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April 16, 2007

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

Re: Science Review Compels Stricter NAAQS for Ozone

Dear Administrator Johnson:

The undersigned organizations urge you to propose revised, more protective National Ambient Air Quality Standards (NAAQS) for ozone air pollution. Revised standards must reflect the growing evidence of the harm to public health at and below the level of the 1997 ozone air quality standards.

Our organizations concur with the fundamental findings and recommendations of the Clean Air Scientific Advisory Council (CASAC) ozone panel, as expressed in an October 24, 2006 letter to the U.S. Environmental Protection Agencyⁱ and reaffirmed in a March 26, 2007 letter.ⁱⁱ

The Current Standard Fails to Protect Public Health

The NAAQS are precautionary standards that must protect public health with an adequate margin of safety. Standards must be set at levels that will protect children, people with asthma and other lung diseases, seniors, outdoor workers and otherwise healthy "responders" who are especially sensitive to ozone exposure.

There are plentiful examples of the failure of the current standard to provide that protection. Numerous chamber studies of healthy adults have shown that some subjects experience reduced lung function, increased respiratory symptoms, changes in airway responsiveness and inflammation following just 6.6 hour exposures to 0.08 ppm ozone.ⁱⁱⁱ Since ozone health effects are a function of dose, it follows that an 8-hour standard must be set below the level shown to cause harm over 6.6 hours. Further, the standards must be set at lower levels to protect the health of children and people with serious respiratory disease who are not tested. Moreover, recent controlled human exposure studies show that some healthy adults experience adverse effects at 0.06 ppm or below.^{iv}

The current standard permits exposures in excess of the level demonstrated to harm healthy adults, children and those with respiratory diseases. Failing to provide even the mandated protection by the Clean Air Act, the current standard cannot possibly provide the margin of safety further required.

We agree with the conclusion of both the unanimous CASAC and the final Staff Paper: EPA cannot justify retaining the current ozone standard based on the health evidence.

The EPA Must Close the Rounding Loophole

The current eight-hour ozone standard of 0.08 ppm is treated in practice as 0.085 ppm. EPA permits states to round off the monitor readings, resulting in millions of Americans exposed to uncontrolled air pollution concentrations between 0.080 and 0.084 ppm. This rounding convention is an artifact from a time when monitors could not report concentrations accurately and has resulted in a substantial loophole in public health protection.^v

Advances in monitoring instrumentation have improved the precision for measuring ozone concentrations. EPA should specify the standard to the third decimal place, as recommended by CASAC and EPA staff scientists.

Scientific Evidence Supports a Much Lower Eight-Hour Primary Standard

In addition to the evidence from the chamber studies, recent epidemiological studies have reported associations between ozone concentrations below the current standards and respiratory hospital admissions,^{vi} emergency room visits, particularly for asthma,^{vii} school absenteeism^{viii} and respiratory symptoms in infants and children.^{ix}

Moreover, multi-city studies from the United States^x and Europe^{xi} have now demonstrated that day-to-day increases in ozone concentrations during the summer months increase the risk of premature death -- even at concentrations of 0.06 ppm 8-hour average, in U.S. cities.

Human clinical studies demonstrate increased airway resistance and inflammation at 0.08 ppm.^{xii} Furthermore, toxicological studies demonstrate that repeated injury-repair cycles can cause fibrosis of the lung tissue.^{xiii} Studies in infant primates show that chronic exposure to high ozone concentrations can change the architecture of the airways.^{xiv}

Based on the clinical, field and epidemiological studies, we concur with the expert judgment expressed by the 23-member CASAC ozone panel which unanimously recommended a range of 0.060 ppm to 0.070 ppm for the eight-hour primary ozone standard. EPA's risk assessment demonstrates that a standard at the lower end of this range will save more lives, avoid more hospital admissions, and avert more incidences of respiratory symptoms and depressed lung function in children.

Therefore, we urge you to propose an eight-hour ozone standard at the lower end of this range—at 0.060 ppm—to protect against known and anticipated adverse health effects and to provide a margin of safety to protect sensitive populations as required by the Clean Air Act.

The EPA Should Reinstate the One-Hour Primary Standard

Chamber studies of one-to three-hour exposures have shown adverse effects of ozone at concentrations of 0.12 ppm.^{xv} The one-hour ozone standard should be reinstated to protect against peak exposures in areas that meet the eight-hour standard but still have relatively high one-hour concentrations.

The current air quality standards for ozone fail to protect public health. This conclusion is scientifically established and unequivocal. EPA must substantially strengthen the ozone standards to meet the requirements of the Clean Air Act. We urge you to propose revised air quality standards for ozone at the lower end of the CASAC recommended ranges.

Thank you for your consideration of these critical issues.

Sincerely,

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ⁱ Letter from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee to The Honorable 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; October 24, 2006; EPA-CASAC-07-001.

ⁱⁱ Letter from Dr. Rogene Henderson, Chair, Clean Air Scientific Advisory Committee to The Honorable 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; March 26, 2007; EPA-CASAC-07-002.

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