

# Children's Health Protection Advisory Committee

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January 9, 2008

Stephen L. Johnson, Administrator  
United States Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

RE: OAQPS Final Staff Paper/Policy Assessment of Scientific and  
Technical Information and Advanced Notice of Proposed  
Rulemaking for the Lead NAAQS

Dear Administrator Johnson:

The Children's Health Protection Advisory Committee (CHPAC) is pleased to present our comments and recommendations on the Office of Air Quality Planning and Standards (OAQPS) Final Staff Paper/Policy Assessment of Scientific and Technical Information and EPA's Advanced Notice of Proposed Rulemaking for Lead (ANPR). We support maintaining a National Ambient Air Quality Standard (NAAQS) for lead and support the EPA Final Staff Paper recommendation for a new, lower standard based on current scientific understanding. We are deeply concerned about any attempt to revoke the NAAQS for lead – currently set at  $1.5 \mu\text{g}/\text{m}^3$  – and recommend that the Administrator choose a level of  $0.02 \mu\text{g}/\text{m}^3$  or lower for a revised standard. Because of the considerable evidence for harmful effects of lead on children's neurological development and behavior at very low levels of exposure, the Agency should work towards reducing lead exposure from all sources, including ambient air, in safeguarding children's health.

As stated in the ANPR, the Centers for Disease Control and Prevention (CDC) has concluded that a target blood lead level of 10  $\mu\text{g}/\text{dl}$  is not health protective, and in fact no "safe" threshold for lead exposure has been identified. (CDC, 2005). Accordingly, in addition to the regulatory mechanisms set up by the NAAQS process, the agency should strengthen its efforts to eliminate all non-essential uses of lead, provide support to industry to do so, and conduct research to develop safer alternatives to lead in applications that are currently considered essential.

Data from the National Health and Nutrition Examination Survey demonstrate that elevated blood lead levels occur disproportionately among black, non-hispanic and Mexican-American children

(MMWR, <http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5420a5.htm#tab1>). Blood lead levels are also disproportionately elevated among children living in poverty. Thus, protecting children from exposure to lead is inherently an environmental justice issue. Developing a health-protective NAAQS for children from economically disadvantaged communities, who bear the brunt of harm from lead, is essential. The CHPAC notes that neither the term "environmental justice", nor a reference to the 1994 executive order 12898 (Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations) appear in the Advanced Notice of Proposed Rulemaking.

#### Final Staff Paper

The Staff Paper explicitly reviews the issue of whether the lead NAAQS should be rescinded and concludes that it should not, citing the inadequacy of alternative methods of control to protect public health. The CHPAC endorses this conclusion. In addition, the Staff Paper reviews the justification for shortening the averaging time of the standard from three months to one month, and recommends that the agency, as previously proposed in 1990, adopt the shorter one month averaging time. The CHPAC supports this recommendation as well.

#### Comments on Advanced Notice of Proposed Rulemaking

As noted above, the Committee remains deeply concerned about the potential for the NAAQS for lead to be revoked, despite the clear and unanimous opinion of the Clean Air Science Advisory Committee (CASAC) and the conclusions of the EPA Final Staff Paper that the lead standard be retained and strengthened. The Committee has previously urged you to retain the lead standard (CHPAC letter February 2, 2007). Revoking the standard would remove an essential safeguard to our children's health. States, in general, have neither the resources nor the expertise needed to adequately evaluate individual lead sources and promulgate controls. As clearly documented throughout the Staff paper and ANPR, a significant part of children's exposure to lead in ambient air comes from resuspension of dusts and other non-point sources, which are not currently addressed under Section 112 of the Clean Air Act. Loss of the lead standard would reduce the assurance of protections to children in communities throughout the country by shifting the focus of control from communities to a select number of individual facilities. We strongly urge the EPA to retain the lead NAAQS.

While the CHPAC understands that loss of IQ points is a more easily quantifiable metric upon which to base the standard, low levels of lead exposure in children (i.e., those resulting in blood lead levels below 10 µg/dL) are associated with other harmful behavioral and developmental effects (including attention deficits, learning disabilities, and poor impulse control) (USEPA 2006, 2007). Further, based on animal studies and limited human data, immunological and hematological effects may occur at blood lead levels below 10 µg/dL (USEPA 2006, 2007, ANPR). Therefore, the public health benefits of reducing children's lead exposure extend beyond a change in IQ points to include multisystem impacts on children's current and future lives, and on society. These

broader public health impacts should be taken into account in determining the appropriate level of the standard. CHPAC respectfully requests that the forthcoming Notice of Proposed Rulemaking makes clear how these additional health benefits (including both readily quantifiable benefits, such as reduced IQ point loss, and those that are difficult to quantify, such as reductions in learning disabilities and poor impulse control) will be considered in selecting the level of the standard.

The CHPAC is deeply concerned that the EPA is considering using 10  $\mu\text{g}/\text{dL}$  blood lead as the basis for deriving a revised air standard (ANPR p. 148). The ANPR acknowledges that the CDC has determined that harmful effects of lead on neurodevelopment have been documented in numerous studies at blood lead levels below 10  $\mu\text{g}/\text{dL}$  (CDC, 2005; see also Lanphear et al., 2005; Gilbert and Weiss, 2006; Jusko et al., 2007; Surko et al., 2007). EPA's final Staff Paper, CDC, and the CASAC all find that a blood lead value below 10  $\mu\text{g}/\text{dL}$  is associated with adverse health effects (CDC, 2005; USEPA 2007). Consideration of this higher blood lead value as a basis for an air standard is not supportable given scientific evidence of population level health impacts well below 10  $\mu\text{g}/\text{dL}$ .

Since the adverse health impacts of lead manifest early and persist throughout the lifespan, and scientific evidence indicates lead is a low dose, non-threshold toxicant, it is critical to maximize the protection of children against lead toxicity. Table 8 of the ANPR documents that a significant reduction in the number of children with IQ losses of 7 points or more is estimated to result from selecting a level for the standard of 0.02  $\mu\text{g}/\text{m}^3$ , compared to a standard of 0.05  $\mu\text{g}/\text{m}^3$ . Such a reduction in the number of highly exposed children translates into significant public health, social, and economic benefits to our communities. The table also shows that retaining the current standard of 1.5  $\mu\text{g}/\text{m}^3$  clearly offers no reduction in children experiencing this degree of IQ loss. Accordingly, the CHPAC urges setting the level of the standard at or below 0.02  $\mu\text{g}/\text{m}^3$ .

Furthermore, the ANPR implies that protecting 99.5% of all children is adequate. Depending on the level of the standard, that could translate to tens of thousands to hundreds of thousands of children who would be overexposed to airborne lead. EPA should propose a standard that protects more children.

Finally, the CHPAC is concerned with the decline in the number of monitors dedicated to lead across the country over the past decades. As stated in the ANPR, this decline in monitoring is likely to result in an underestimate of actual current population exposures. Lead emitted into the ambient air contributes to population exposures both through immediate inhalation and through long-term resuspension and inhalation of dust particles upon which lead has accumulated. CHPAC recommends that EPA design a monitoring system and monitoring requirements that will accurately measure and facilitate effective control of these complex exposure routes of airborne lead. Additional monitors may be required to assess compliance and population exposures, especially in urban areas and areas with known significant point sources. Consideration should also be given to analyzing monitoring data over a shorter time period than monthly for non-regulatory

purposes, as high peak exposures associated with discrete events such as demolitions may not be captured under proposed monitoring regimes.

Thank you for your consideration of our comments and recommendations.

Sincerely,

A handwritten signature in cursive script, reading "Melanie A. Marty". The signature is written in black ink and is positioned above the printed name.

Melanie A. Marty, Ph.D., Chair  
Children's Health Protection Advisory Committee

Cc:

Julie Gerberding, M.D., M.P.H., Director, Centers for Disease Control  
and Prevention

Robert Meyers, Principal Deputy Assistant Administrator, U.S. EPA Office of Air  
and Radiation

Steve Page, Director, U.S. EPA Office of Air Quality Planning and Standards

Lydia Wegman, Director, Health and Environmental Impacts Division, U.S. EPA  
Office of Air Quality Planning and Standards

## REFERENCES

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