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Statement of the American Lung Association
Committee on Oversight and Government Reform
U.S. House of Representatives

Hearing on
EPA's New Ozone Standards

May 20, 2008

The American Lung Association was deeply disappointed that EPA failed to provide the kind of protection from the nation's most widespread air pollutant that the public is legally entitled to expect when it issued the final EPA ozone standards in March 2008. Pushing aside clear and powerful recommendations from his expert scientific advisors on the Clean Air Scientific Advisory Committee, the Administrator chose instead to construct weak arguments that would justify more pollution. While the final standards of 75 ppb are an improvement over the prior standards, they fall short of the Clean Air Act's mandate to protect the health of the public. The American Lung Association does not agree with the Administrator's view of a "sufficient level of public health protection." If EPA had followed the law, we could have cut the risk of life-threatening pollution to millions of Americans nationwide.

The Clean Air Act requires EPA to review the National Ambient Air Quality Standards (NAAQS) every five years to ensure that the standards reflect the latest scientific and medical evidence. Primary standards must be set at levels that will protect the health of the public with an adequate margin of safety, including the health of vulnerable populations such as children with asthma or people with chronic bronchitis or emphysema. In 2001 the Supreme Court unanimously ruled that clean air standards must be based strictly on what is necessary to protect public health.

Ozone air pollution causes serious adverse health effects. Many groups face higher risk from ozone, in particular children and teens, seniors and people with lung diseases like asthma and emphysema. These well-documented health effects include compromised lung function, worsened respiratory symptoms such as cough, worsened asthma, inflammation of the lining of the lungs, heightened susceptibility to respiratory infections such as colds and flu, as well as an increase in hospital admissions and emergency room visits. Most recently, evidence has shown that ozone can kill.

The American Lung Association has closely followed the EPA review of the National Ambient Air Quality Standards for ozone. We sued EPA over its failure to meet the mandatory 5 year deadline for the completion of the review. We have been following and participating in every step of the review process for the primary standards including the review of multiple drafts of the Criteria Document, Staff Paper, risk assessment, and the proposed rule. We have attended each meeting of the Clean Air Scientific Advisory Committee's multi-year review of these documents.

Scientific evidence accumulated over the last ten years clearly indicates that adverse health effects occur at lower levels. Since 1997, when EPA previously revised the ozone NAAQS, more than 1,700 peer-reviewed studies examining the health effects of ozone have been published. Extensive reviews of this new body of evidence by EPA staff scientists and by EPA's Clean Air Scientific Advisory Committee (CASAC) have confirmed that the current primary ozone standard is set at a level that is not sufficient to protect public health with an adequate margin of safety.

Recent epidemiologic studies have demonstrated a range of adverse respiratory health effects at levels below the current 8-hour standard of 0.08 ppm, including increased hospital admissions and emergency room visits, respiratory symptoms in infants and children, asthma exacerbations, school absenteeism, and increased risk of premature death.¹

A recent report of the National Academy of Sciences confirms the link between short-term exposures to ozone air pollution and premature death, even at concentrations below the final standard.²

The epidemiologic evidence is further supported by a number of controlled human exposure studies that have shown that some healthy adults experience reductions in lung function, increased respiratory symptoms, heightened susceptibility to respiratory infection and lung inflammation following just 6.6 hours of exposure to ozone at concentrations of 0.08 ppm.³ More recent studies have demonstrated effects on lung function and respiratory symptoms down to 0.06 ppm.⁴ It is important to emphasize that the respiratory effects observed in these chamber studies occurred in healthy young adult subjects and would likely be more severe among more vulnerable groups, such as children, seniors, or people with asthma or other lung diseases.

Never before has there been such a strong, broad, and unanimous consensus that the standards needed to be significantly strengthened in order to protect public health and to provide a margin of safety as required by the Clean Air Act.

¹ Comments of the American Lung Association, Environmental Defense, and Sierra Club on the U.S. Environmental Protection Agency's Proposed Revisions to the National Ambient Air Quality Standards for Ozone. October 9, 2007.

² National Research Council. Estimating Mortality Risk Reduction and Economic Benefits from Controlling Ozone Air Pollution. April 2008.

³ Devlin RB, McDonnell WF, Mann R, Becker S, House DE, Schreinemachers D, Koren HS. Exposure of humans to ambient levels of ozone for 6.6 hours causes cellular and biochemical changes in the lung. **Am J Respir Cell Mol Biol** 1991; 4: 72-81; Hortstman DH, Follinsbee LJ, Ives PJ, Abdul-Salaam S, McDonnell WF. Ozone concentration and pulmonary response relationships for 6.6 hour exposures with five hours of moderate exercise to 0.08, 0.10, and 0.12 ppm. **Am Rev Respir Dis** 1990; 142: 1158-1163; McDonnell WF, Kehrl HR, Abdul-Salaam S, Ives PJ, Follinsbee LJ. Respiratory response of humans exposed to low levels of ozone for 6.6 hours. **Arch Environ Health** 1991; 46: 145-150.

⁴ Adams WC. Comparison of chamber and face-mask 6.6 hour exposures to ozone on pulmonary function and symptoms responses. **Inhalation Toxicol** 2002; 14: 745-764; Adams WC. Comparison of chamber 6.6 h exposures to 0.04-0.08 PPM ozone via square-wave and triangular profiles on pulmonary responses. **Inhalation Toxicol** 2006; 18: 127-136.

The Clean Air Scientific Advisory Committee (CASAC) is chartered under the Clean Air Act to advise the EPA Administrator on the review of the NAAQS. The CASAC ozone panel was comprised of 23 distinguished scientific experts from a variety of disciplines and perspectives. This panel was composed of the nation's leading experts in ozone air pollution science and health. The panel met at least six times over the course of the review and submitted detailed oral comments and seven sets of written comments totaling 500 pages on the review plan, the exposure and risk assessments, and the draft and final Criteria Document and Staff Paper.

After reviewing the at least two drafts of the Criteria Document and the Staff Paper, the 23-member CASAC ozone panel reported to EPA these unanimous recommendations:⁵

- The current standard fails to protect public health from the harmful effects of ozone, the nation's most widespread outdoor air pollutant.
- EPA should set the 8-hour ozone standard much lower—in the range of 0.060 to 0.070 parts per million (ppm)—to adequately protect public health.
- EPA should eliminate the “rounding” loophole that weakens the current standard and leaves millions of Americans unprotected.

CASAC restated its original recommendations in a follow-up letter to EPA after reviewing the final ozone Staff Paper, and added an additional recommendation:

- EPA must explicitly account for a “margin of safety” in setting the ozone standards.⁶

Then CASAC panel took the unusual step of reiterating its position in a letter sent to the EPA Administrator upon issuance of the final rule.⁷ A strongly worded letter to the EPA Administrator stated:

“...the members of the CASAC Ozone Review Panel do not endorse the new primary ozone standard as being sufficiently protective of public health. The CASAC -- as the Agency's statutorily-established science advisory committee for

⁵ Letter from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee to Stephen L. Johnson, Administrator, U.S. Environmental Protection Agency, re Clean Air Scientific Advisory Committee's (CASAC) Peer Review of the Agency's 2nd Draft Ozone Staff Paper, EPA-CASAC-07-001, October 24, 2006.

⁶ Letter from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee to Stephen L. Johnson, Administrator, U.S. Environmental Protection Agency, re Clean Air Scientific Advisory Committee's (CASAC) Review of the Agency's Final Ozone Staff Paper, EPA-CASAC-07-002, March 26, 2007.

⁷ Letter from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee to Stephen L. Johnson, Administrator, U.S. Environmental Protection Agency, re Clean Air Scientific Advisory Committee Recommendations Concerning the Final Rule for the National Ambient Air Quality Standards for Ozone, EPA-CASAC-08-009, April 7, 2008.

advising you on the national ambient air quality standards -- **unanimously recommended** decreasing the primary standard to within the range of 0.060-0.070 ppm. It is the Committee's consensus scientific opinion that your decision to set the primary ozone standard above this range fails to satisfy the explicit stipulations of the Clean Air Act that you ensure an adequate margin of safety for all individuals, including sensitive populations."

EPA's Children's Health Protection Advisory Committee (CHPAC) endorsed a standard at the lower end of the CASAC-recommended range.⁸

"As pediatricians, public health and environmental professionals drawn from academia, government, industry and public interest organizations, we would like to again express our unanimous opinion that the 8 hour ozone standard should be set at the lowest level offered by the Clean Air Scientific Advisory Committee (CASAC), 0.060 ppm, in order to adequately protect the health of children with an appropriate margin of safety (CHPAC letter, March 23, 2007). This opinion is based on the existing scientific studies of children, which demonstrate serious adverse health effects of ozone exposure, including exacerbation of asthma with attendant increases in medication use, hospitalization, and missed school days, and impairment of normal lung development. It is also based on consideration of the evidence that disruption of lung development may result in permanent health consequences in children exposed to ozone."

This consensus has been endorsed by over 100 leading independent air quality scientists and physicians.⁹ Moreover, mainstream medical and public health organizations including the American Medical Association, the American Academy of Pediatrics, the American Public Health Association, the American Nurses Association, the American Thoracic Society, the American Heart Association, the American College of Chest Physicians and many others have recognized the need for ozone air quality standards consistent with the CASAC recommendations.¹⁰

⁸ Letter from Melanie A. Marty, Ph.D., Chair, Children's Health Protection Advisory Committee, to Stephen L. Johnson, Administrator, U.S. EPA, re: Review of the NAAQS for Ozone: Policy Assessment of Scientific and Technical Information, March 23, 2007; and Letter from Melanie A. Marty, Ph.D., Chair, Children's Health Protection Advisory Committee, to Stephen L. Johnson, Administrator, U.S. EPA, re: Proposed NAAQS for Ozone, 4 September, 2007.

⁹ Letter to U.S. EPA Administrator Stephen Johnson re Broad Scientific Consensus to Lower the Ozone Air Quality Standard and Close the Rounding Loophole, from Jonathan I. Levy, Sc.D., Associate Professor of Environmental Health and Risk Assessment, Harvard School of Public Health; Kent Pinkerton, Ph.D., Director of the Center for Health and the Environment, University of California at Davis; and William Rom, M.D., M.P.H., Sol and Judith Bergstein Professor of Medicine and Environmental Medicine and Director of the Division of Pulmonary and Critical Care Medicine, New York University School of Medicine, and over 100 other air quality scientists and physicians, April 4, 2007. Available at: <http://www.cleanairstandards.org/wp-content/uploads/2007/04/final-ozone-scientists-sign-on-letter-4-5-07.doc>

¹⁰ Letter to EPA Administrator Stephen L. Johnson, re: Science Compels Stricter NAAQS for Ozone, from the heads of the American Lung Association, American Academy of Pediatrics, American Public Health Association, Asthma and Allergy Foundation of American, and 16 national health and environmental organizations, April 16, 2007. Available at: <http://www.cleanairstandards.org/wp-content/uploads/2007/04/final-ozone-scientists-sign-on-letter-4-5-07.doc>

The recommendations of these prominent scientific and medical panels are more than just optional advisories: they represent repeated peer review and assessment of the scientific research by recognized authorities. The fact that they arrive at similar and unanimous conclusions bears witness to the strength of the underlying science. Unfortunately, EPA's final standards are weaker than those recommended by CASAC, CHPAC, the World Health Organization, and numerous public health and medical organizations. They are weaker than the standards adopted by the State of California and many other countries including Canada and the United Kingdom.

In the face of this strong consensus, it is untenable to cite "uncertainty" as a rationale for failing to promulgate tighter standards. Indeed, EPA mentions uncertainty no fewer than 100 times in the preamble, despite the massive accumulation of new evidence published since EPA's last review. EPA's claims that uncertainty justifies less protective standards than recommended by CASAC are both unfounded and one-sided. EPA's uncertainty claims lack rational support, and arbitrarily ignore uncertainties that favor more protective standards. For instance, controlled human exposure studies typically use healthy young adults as test subjects. This creates uncertainty about what the results would be on infants, or children, or children with severe respiratory disease. When Congress wrote the Clean Air Act, scientists testified that we would never have absolute knowledge: that we would learn more and improve our ability to assess dangers, but that we would always need to protect the public even when we lack full knowledge. Congress included a simple phrase in the Clean Air Act, in the requirements for setting standards, to direct the EPA to include an "adequate margin of safety" to provide a cushion of protection. The Clean Air Act requires that the EPA address such uncertainty in favor of more public health protection, not less.

The American Lung Association was deeply disappointed that the final EPA ozone standards issued in March 2008 failed to follow the recommendations of the Clean Air Scientific Advisory Committee. While the final standards of 75 ppb represent an improvement over the prior standards, they fall short of the Clean Air Act's mandate to protect public health with an adequate margin of safety.

Furthermore, the American Lung Association was greatly dismayed by Administrator Johnson's call for legislative changes to the Clean Air Act's standard-setting provisions.

[content/uploads/2007/04/ltr-from-public-health-enviro-groups-on-ozone-naaqs-04-16-07.pdf](#); letter to EPA Administrator Stephen L Johnson re: Proposed National Ambient Air Quality Standards (NAAQS) for Ozone--Docket ID Number EPA-HQ-OAR-2005-0172, October 5, 2007 signed by American Heart Association and 9 other national health organizations; and Letter from the American Thoracic Society, American Medical Association, American College of Chest Physicians, American College of Preventive Medicine, American College of Occupational and Environmental Medicine, American Association of Cardiovascular and Pulmonary Rehabilitation and National Association for the Medical Direction of Respiratory Care to Stephen L. Johnson, Administrator, Environmental Protection Agency. October 9, 2007.

The great value of the current approach is that the air quality standards, the goals, are strictly science-based. Americans have a right to know if the air they breathe is safe or not. They need clear, unbiased, health-based National Ambient Air Quality Standards that are unalloyed by cost, feasibility, risk, or other considerations. They need standards that are reviewed every five years to ensure that the goals are based on current information -- that children are not born and raised before the standards are updated.

The present Clean Air Act allows ample opportunity for cost, feasibility, timelines and other considerations to be taken in account -- during the implementation phases.

The Clean Air Act has been extremely effective in driving down emissions of air pollution, while accommodated economic growth.¹¹ Its technology forcing provisions have been a great success story. The air quality standards are central to this success.

We urge this Committee to hold EPA accountable for its final decision on the ozone air quality standard.

Attached is a list of the medical societies and the public health groups who supported an ozone standard in the range that the CASAC recommended.

¹¹ U.S. EPA. Air Quality and Emissions: Progress Continues in 2006.
http://www.epa.gov/air/airtrends/econ_-emissions.html

**List of Medical Societies and Public Health
Organizations Supporting a
Primary 8-hr Ozone NAAQS of 0.060 ppm**

American Academy of Pediatrics
American Association of Cardiovascular and Pulmonary Rehabilitation
American College of Chest Physicians
American College of Preventive Medicine
American College of Occupational and Environmental Medicine
American Heart Association
American Lung Association
American Medical Association
American Nurses Association
American Public Health Association
American Thoracic Society
Asthma and Allergy Foundation of America
National Association for Medical Direction of Respiratory Care
National Association of City and County Health Officials
Physicians for Social Responsibility
Trust for America's Health