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Washington, DC 20460

To Whom It May Concern:

The National Association of Clean Air Agencies (NACAA) is pleased to submit these comments on the U.S. Environmental Protection Agency's (EPA's) Advance Notice of Proposed Rulemaking (ANPR) regarding EPA's ongoing review of the Lead National Ambient Air Quality Standards (NAAQS) ("Lead NAAQS ANPR"), as published in the *Federal Register* on December 17, 2007 (72 *Federal Register* 71488). NACAA is an association of air pollution control agencies in 53 states and territories and over 165 metropolitan areas across the country.

In summary, NACAA urges EPA to follow the science and seriously consider the views of the Clean Air Scientific Advisory Committee (CASAC), which was clear in stating that the lead NAAQS should be strengthened significantly and that the lead NAAQS should not be revoked nor should lead be removed from the list of criteria pollutants. We are also concerned about the flaws in EPA's new NAAQS review process, which eliminates the EPA staff paper containing policy-relevant analyses of the science and presenting options for revising the standard. Without this kind of analysis – and without CASAC's views, which would also not be available at the time of the ANPR – it will be very difficult in the future to provide meaningful comment on a NAAQS review at the time the ANPR is issued.¹ Our comments also address monitoring and implementation issues associated with revising the lead NAAQS.

The Health Effects of Lead

Since the lead NAAQS were promulgated in 1978, blood lead concentrations in the U.S. have "plummeted;" nevertheless, lead toxicity "remains a major public health problem" for both

¹Under EPA's new NAAQS review process, EPA staff and CASAC views will not be provided in future ANPRs. Our understanding is that EPA originally intended to follow its new NAAQS review process in the lead NAAQS review, but because this review is under court order, it is instead following a hybrid process. It was required by court order to issue a staff paper, which CASAC reviewed.

adults and children.² Children exposed to lead have lower IQs³ and face increased risk for reading problems, school failure, Attention Deficit Hyperactivity Disorder, delinquency and criminal behavior.⁴ In adults, lead exposure is linked to cardiovascular problems, including increased blood pressure, hypertension and even death, and problems with kidneys (renal effects).⁵

The Current Lead NAAQS and NAAQS Review Process

In 1978, EPA promulgated the current lead NAAQS, which has not been revised since this time. Both primary and secondary standards were set at a level of 1.5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), measured as lead in total suspended particulate matter (Pb-TSP), not to be exceeded by the maximum arithmetic mean concentration averaged over a calendar quarter.

EPA initiated a review of the lead NAAQS in the mid 1980s, culminating in a staff paper issued in 1990 with options for revising the standard, but EPA did not propose any revisions. The current lead NAAQS review was precipitated by litigation, and a court order requires EPA to propose any revisions to the lead NAAQS by May 1, 2008 and finalize these revisions by September 1, 2008.⁶

The Lead NAAQS ANPR

The level of the primary (health-based) standard

EPA in the Lead NAAQS ANPR does not propose any revisions to the primary lead NAAQS nor indicate any range of preferred options for the level of the primary lead NAAQS. Instead, EPA presents differing viewpoints in the ANPR, without weighing their merit, and throws the entire matter open to public comment.⁷ The range of possible levels discussed in the ANPR include retaining the 1978 standard of 1.5 $\mu\text{g}/\text{m}^3$ to lowering the standard to somewhere between 0.2 $\mu\text{g}/\text{m}^3$ to as low as 0.05 $\mu\text{g}/\text{m}^3$. Notably, the highest level under consideration is 30 times as high as the most protective level.

As with past NAAQS reviews, NACAA urges EPA to follow the science and to seriously consider the views of EPA's independent scientific advisors, CASAC, a body created by statute specifically to advise the Administrator on NAAQS reviews. After reviewing the draft staff paper and the first Draft Lead Exposure and Risk Assessments in March 2007, CASAC said "there is a need for a substantial reduction in the primary Lead NAAQS, to a level of about 0.2 $\mu\text{g}/\text{m}^3$ or less."⁸ In September 2007, after reviewing the Second Draft Lead Exposure and Risk Assessments, CASAC said that in order to identify what level of the primary NAAQS would be adequately protective, EPA staff "should identify the level of the standard that would ensure that 95% or more of the children in the U.S. do not experience decreased IQ from exposure to

² Dr. Rogene Henderson, CASAC Chair, Letter to the Honorable Stephen L. Johnson regarding CASAC's Review of the 1st Draft Lead Staff Paper and Draft Lead Exposure and Risk Assessments, (EPA-CASAC-07-003) (Mar. 27, 2007) at 3 (citations omitted).

³ Lead NAAQS ANPR, 72 *Federal Register* 71488 (Dec. 17, 2007) at 71496.

⁴ Henderson letter of Mar. 27, 2007, *supra* note 2 at 3.

⁵ *Id.* and Lead NAAQS ANPR at 71499-71500.

⁶ *Missouri Coalition for the Environment v. EPA*; see Lead NAAQS ANPR at 71491 and 71493.

⁷ Lead NAAQS ANPR at 71528-71533

⁸ Henderson letter of Mar. 27, 2007, *supra* note 2, at 6.

ambient concentrations or recent airborne lead.”⁹ CASAC added that target levels of IQ decrements that would be “of great concern would be one to two (1-2) IQ points or more.”¹⁰ According to EPA in the Lead NAAQS ANPR, this would imply a primary NAAQS at or above 0.09 µg/m³, maximum quarterly mean, or 0.17 µg/m³, maximum monthly mean.¹¹ EPA’s staff paper provides a more helpful guide to following CASAC’s recommendations:

if the policy goal for the [lead] NAAQS was to be defined so as to provide protection that limited estimates of IQ loss from *policy-relevant sources* to no more than 1-2 points IQ loss at the population-level, we note that standard levels in the range of 0.1 to 0.2 µg/m³ may achieve that goal. Alternatively, if the policy goal was to be defined so as to provide somewhat greater public health protection by limiting the *air-related component* of risk to somewhat less than 1 point IQ loss at the population level, this would suggest greater consideration for standards in the lower part of the range evaluated (0.02-0.05 µg/m³). Such a goal might reflect recognition that nonair sources, in and of themselves, are estimated to contribute 1-2 points or more of IQ loss, such that the incremental risk for policy-relevant [lead] is adding to a level of total [lead] exposure that is already in a range that can be reasonably judged to be highly significant from a public health perspective. We note, however that considering standards in this lower range places greater weight on the more highly uncertain risk estimates and thus would be more precautionary in nature.¹² (Emphasis supplied.)

Thus, EPA staff helpfully suggests levels that would achieve CASAC’s goal, ranging from 0.1 to 0.2 µg/m³ down to, if one were to focus on the air-related component of risk only, levels of 0.02 and 0.05 µg/m³. NACAA recommends that EPA focus its review and decision on revising the standard to levels within these ranges, to accord with its scientific advisors’ views.

EPA also specifically requests comment on setting a lead NAAQS identical to the Centers for Disease Control (CDC) advisory level of 10 µg/deciliter (dl), even though EPA notes that the CDC itself “does not consider this level of concern as a safe blood [lead] level or one without evidence of adverse effects.”¹³ We are puzzled why EPA would even consider suggesting this course, given the demonstrated adverse health effects seen at this level and at even lower levels. As CASAC notes:

There remains a significant segment of the population with blood-lead concentrations above 5 µg/dl — and some even above 10 µg/dl — and scientific evidence supports the contention that these [blood-lead] concentrations do not provide an adequate margin of safety. In fact, this evidence suggests these

⁹ Dr. Rogene Henderson, CASAC Chair, Letter to the Honorable Stephen L. Johnson regarding CASAC’s Review of the 2nd Draft Lead Human Exposure and Health Risk Assessments Document, (EPA-CASAC-07-007) (Sep. 27, 2007) at 5.

¹⁰ *Id.*

¹¹ Lead NAAQS ANPR at 71531. CASAC advocates using a monthly mean. Henderson letter of Mar. 27, 2007, *supra* note 2, at 8

¹² “Review of the National Ambient Air Quality Standards for Lead: Policy Assessment of Scientific and Technical Information – OAQPS Staff Paper,” (EPA-452/R-07-013) (November 2007), at 5-40—5-41. (available at www.epa.gov/ttn/naaqs/standards/pb/data/20071101_pb_staff.pdf)

¹³ And EPA in its criteria document recognizes that adverse health effects have been observed at blood lead levels below 5 µg/dl down to 1-2 µg/dl. Lead NAAQS ANPR at 71529.

blood lead concentrations below 5 µg/dl are associated with unacceptable adverse effects.¹⁴

We recognize that in the ANPR EPA wishes to solicit a wide variety of comment, but we do not think it useful to solicit comment on options that clearly do not meet the statutory criteria of being requisite to protect the public health with an adequate margin of safety.¹⁵

Delisting lead and/or eliminating lead from the list of criteria pollutants

Similarly, we are troubled that EPA would solicit comment on whether it is “appropriate” to revoke the NAAQS for lead or to remove lead from the list of criteria pollutants.¹⁶ CASAC unanimously and forcefully articulated its views that such actions would not be appropriate.¹⁷ In a March 2007 letter to EPA, CASAC concluded that there was no basis for delisting lead or eliminating the lead NAAQS because 1) scientific evidence continues to show that lead is toxic; 2) existing blood lead levels are not below a level of concern; 3) decreases in blood lead levels are due in part to controls implemented because of the NAAQS, so without such controls, there will be a “significant possibility” that blood lead levels would rise again; 4) airborne concentrations and amounts of lead have not decreased enough so that future regulation of lead exposures could be effectively accomplished by regulation of lead-based products and allowable amounts of lead in soil and/or water; and 5) the Hazardous Air Pollutant (HAP) program would not be an adequate replacement for the NAAQS, because the most widespread source of airborne lead in the U.S. is historically-deposited lead along roadways, which cannot be regulated by the HAP program.¹⁸ In a subsequent letter to EPA, CASAC felt compelled to “strongly reiterate its opposition to any considered de-listing of Lead as a criteria air pollutant and its concomitant and unanimous support for maintaining a fully-protective NAAQS.”¹⁹

NACAA agrees with CASAC that lead should not be delisted as a criteria pollutant nor should the lead NAAQS be revoked.

Ambient Monitoring

EPA has asked for comment on various aspects of the lead monitoring requirements. In particular, the agency solicits comments on sampling and analysis methods, network design, and the sampling schedule for a revised primary lead NAAQS. At the outset, NACAA’s ability to make technical recommendations on monitoring revised lead standards is severely limited due to the agency’s failure to narrow the proposed range of the primary standard. While the association understands that an ANPR, by its nature, is intended to be a preliminary proposal, designed for gathering reactions of many stakeholders in order that the proposed rule can be better informed, the level of the revised standard in the ANPR is so broad that providing a meaningful reaction is difficult. As discussed above, EPA’s range for the health-based standard

¹⁴ Henderson letter of Mar. 27, 2007, *supra* note 2, at 4.

¹⁵ Section 109(b)(1) of the Clean Air Act provides that “[n]ational primary ambient air quality standards . . . shall specify ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health.”

¹⁶ Lead NAAQS ANPR at 71542.

¹⁷ Henderson letter of Mar. 27, 2007, *supra* note 2, pp. 3-5.

¹⁸ *Id.*

¹⁹ Henderson letter of Sep. 27, 2007, *supra* note 9, at 2.

is 1.5 to 0.05 $\mu\text{g}/\text{m}^3$. Such a wide range makes it difficult to offer meaningful technical opinions on monitoring methods and network design for a new standard.

Moreover, it is particularly troublesome to the monitoring community that the ANPR could not include a narrower proposed range for the revised primary standard under the current unusual rulemaking circumstances. Specifically, although EPA normally promulgates an implementation rule after promulgation or revision of a standard, in this case, EPA's Lead NAAQS revision must be carried out under the terms of a Court Order that does not allow promulgation of a separate implementation rule. The Order states, "The notice of final rulemaking concerning any revisions to the NAAQS shall be signed on or before September 1, 2008 for publication in the Federal Register. All tasks necessary for implementation (i.e., monitoring methods, surveillance network design, impact analysis, and control strategy development) shall also be completed on or before September 1, 2008."²⁰ In our experience, no previous rulemaking has combined standard-setting with the numerous complex technical and economic considerations addressing implementation.

Under the best of circumstances, such a compressed time frame would be challenging. Because, however, the range proposed in the ANPR for the new primary standard is so broad—with the highest level 30 times the lowest—the monitoring community will have no time to carry out planning activities relating to network design, monitoring methods, sampling frequencies, and other issues before being called on to commence monitoring pursuant to EPA's designation schedule. The lack of a separate rulemaking for implementation coupled with the vague level proposed in the ANPR can be anticipated to create particular challenges for the state and local monitoring specialists.

PM₁₀ Samplers Should Replace TSP Samplers as the Indicator for the Revised Lead NAAQS

NACAA supports CASAC's view that the indicator for the revised lead NAAQS should be low-volume PM₁₀. Although EPA states in the ANPR that the variability of the collection efficiency of the high-volume total suspended particulate (TSP) sampler does not warrant the discontinuation of its use, we disagree.²¹ Rather, we concur with CASAC that the shortcomings of the high-volume TSP samplers demonstrate that they should be replaced by PM₁₀ samplers that can effectively monitor the new standards. CASAC noted in its September 2007 letter to the EPA Administrator: "the precision of TSP samplers is poor, the upper particle cut size varies widely as a function of wind speed and direction, and the spatial non-homogeneity of very coarse particles cannot be efficiently captured by a national monitoring network....Improved sampling precision will also be needed as more locations fall closer to standards and to support future health assessments as ambient lead concentrations are further reduced. For these and other reasons...*the Lead Panel strongly encourages the Agency to consider revising the Pb reference method to allow sample collection by PM₁₀ rather than TSP samplers...*"²²

NACAA recommends that EPA replace the inaccurate high-volume TSP samplers with low-volume PM₁₀ samplers as the indicator for the lead NAAQS. If promulgated, this new indicator will enable the state and local air agencies to provide precise and defensible data on ambient lead levels. In addition, data from low-volume PM₁₀ samplers—unlike data from the

²⁰ *Missouri Coalition for the Environment v. U.S. EPA*, Civil Action No. 4:04-CV-00660 (ERW) (E.D. Mo. Sept. 14, 2005)

²¹ Lead NAAQS ANPR at 71539

²² Henderson letter of Sep. 27, 2007, *supra* note 9 at 5.

high-volume TSP samplers—could be integrated with existing data sets from the National Air Toxics Trends Stations (NATTS) program, as well as the Photochemical Assessment Monitoring Stations (PAMS) program. Such harmonization of currently dissimilar sampling methods would be both technically beneficial and cost-effective, and would enable us to obtain more robust data sets.

NACAA recognizes that developing a new Federal Reference Method (FRM) for low-volume PM₁₀ within the existing NAAQS revision schedule is not possible. Therefore, we recommend that EPA propose a Federal Equivalency Method (FEM) for low-volume PM₁₀ using existing PM₁₀ FRM sampling equipment. Although, as EPA points out in the ANPR, low-volume TSP samplers do exist, they also suffer from size-cut problems; accordingly, we do not believe that they should be used for compliance purposes.

NACAA agrees with CASAC that it can be expected that PM₁₀ lead will represent a large fraction of, and be highly correlated with, TSP lead, and that a single quantitative adjustment factor could be developed from a short period of collocated sampling at multiple sites; or a PM₁₀ lead/TSP lead “equivalency ratio” could be determined on a regional or site-specific basis.²³ NACAA will be pleased to consult with EPA on the appropriate range of concentrations for an FEM demonstration based upon an indicator of low-volume PM₁₀.

Network Design

NACAA urges EPA to provide adequate federal funding to supply the monitors that will be necessary to support a revised lead NAAQS. As noted by CASAC, the current monitoring network measuring ambient lead levels is extremely limited, consisting of a nationwide total of 189 monitoring sites, most of which are source-oriented sites.²⁴ In the ANPR, EPA also voices this concern, stating, “Large portions of the country [have] no data on current ambient lead concentrations, many of the largest lead-emitting sources in the country do not have nearby monitors, and there is substantial uncertainty about ambient air lead levels resulting from historic lead deposits near roadways.”²⁵ In light of these facts, it is of crucial importance that additional lead monitors are deployed nationwide in sufficient numbers and locations—and that they be federally funded at requisite levels. Without an adequate monitoring network to determine compliance with a revised lead NAAQS, the new health-based standard will be ineffective.

Furthermore, we agree with EPA that the existing requirements for lead monitor sites under 40 CFR 58 Appendix D should be revised. NACAA supports revision in accord with the third option proposed by the agency.²⁶ Under this option, the network design would be both population- and source-oriented. EPA would establish a minimum number of required monitors in urban areas based on population and ambient lead concentrations and would also require monitors near large lead emissions sources.²⁷

²³ *Id.* at 6.

²⁴ *Id.* at 3.

²⁵ Lead NAAQS ANPR at 71540

²⁶ *Id.*

²⁷ *Id.*

Monitoring for the Secondary NAAQS

Finally, NACAA agrees with CASAC that EPA needs to initiate new measurement activities in rural areas—which quantify and track changes in lead concentrations in the ambient air, soils, deposition, surface waters, sediments and biota, along with other information as may be needed to calculate and apply a critical loads approach for assessing environmental lead exposures and risks in the next review cycle.²⁸ With regard to EPA’s question concerning the use of the rural Interagency Monitoring of Protected Visual Environments (IMPROVE) network, we agree that it would be helpful if the IMPROVE program analyzed some of its existing PM₁₀ filters for lead periodically to see how the ratio of lead PM_{2.5} to lead PM₁₀ changes geographically and over time, but believe there is currently no need to collocate lead TSP monitors at IMPROVE sites.²⁹

Comments on New NAAQS Review Process

While EPA did not specifically solicit comment on its new NAAQS review process, NACAA would like to share its views on how the ANPR – part of the new process – compares to the EPA staff paper and CASAC recommendations – part of the “old” process. In short, the ANPR is not an adequate substitute for the EPA staff paper or CASAC recommendations. NACAA is concerned that if in future NAAQS reviews, EPA eliminates the EPA staff paper and CASAC’s views are not available at the time of the ANPR, then the NAAQS review process will be weakened.

The EPA staff paper and CASAC’s recommendations on revisions are an integral part of the NAAQS review process. As noted in the Lead NAAQS ANPR, the EPA staff paper helps “bridge the gap” between the scientific assessments contained in the Criteria Document and the judgments required of the EPA Administrator in determining whether it is appropriate to retain or revise a NAAQS.³⁰ EPA staff puts science in a policy-relevant context and helps narrow the range of options for consideration, both of which facilitate public review and comment. As a statutorily created scientific advisory committee specifically charged with advising the EPA Administrator on the NAAQS, CASAC’s views set the scientific guideposts to follow. In contrast, the Lead NAAQS ANPR portrays the NAAQS review landscape as almost uncharted territory, seeking guidance on what course to follow, even if the course takes one away from science and off the edge into the abyss. If future ANPRs follow the model of this Lead NAAQS ANPR, it appears that EPA will list every option possible regarding the NAAQS and ask for comment. NACAA believes EPA would obtain more meaningful and relevant comments with the insight of an EPA staff paper and CASAC’s views to guide public review.

Implementation of a Revised Lead NAAQS

While EPA may not consider implementation issues (including costs) in setting the NAAQS, whatever decision EPA makes on the level and form of the primary and secondary lead NAAQS will have a profound impact on the work of state and local clean air agencies. There are currently only two nonattainment areas for lead, and if the NAAQS is “significantly

²⁸ Henderson letter of Sep. 27, 2007, *supra*, note 9 at 6.

²⁹ See Lead NAAQS ANPR at 71541.

³⁰ Lead NAAQS ANPR at 71493.

lowered," it is likely that many more areas will be in nonattainment and need to prepare state implementation plans (SIPs).³¹

EPA must recognize this, not in setting the NAAQS, but in timely future rulemakings and appropriations requests—by requesting sufficient funds for state and local clean air agencies to carry out work associated with meeting the new NAAQS, providing sufficient infrastructure (such as monitors), and adopting national rules that address major sources of lead. Because EPA is constrained by the Court Order³² from promulgating a separate implementation rule for the Lead NAAQS revision, it will be imperative for EPA to work in close partnership with state and local air pollution control agencies at the earliest possible time to address implementation issues and achieve the ultimate goal of public health protection.

We hope you will consider carefully these perspectives as you proceed with the final rulemaking. If you have any questions, please feel free to contact us or NACAA's Executive Director, Bill Becker, at 202-624-7864.

Sincerely,



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³¹ *Id* at 71494. For example, over the period 2003-2005, 49 sites monitored lead levels exceeding 0.20 $\mu\text{g}/\text{m}^3$ on a maximum monthly mean and 32.7 exceeded this level if one looks at the maximum monthly mean averaged over 2003-2005. EPA staff paper, Tables 2-6 and 2-7 at 2-50 and 2-51.

³² *Supra*, note 20.