addition, new scientific evidence since the last review shows that repeated exposure to low levels of ozone damages vegetation, trees and crops, leading to increased susceptibility to disease, damaged foliage, and reduced crop yields.
- EPA's proposal would revise both ozone standards: the *primary* standard, designed to protect human health; and the *secondary* standard, designed to protect welfare (such as vegetation and crops). The existing primary and secondary standards, set in 1997, are identical: an 8-hour standard of 0.08 parts per million (ppm). (In practice, because of rounding, an area meets the standard if ozone levels are 0.084 ppm or lower.)

Proposed revisions to the primary standard

- EPA proposes to set the primary (health) standard to a level within the range of 0.070-0.075 ppm (70 -75 ppb). The Agency also requests comments on alternative levels of the 8-hour primary ozone standard, within a range from 0.060 ppm up to and including retention of the current standard (0.084 ppm). (EPA also proposes to specify the level of the primary standard to the third decimal place, because today's monitors can detect ozone that accurately.)

Proposed revisions to the secondary standard

- EPA is proposing two options for the secondary standard:
 - One option would establish a new form of the standard designed specifically to protect sensitive plants from damage caused by repeated ozone exposure throughout the growing season. This cumulative standard would add daily ozone concentrations across a three-month period. EPA is proposing to set the level of the cumulative standard within the range of 7 to 21 ppm-hours.

- The other option would follow the current practice of making the secondary standard identical to the proposed primary 8-hour standard.
- EPA will take public comment for 90 days following publication of the proposal in the Federal Register. The agency also will hold five public hearings on the proposal in: Los Angeles and Philadelphia on Aug. 30, 2007 and Atlanta, Chicago and Houston on Sept. 5, 2007.
- EPA will issue final standards by March 12, 2008.

OZONE AND PUBLIC HEALTH

- Exposures to ozone can:
 - Reduce lung function, making it more difficult for people to breathe as deeply and vigorously as normal;
 - Irritate the airways, causing coughing, sore or scratchy throat, pain when taking a deep breath and shortness of breath;
 - Increase frequency of asthma attacks;
 - Inflame and damage the lining of the lung;
 - Increase susceptibility to respiratory infection; and
 - Aggravate chronic lung diseases such as asthma, emphysema and bronchitis.
- In some people, these effects can lead to:
 - Increased medicine use among asthmatics;
 - More frequent doctors visits;
 - School absences; and
 - Increased emergency room visits and hospital admissions.
- Ozone may continue to cause lung damage even when the symptoms have disappeared.
- Breathing ozone may contribute to premature death in people with heart and lung disease.

OZONE AND THE ENVIRONMENT

- Ground-level ozone can have harmful effects on plants and ecosystems. When sufficient ozone enters the leaves of a plant, it can:
 - Interfere with the ability of sensitive plants to produce and store food, making them more susceptible to certain diseases, insects, other pollutants, competition and harsh weather
 - Visibly damage the leaves of trees and other plants, harming the appearance of urban vegetation, national parks, and recreation areas; and
 - Reduce forest growth and crop yields.

DETERMINING COMPLIANCE: THE FORM OF THE STANDARDS

- When EPA sets air quality standards, it also must specify the measurement unit, or “form” of each standard, that the Agency will use to determine whether an area is meeting the standards.
- For the primary ozone standard, an area meets the standard if the three-year average of the annual fourth-highest daily maximum 8-hour average at a particular monitor is less than or equal to the level of the standard.
- EPA is proposing a new and distinct form for the secondary standard. The form, called W126, is designed to account for the cumulative effects of ozone on vegetation during the three months of the year when ozone concentrations are highest. The form focuses on repeated exposures to elevated ozone levels during the growing season.
- If EPA finalizes the W126 option, an area would meet the secondary standard if the W126 value is less than or equal to the level of the standard. If the agency finalizes the second option proposed, compliance with the secondary standard would be based on compliance with the primary 8-hour standard.

BENEFITS AND COSTS

- While the Clean Air Act prohibits EPA from considering costs in setting or revising National Ambient Air Quality Standards, the Agency analyzes the benefits and costs of meeting the standards in order to provide states and other stakeholders with the information necessary to assess the implications of meeting alternative standards. The analysis, which is required by Executive Order 12866, is based on guidance from the White House Office of Management and Budget. These analyses of benefits and costs will be detailed in a Regulatory Impact Analysis to be released in the next few weeks.
- To estimate the benefits of meeting a standard, EPA utilizes a sophisticated peer-reviewed approach to modeling the relationship between air quality and health and welfare effects, the air quality impacts of implementing future control technologies, and the dollar values of public health improvements.
- To estimate the costs of meeting a standard, EPA uses several peer-reviewed approaches for modeling the cost of using both existing controls and controls that may be developed in the future for reducing NO_x and VOCs.

ESTIMATED TIMELINE FOR IMPLEMENTING THE PROPOSED STANDARDS

- EPA will issue final standards by March 12, 2008. Based on that date, EPA estimates the following implementation schedule:
 - *By June 2009:* States make recommendations for areas to be designated attainment and nonattainment.
 - *By June 2010:* EPA makes final designations of attainment and nonattainment areas. Those designations would become effective 60 days after publication in the Federal Register.
 - *2013:* State Implementation Plans, outlining how states will reduce pollution to meet the standards, are due to EPA (three years after designations).
 - *2013 to 2030:* States are required to meet the standard, with deadlines depending on the severity of the problem.

WHAT IS OZONE?

- Ozone is found in two regions of the Earth's atmosphere – at ground level and in the upper regions of the atmosphere. Both types of ozone have the same chemical composition (O₃). While upper atmospheric ozone forms a protective layer from the sun's harmful rays, ground level ozone is the primary component of smog.
- Ground-level ozone is not emitted directly into the air, but forms through a reaction of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) in the presence of sunlight.
- Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are the major man-made sources of NO_x and VOCs.
- Because sunlight and hot weather accelerate its formation, ozone is mainly a summertime air pollutant. Both urban and rural areas can have high ozone levels, often due to transport of ozone or its precursors (NO_x and VOCs) from hundreds of miles away.

BACKGROUND ON THE NATIONAL AIR QUALITY STANDARDS FOR OZONE

- The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. National standards exist for six pollutants: ozone, particulate matter, nitrogen oxides, carbon monoxide, sulfur dioxide, and lead.

- The law also requires EPA to periodically review the standards and their scientific basis to determine whether revisions are appropriate.
- EPA last updated the ozone standards in 1997. The decision to revise the standards was challenged in court by a number of parties and ultimately reached the U.S. Supreme Court. The Court unanimously upheld the constitutionality of the 1970 Clean Air Act provision that authorizes EPA to set NAAQS to protect public health and welfare. The Court also affirmed that the Clean Air Act requires EPA to set ambient air quality standards, at levels necessary to protect the public health and welfare, without considering the economic costs of implementing the standards.

HOW TO COMMENT

- EPA will accept public comments for 90 days after the proposed revisions to the ozone standards are published in the Federal Register.
- Comments should be identified by Docket ID No. EPA-HQ-OAR-2005-0172 and submitted by one of the following methods:
 - Federal eRulemaking Portal (<http://www.regulations.gov>);
 - e-mail (a-and-r-docket@epa.gov);
 - Mail (EPA Docket Center, Environmental Protection Agency, Mail code 6102T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460); or
 - Hand delivery (EPA Docket Center, Environmental Protection Agency, Room 3334, 1301 Constitution Avenue, NW, Washington, DC).

FOR MORE INFORMATION

- To download the Federal Register notice about the proposed revisions to the ozone standards, visit www.epa.gov/groundlevelozone.
- Today's proposal 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 in the EPA Headquarters Library, Room Number 3334 in the EPA West Building, located at 1301 Constitution Ave., NW, Washington, DC. 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 action can be accessed using Docket ID No. EPA-HQ-OAR-2005-0172.