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## News Releases By Date

### PR FACT SHEETS TO EPA PROPOSES AIR STANDARDS FOR OZONE

Release Date: 11/27/96

Contact Information:

#### PR FACT SHEETS TO EPA PROPOSES AIR STANDARDS FOR OZONE

##### Scientific Review Process for Proposed Air Quality Standards

EPA's proposals to revise the standards for ozone and fine particle pollution are based on a scientific review required by Congress under the Clean Air Act, which mandates that the EPA Administrator determine every five years whether the nation's air quality standards are adequate to protect public health. Following is the scientific review process that led to EPA's proposals:

##### Broad Range of Peer-Reviewed Scientific Evidence Examined:

- ° To review the health standards for ozone and fine particle pollution, EPA began by conducting a wide-ranging literature search, covering all aspects of ozone and particulate pollution. The Agency then selected for review those studies relevant to human health effects.
- ° Over three years, EPA and two independent scientific review panels identified 185 studies on the human health effects of ozone pollution and 86 studies on the links between particulate matter pollution and human health. Studies examined included controlled human studies, epidemiological studies, and toxicological studies.
- ° A broad range of studies reviewed indicated that the current standards for both ozone pollution and particulate pollution do not adequately protect public health, as required by law. The studies show that serious health effects would occur even if the current standards were being met, indicating the need for stronger health protection.

##### EPA Relied on Independent, Peer Reviewed Scientific Research:

- ° Under the Clean Air Act, Congress requires EPA to rely on the advice of an independent scientific review panel, the Clean Air Scientific Advisory Committee, made up of nationally recognized experts in a wide range of disciplines -- physicians, toxicologists, epidemiologists, and atmospheric scientists -- from academic research, industry and the states. Two panels were assembled, one for each type of pollution.
- ° A review document summarizing published, peer reviewed research on both types of pollution and their health effects was prepared for the advisory panel. A separate panel of national scientific experts then peer-reviewed individual chapters in the summary document before the advisory panel began its review.
- ° The scientific advisory panels supported EPA's basic findings, supporting the conclusion that a proposal to revise the ozone standard should be made to reflect the health consequences of more prolonged exposures, and endorsing the range of ozone

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concentrations EPA considered. The vast majority of panel members agreed on establishing a new standard for fine particle pollution.

#### EPA Opens Extensive Public Comment Period on New Proposals

- ° EPA has launched a 60-day public comment period on the proposed new standards as well as the scientific evidence supporting them. In addition, the review process has been a public one, with scientific advisory panel meetings open to the public, and all review documents publicly available prior to panel meetings.

#### Public Health Effects of Ozone and Fine Particle Pollution

Every American adult breathes in 13,000 liters of air each day, on average, and children breathe in 50 percent more air per pound of body weight than adults do -- making public health protection from harmful air pollutants a top priority. As required by Congress in the Clean Air Act, EPA has reviewed and proposed new standards to reduce two of the most widespread forms of harmful air pollution -- particulate matter and ground-level ozone (smog). Taken together, they contribute to acute health effects ranging from premature deaths to preventable respiratory problems. Following are facts about these types of pollution, related health effects, and results expected from the new proposed standards, if they are finalized in their current form:

**Particulate Matter:** Particulate matter is a mix of coarse and fine particles that can't be seen individually by the naked eye, but often appear as haze, dust clouds or sooty emissions. Sources of coarse particles include industrial crushing and grinding operations, materials handling, vehicle travel on unpaved roads and windblown dust. Fine particles result from industrial, motor vehicle and power generating fuel combustion, as well as burning wood and brush. Pollutants such as sulfur dioxide, nitrogen oxides and volatile organic compounds also can form fine particles.

**Effect on Public Health:** Fine particles can penetrate deep into the lungs. On a smoggy day, a single breath can take in millions of fine particles. Some 74 million Americans -- 28.1% of the population -- are regularly exposed to harmful levels of particulate air pollution. In recent studies, exposure to fine particle air pollution -- either alone or with other air pollutants -- has been linked with many health problems:

- ° An estimated 40,000 Americans die prematurely each year, according to peer-reviewed studies, from respiratory illness and heart attacks linked with particle exposure, particularly elderly people;
- ° Children and adults experience aggravated asthma. Asthma in children increased 118% between 1980 and 1993, and it is currently the leading cause of child hospital admissions;
- ° Children become ill more frequently and experience increased respiratory problems, including difficult and painful breathing; and
- ° Hospital admissions, emergency room visits and premature deaths increase among adults with heart disease, emphysema, chronic bronchitis, and other heart and lung diseases.

**Increased Public Health Protections from EPA Proposal:** The current standard covers reductions of coarse particles of 10 microns in diameter. If finalized in its current form, EPA's proposal would increase public health protection by helping to reduce fine particles of 2.5 microns in diameter, as well as coarse particle pollution. This approach was recommended by an overwhelming majority of independent scientists who reviewed the standard for EPA, based on 86 new health studies that indicate the need for a stronger standard. If finalized as proposed, the new standard would:

- ° Cut premature deaths linked with particulate air pollution by 50, or approximately 20,000 deaths; with acid rain controls currently underway, an additional 20,000 deaths will be avoided;
- ° Reduce aggravated asthma episodes by more than a quarter million cases each year;
- ° Reduce incidence of acute childhood respiratory problems by more than a quarter million occurrences each year, including aggravated coughing and painful breathing;
- ° Reduce chronic bronchitis by an estimated 60,000 cases each year;
- ° Reduce hospital admissions due to respiratory problems by 9,000 each year, as well as reduce emergency room visits and overall childhood illnesses in general; and
- ° Cut haze and visibility problems by as much as 77 10n some areas, such as national parks.

Ground-level Ozone: Ground-level ozone -- the prime ingredient in smog in our cities -- is easily formed in the atmosphere, usually during hot weather. Smog results from a reaction between such gases as nitrogen oxides and volatile organic compounds that are emitted from motor vehicles and a wide range of industrial air pollutants. Ozone also makes plants more susceptible to diseases and pests, and reduces agricultural crop yields for many economically vital crops such as wheat, cotton, soybeans and kidney beans.

Effect on Public Health: Studies show that repeated exposure to ozone pollution for several months may cause permanent structural damage to the lungs, a serious issue for the 122 million Americans -- 4612f the population -- who are regularly exposed to harmful levels of ozone pollution. Because ozone pollution usually forms in hot weather, anyone who spends time outdoors in the summer is at risk, particularly children, moderate exercisers, and outdoor workers. Even when inhaled at very low levels, ground-level ozone prompts a variety of health problems:

- ° Children and adults experience aggravated asthma;
- ° Healthy adults' lung capacity is temporarily reduced by 15 to 20 percent;
- ° Hospital admissions and emergency room visits increase. In the northeastern U.S., 10 to 20 percent of all summertime hospital visits for respiratory problems are linked with ozone pollution;
- ° Lung tissues are inflamed, and acute respiratory problems develop; and
- ° Immune defenses are reduced, leaving people more susceptible to

respiratory illness, including pneumonia and bronchitis.

Increased Public Health Protections from EPA Proposal: Because it has not been revised since 1979, and because current science indicates that many Americans still appear to be at risk from ozone pollution, EPA is proposing to revise the standard to provide increased health protection. If finalized in its current form, the new proposal would reduce ground-level ozone concentrations from .12 parts per million measured over one hour to .08 parts per million measured over eight hours, and change to a more accurate measurement that will better reflect the actual health effects of ozone. This approach was reviewed by a panel of independent scientists and based on 185 new health studies. If finalized in its current form, the new proposal is expected to:

- ° Result in over 1.5 million fewer cases of significant breathing problems (those where lung function is reduced up to 20);
- ° Significantly reduce the need for hospital admissions, missed school and work days, restricted activity, and emergency room visits for respiratory problems;
- ° Cut illness in children overall, and reduce conditions ranging from inflamed lungs to irreversible lung damage in children;

- ° Reduce episodes when asthmatic children require medication or medical treatment;  
and
- ° Reduce by nearly \$1 billion agricultural crop losses caused by ozone.

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