

January 15, 2008

Stephen L. Johnson, Administrator  
U.S. Environmental Protection Agency  
Mail Code 6102 T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20006-0735

*Attention: Docket ID No. EPA-HQ-OAR-2006-0735*

Re: *Advance Notice of Proposed Rulemaking – National Ambient Air Quality Standards for Lead*

Dear Administrator Johnson:

The Northeast States for Coordinated Air Use Management (NESCAUM) offer the following comments on the U.S. Environmental Protection Agency's (EPA's) Advance Notice of Proposed Rulemaking (ANPR), published on December 17, 2007 in the Federal Register, entitled *National Ambient Air Quality Standards for Lead* (72 FR 71488-71544). NESCAUM is the regional association of air pollution control agencies representing Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

#### Level and Form of the Lead NAAQS

NESCAUM agrees with the Clean Air Scientific Advisory Committee (CASAC) and the EPA Staff Paper that the current lead NAAQS does not protect public health with an adequate margin of safety. The lead NAAQS has not been revised since 1978 and the scientific evidence clearly documents adverse health effects occurring at concentrations substantially lower than the current standard. Furthermore, studies have found that adverse health effects occur in young children at much lower blood lead levels than recognized when the current standard was established. A threshold level at which no adverse health effects are observed has not been identified for lead. Despite significant decreases in ambient air lead concentrations and corresponding decreases in human blood-lead concentrations, lead exposure remains a public health concern. According to the CASAC, "data accumulated over the past three decades make it apparent that adverse health effects on both humans and other species appear at blood lead concentrations and environmental exposures well below those previously thought to pose important risks."<sup>1</sup> CASAC further states that "while airborne lead concentrations have been decreased throughout much of the United States, airborne lead remains a primary vehicle for movement of lead between different

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<sup>1</sup> Letter to Stephen Johnson, EPA Administrator, from Rogene Henderson, CASAC Chair, EPA-CASAC-07-003, pp. 3-4 (March 27, 2007).

environmental compartments. While control of airborne lead is not sufficient by itself to control exposure to lead, it is an essential component of a successful control strategy.”<sup>2</sup>

In the ANPR, the EPA requests comment on whether it is “appropriate” to revoke the NAAQS for lead or to remove lead from the list of criteria pollutants (72 FR 71542). The science indicates that lead needs not only to be retained as a criteria pollutant, but the NAAQS must also be substantially lowered from the current level in order to become protective of public health. NESCAUM urges that the EPA substantially lower the lead NAAQS, based on the scientific evidence outlined in the EPA Staff Paper and Risk Assessment and as supported unanimously by CASAC.

With respect to the form of the standard, shortening the averaging time from quarterly to monthly for determining compliance with the NAAQS is appropriate. This provides an averaging time that is closer to the critical exposure periods for children, as blood lead concentrations respond at shorter time scales than are captured by quarterly values.

#### Role of CDC’s “Advisory” Level

The ANPR requests comment on the use of the Centers for Disease Control’s (CDC’s) “advisory level,” i.e., the elevated blood lead level (BLL), of 10 µg/dL as the foundation for deriving the primary lead NAAQS (72 FR 71529). NESCAUM does not support the use of the current CDC BLL as a basis for the lead NAAQS. Using the CDC’s BLL would not be in keeping with the law as it was not set according to the Clean Air Act legal requirement the EPA must follow of protecting public health with an adequate margin of safety. The CDC does not consider its BLL to be a safe blood lead level or even one without evidence of adverse effects. The CDC acknowledges that this is a remedial screening level that is used to identify children with elevated blood lead levels in order to target follow-up activities to reduce their lead exposures.

In addition, the EPA, CASAC, and CDC have determined that at BLLs below 10 µg/dL, there is an inverse relationship between BLL and cognitive function in children. A CDC expert panel reviewing the epidemiology literature on blood lead and childhood cognitive function determined that this conclusion was supported by the overall weight of evidence.<sup>3</sup> It also concluded that the evidence indicates a steeper slope in the dose-response relationship between BLL and IQ as the BLL decreases below 10µg/dL. The CDC panel also concluded that the observed associations between BLL and cognitive decrements below 10 µg/dL are caused, at least in part, by lead toxicity, although the strength and shape of the causal relationship is uncertain due to data limitations.

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<sup>2</sup> Letter to Stephen Johnson, EPA Administrator, from Rogene Henderson, CASAC Chair, EPA-CASAC-07-003, p. 4 (March 27, 2007).

<sup>3</sup> Centers for Disease Control and Prevention. 2005. Preventing lead poisoning in young children. Appendix: A review of evidence of adverse health effects associated with blood lead levels < 10 µg/dL in children. Atlanta: CDC. Available online at [http://www.cdc.gov/nceh/lead/publications/pub\\_Reas.htm](http://www.cdc.gov/nceh/lead/publications/pub_Reas.htm) (accessed Jan. 15, 2008).

On its web site, the CDC explains that even though there are recent studies reporting adverse health effects at lower blood lead levels, it retained the 10µg/dL BLL due to difficulty in treatment and testing at lower levels, not because of no known health effects. Therefore, the BLL is based on practicality of treatment, not on observed health effects, at or below the 10 µg/dL level. While the CDC didn't lower its BLL, it stated that the recent studies "support making primary prevention of childhood lead poisoning a high priority for health, housing, and environmental agencies at the state, local, and federal levels."<sup>4</sup> This is a clear call by the CDC for measures that go beyond the purpose of its BLL and encompass the health protection requirements of a NAAQS set according to the Clean Air Act.

The EPA has previously recognized that adverse health effects related to lead exposures have been documented at concentrations below 10 µg/dL. The EPA's Criteria Document states that the currently available health data "includes assessment of new evidence substantiating risks of deleterious effects on certain health endpoints being induced by distinctly lower than previously demonstrated lead exposures indexed by blood-lead levels extending well below 10 µg/dL in children and/or adults." Moreover, the dose-response relationship between blood lead concentrations and IQ in children supports the health benefits that will result from lowering ambient lead concentrations.

Because of the different purposes and legal requirements described above, the EPA's inclusion of CDC's BLL as a potential basis for the primary lead NAAQS in the ANPR is inappropriate. Adopting such an approach would be contrary to the law, scientifically unjustified, and not protective of public health.

#### NAAQS Review Process

NESCAUM is disappointed in the quality of this ANPR, and is very concerned about future NAAQS review processes if subsequent ANPRs follow this approach. While the EPA Staff Paper is clearly written, thoroughly documented, and provides the cornerstone of review in the NAAQS process, the ANPR lacks the same scientific rigor and is unable to stand alone as a document for policy recommendations. Basic scientific information is missing from the ANPR that is crucial in order to provide public comment. For example, the ANPR does not present specific scientific bases for supporting various potential revised NAAQS levels. On the other hand, it provides an extremely broad range of policy options, including those that are not supported by the science and/or have no attribution. As such, the ANPR has the flavor of a survey of policy options, rather than as a more informative science-based document that tells the public how the EPA intends to use the science for NAAQS rulemaking. It also fails to serve as a useful vehicle for soliciting relevant new information to inform that rulemaking.

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<sup>4</sup> Centers for Disease Control and Prevention, <http://www.cdc.gov/nceh/lead/faq/changebll.htm> (accessed Jan. 14, 2008).

The weakness of this lead ANPR underscores the importance of the science-based EPA Staff Paper. Without access to the EPA Staff Paper, it would have been difficult for NESCAUM to develop its comments. Because there is a clear and compelling need for it, NESCAUM strongly supports retaining the EPA Staff Paper for subsequent NAAQS review processes. If the EPA proceeds in future NAAQS reviews with ANPRs as scientifically weak as this one, and further omits a science-based Staff Paper, subsequent NAAQS reviews will lack credibility.

#### Monitoring and Network Design

As noted in the CASAC's September 27, 2007 letter to the EPA, the existing lead TSP high volume Federal Reference Method (FRM) is an outdated sampling method with a poorly defined and highly variable size cut. A review of the monitoring requirements for lead is well overdue. NESCAUM recognizes that developing a new FRM within the existing NAAQS revision schedule is not possible. Any new monitoring method should be critically evaluated in order to provide a monitoring network that ensures the protection of public health. At minimum, the EPA should conduct research on the relationship between PM-10 and TSP and/or on the feasibility of a new TSP method. NESCAUM further encourages the EPA to consider an alternative Federal Equivalent Method sampling technology if the EPA chooses not to change or propose a revised lead FRM.

When the EPA proposes its monitoring method, it should include both the analytical methods appropriate to the sampling media, such as Inductively Coupled Plasma Mass Spectroscopy (ICPMS) or X-ray Fluorescence (XRF), as well as the sampling instrumentation.

If the EPA chooses to retain the high volume TSP method, it must specifically consider sampler height, as this parameter is especially important for lead monitoring. The spatial scale of lead sampling is in part determined by the height of the sampler inlet above ground. The EPA's current vertical siting requirements need to be tightened, with a higher minimum and lower maximum height above ground.

NESCAUM plans to provide further comment on the EPA's proposed monitoring method when it is published in the forthcoming proposed rulemaking.

#### Mobile Source Exposures

The EPA acknowledges there are very limited data addressing vulnerable subpopulations in areas of potentially increased lead exposure. This lack of information is in part due to the limited size and spatial coverage of the present lead monitoring network and a poor correlation between monitoring locations and proximity of the largest lead sources. In this regard, NESCAUM notes that the EPA's exposure and risk assessment identifies combustion of leaded aviation gasoline as the single largest category of lead emissions in the United States. Further, the EPA Staff Paper acknowledges that there are no lead monitoring network sites within a mile of any of the general aviation facilities where leaded aviation gasoline is in use.

In a parallel action (EPA-HQ-OAR-2007-0294), the EPA is soliciting comments on a petition submitted by Friends of the Earth that requests the EPA to regulate the lead content of aviation gasoline. The topics for which the EPA solicits comments include information on lead concentrations in the environment around airports and levels of human exposure; the same issues for which the EPA generally acknowledges in this ANPR that there is a serious lack of information available.

In tandem with addressing the form and level of a new NAAQS for lead, NESCAUM requests that the EPA ensure that the monitoring network will be designed to provide data to facilitate a more reliable characterization of human exposure and risk from the use of aviation gasoline and from other significant lead emission sources.

#### Planning Impacts

The EPA is under a court order to complete “[a]ll tasks necessary for implementation...on or before September 1, 2008.”<sup>5</sup> Any revision to the lead NAAQS will trigger numerous activities for the states. In addition to designing and implementing a new monitoring network and gathering data sufficient for making designations, states will need to develop a State Implementation Plan-quality inventory to assist in determining any control measures that may be needed. The EPA must begin planning for such activities now, particularly with respect to inventories and an implementation rule. NESCAUM expects that the EPA, in its Notice of Proposed Rulemaking, will provide appropriate draft documents with respect to anticipated planning and implementation requirements.

If you or your staff has any questions regarding the issues raised in this letter, please contact Leah Weiss of NESCAUM at 617-259-2094.

Sincerely,



Executive Director

Cc: NESCAUM Directors  
Lydia Wegman, EPA, OAQPS  
Deirdre Murphy, EPA, OAQPS

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<sup>5</sup> *Missouri Coalition for the Env't v. U.S. EPA*, Memorandum and Order, Case No. 4:04CV00660 ERW (E.D. Mo. Sept. 14, 2005).