

**Testimony of the Clean Air Task Force  
Before the  
Clean Air Scientific Advisory Committee**

**On the August 2003 Review of the National Ambient Air Quality  
Standards for Particulate Matter: Policy Assessment of Scientific and  
Technical Information OAQPS Staff Paper- First Draft  
EPA-452/D-03-001**

**November 12, 2003**

For the record, I am Martha Keating, a scientist with the Clean Air Task Force, a non profit organization dedicated to restoring clean air and healthy environments through scientific research, public education and legal advocacy.

The Clean Air Task Force strongly supports the EPA's staff's recommendation to adjust downward the ranges for both the annual and daily PM2.5 standards.

Since the last NAAQS review, over six years ago, hundreds of new studies—including 80 new time series studies-- have confirmed the role of fine particulate matter in adverse health impacts including asthma attacks, abnormal heart rhythms, stroke, cancer and premature mortality. For example:

- The National Morbidity and Mortality and Air Pollution study [NMMAPS] (HEI, May 2003) and the revised American Cancer Society study (JAMA, 2002) have both demonstrated effects of PM2.5 on cardiovascular mortality in cities throughout the United States. Both of these studies have undergone exhaustive re-review and their results remain robust.
- Time series studies have allowed researchers to help document the biological plausibility of the role of PM2.5 in cardiovascular disease and death. Work of Dockery and colleagues suggest that acute PM2.5 exposures modify heart rate variability leading to heart attacks. Brauer and other researchers have found that PM2.5 in the bloodstream results in an inflammatory response that can lead to both heart attack and stroke.
- Researchers have documented that carbonaceous PM2.5 provides a transport medium for a host of carcinogenic air toxics that are adsorbed onto the surface of particles and are carried into human lungs and systemic circulation. In 2002, EPA's Health Assessment for Diesel Exhaust designated diesel particulate matter as a 'likely' carcinogen. More protective PM2.5 standards will therefore reduce cancer risk.
- Serious impacts of PM2.5 on children include asthma attacks, sudden infant death syndrome, onset of asthma, retarded lung growth have been documented since 1997 in a plethora of publications including many from the California Children's Health study. These results demand more protective standards. Indeed, despite

the magnitude of the PM pollution problem in California, the state has taken the bold step of revising their PM<sub>2.5</sub> standards to much more protective levels. We believe that EPA should follow suit.

- We are aware of no studies, outside of those sponsored by industry, that suggest a null finding with regard to combustion-related PM<sub>2.5</sub> and associated health impacts. *Thus, there are no studies that justify raising the current standards. We agree with EPA staff's assessment of the ARIES study (See e.g. p. 3-85, figures 3.11a and 3-12,, Klemm and Mason JAWMA, 2000) that its small sample size precludes any definitive conclusions in that study regarding PM<sub>2.5</sub>-related mortality. Furthermore, we believe that studies such as this that have not undergone the customary peer review of the medical research community, should not be given weight in this process.*
- Similarly we are aware of no studies published in medical research journals since the last review concluded in 1996 that document a threshold in the effects of PM<sub>2.5</sub> on mortality.

There is inadequate time to cite even a fraction of the robust and conclusive evidence of the role of PM<sub>2.5</sub> in cardiovascular and respiratory disease in the present testimony. However, the Clean Air Task Force believes that the science, taken as a whole, supports lower ranges than suggested by EPA in the first draft of the staff paper.

As to public welfare effects such as visibility impacts, etc. the Clean Air Task Force agrees with EPA staff that it is possible to evaluate visibility improvements from tightening the primary PM standards. EPA staff should complete its proposed work in extending and refining the visibility pilot project for review by CASAC. See p. 5-28. Once the analysis is complete, staff should go the next step and use it to recommend secondary standards to remedy PM-related visibility impacts.

***Specifically, the Clean Air Task Force Recommends:***

- An annual average PM<sub>2.5</sub> standard not higher than 10 micrograms/m<sup>3</sup> with no spatial averaging.
- A 24-hour PM<sub>2.5</sub> standard not higher than 25 micrograms/m<sup>3</sup> with no exceedences.
- Secondary PM standards to remedy PM-related haze impacts.

CASAC needs to reach closure and finish its review of the staff paper. EPA has a statutory duty to complete this process on time. EPA is already over a year late. The Clean Air Task Force and others have had to file suit to set the current court-ordered deadlines for completion of this review process. Given that the science implicating PM<sub>2.5</sub> in so many serious health effects is overwhelming, there is no scientific rationale for further delay and EPA should move expeditiously to finalize the staff paper revise both PM<sub>2.5</sub> standards. The Clean Air Task Force appreciates the opportunity to comment on the first draft of the staff paper and urges the CASAC to move quickly to finalize its findings without further delay.