

August 31, 2012

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Air and Radiation Docket and Information Center  
Docket ID No. EPA-HQ-OAR-2007-0492  
Mail Code 6102T  
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Washington, DC 20460

To Whom It May Concern:

Pursuant to the solicitation for public comment published in the *Federal Register* by the U.S. Environmental Protection Agency (EPA) on June 29, 2012 (77 FR 38890), the National Association of Clean Air Agencies (NACAA) submits the following comments on EPA's proposed rule, *National Ambient Air Quality Standards for Particulate Matter*. NACAA is a national, non-partisan, non-profit association of air pollution control agencies in 45 states, the District of Columbia, four territories and 116 metropolitan areas. The air quality professionals in our member agencies have vast experience dedicated to improving air quality in the U.S. The comments we offer are based upon that experience. The views expressed in these comments do not represent the positions of every state and local air pollution control agency in the country.

**Summary**

In brief, NACAA 1) supports EPA's proposal to tighten the primary annual PM<sub>2.5</sub> standard to a level in the range of 12-13 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and retain the primary 24-hour PM<sub>2.5</sub> standard of 35  $\mu\text{g}/\text{m}^3$ ; 2) offers no comment on EPA's proposal to establish a new secondary PM<sub>2.5</sub> standard to protect against PM-related visibility impairment, but articulates several concerns with the manner in which the agency proposes to implement the standard, should the agency elect to promulgate it; 3) supports the agency's proposal to retain the current "suite" of secondary standards for PM<sub>2.5</sub> and PM<sub>10</sub> to address other non-visibility welfare effects; 4) supports EPA's proposal to revise the Air Quality Index (AQI) for PM<sub>2.5</sub> to be consistent with the proposed primary standards and urges that revision of the AQI for PM<sub>2.5</sub> occur at the time the revised NAAQS are promulgated; 5) offers comments on EPA's approach for implementing the revised standards, including supporting the agency's proposed transition provisions for the Prevention of Significant Deterioration program; and 6) provides detailed comments regarding EPA's proposed revisions to the PM<sub>2.5</sub> monitoring provisions, including the near roadway network, data handling and quality assurance.

## **Proposed Revisions to the Standard**

### *Revised Primary PM<sub>2.5</sub> NAAQS*

EPA proposes to tighten the primary annual PM<sub>2.5</sub> standard to a level in the range of 12-13 µg/m<sup>3</sup> and retain the primary 24-hour PM<sub>2.5</sub> standard. These proposals for the primary annual and 24-hour PM<sub>2.5</sub> standards are appropriate and consistent with the recommendations of the Clean Air Scientific Advisory Committee (CASAC) – the agency’s congressionally chartered body of independent scientific advisers – and NACAA supports them.

In its *Second Draft Policy Assessment*, EPA concluded that in determining whether to revise the existing primary PM<sub>2.5</sub> standards – an annual standard of 15 µg/m<sup>3</sup> and a 24-hour standard of 35 µg/m<sup>3</sup> – consideration should be given to alternative annual standards in the range of 11-13 µg/m<sup>3</sup> in conjunction with a retained 24-hour standard of 35 µg/m<sup>3</sup>. In a September 10, 2010 letter to EPA Administrator Lisa Jackson, CASAC offered support for EPA staff’s conclusion that “currently available information clearly calls into question the adequacy of the current standards.”<sup>1</sup> CASAC also advised the Administrator of its conclusion that the primary PM<sub>2.5</sub> standard levels under consideration by the agency “are supported by the epidemiological and toxicological evidence, as well as by the risk and air quality information” compiled in EPA’s various PM assessment documents.<sup>2</sup>

Related to the primary annual PM<sub>2.5</sub> standard, EPA proposes to revise the form of the standard to compare the level of the standard with measurements from each “appropriate” monitor in the area with no allowance for spatial averaging; the agency’s proposal in this regard is intended to avoid potential disproportionate impacts on at-risk populations. CASAC concluded that “it is reasonable for EPA to eliminate the spatial averaging in the new PM<sub>2.5</sub> annual average standard,”<sup>3</sup> and NACAA agrees.

### *New Secondary PM<sub>2.5</sub> Standard to Protect Against PM-Related Visibility Impairment*

EPA proposes to establish a new secondary 24-hour PM<sub>2.5</sub> standard “to provide increased protection from visibility impairment principally in urban areas, in conjunction with the regional haze program for protection of visual air quality in Federal Class I areas.” For this proposed standard, EPA proposes to rely upon the existing Chemical Speciation Network (CSN) and Interagency Monitoring of Protected Visual Environments (IMPROVE) network to provide appropriate monitoring data for calculating PM<sub>2.5</sub> visibility index values.

Although NACAA offers no comment on EPA’s proposed secondary visibility standard, should the agency elect to promulgate the standard NACAA has considerable concerns with the manner in which the agency proposes to implement it. Since EPA’s proposal is intended to be “principally for urban areas” the agency’s approach for implementing the standard should focus on urban areas. NACAA believes that EPA should revise its implementation approach to, among

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<sup>1</sup> Letter to EPA Administrator Lisa P. Jackson from Dr. Jonathan M. Samet, “CASAC Review of *Policy Assessment for the Review of the PM NAAQS – Second External Review Draft (June 2010)*” (September 10, 2010), at i.

<sup>2</sup> *Id.* at ii.

<sup>3</sup> *Id.* at 2.

other things, ensure that it does not overlap or conflict with the Regional Haze Program, which addresses visibility in Class I areas, and relies only on the CSN and not the IMPROVE monitoring network (please see further discussion of this in the PM<sub>2.5</sub> Speciation portion of the Monitoring section of our comments, below). Further, we urge EPA to give careful consideration to the comments individual state and local air agencies and regional organizations provide relative to implementation concerns.

#### Current Secondary PM<sub>2.5</sub> and PM<sub>10</sub> NAAQS

EPA proposes to retain the current “suite” of secondary standards for PM<sub>2.5</sub> and PM<sub>10</sub> to address other non-visibility welfare effects, but with one change – a revision of the form of the secondary annual PM<sub>2.5</sub> standard to remove the option for spatial averaging; EPA has proposed this same change to the form of the primary annual PM<sub>2.5</sub> standard.

Regarding non-visibility welfare effects, CASAC stated that it “concur[s] with the [EPA staff] Policy Assessment’s conclusions that while these effects are important, and should be the focus of future research efforts, there is not currently a strong technical basis to support revisions of the current standards to protect against these other welfare effects.”<sup>4</sup>

Based on EPA’s and CASAC’s conclusions, NACAA concurs with EPA’s proposal for the current secondary PM<sub>2.5</sub> and PM<sub>10</sub> NAAQS.

#### Air Quality Index

NACAA supports EPA’s proposal to revise the Air Quality Index (AQI) for PM<sub>2.5</sub> to be consistent with the proposed primary PM<sub>2.5</sub> standards and urges that revision of the AQI for PM<sub>2.5</sub> occur at the same time as promulgation of the new PM National Ambient Air Quality Standards (NAAQS). The AQI is a risk communication tool developed by EPA to keep members of the general public informed about their local air quality and to help them make informed decisions about their exposure to air pollutants. Air quality is measured by monitors that record the concentrations of major pollutants each day at thousands of locations across the country. Those raw measurements are then converted into AQI values using standard formulas developed by EPA. The effectiveness of the AQI as a public health tool will be undermined if EPA undertakes regulatory changes to the PM NAAQS without simultaneously revising the AQI.

NACAA also suggests that state and local agencies be given the flexibility to recommend the exclusion of a specific near roadway monitoring location, along with any other source-oriented, micro-scale monitoring site, from inclusion in the AQI calculation on a case-by-case basis if the agency determines that the specific site is not appropriately representative of area wide exposure. NACAA suggests that EPA work with state and local monitoring agencies to review data from near roadway monitoring sites and investigate alternative options for ensuring this information is shared with the public in a timely and comprehensive manner.

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<sup>4</sup> Letter to EPA Administrator Lisa P. Jackson from Dr. Jonathan M. Samet, “CASAC Review of *Policy Assessment for the Review of the PM NAAQS – First External Review Draft (March 2010)*” (May 17, 2010), at 5.

## **Implementation**

Setting NAAQS and implementing them are independent issues and must remain so. However, whatever decision EPA makes on the level and form of the PM NAAQS will have a profound impact on the work of state and local air agencies. EPA must recognize this, not in setting the NAAQS, but in making appropriations requests – by requesting sufficient funds for state and local clean air agencies to carry out work associated with meeting any revised and new primary and secondary NAAQS; providing sufficient infrastructure (such as monitors, as we discuss in more detail, below); involving state and local air agencies from the outset in the development of implementation rules and guidance to ensure practicable and successful implementation of any revised and new NAAQS; and issuing these rules and guidance documents in a timely manner, ideally, at the time final revised and new NAAQS are promulgated. Accordingly, it is imperative for EPA to work in close partnership with state and local clean air agencies to address implementation issues and achieve the ultimate goal of public health protection.

Along these lines, we are encouraged by EPA's recent initiation of a Lifecycle Analysis Project (LCAP) for implementation of the PM NAAQS. We strongly endorse the purpose of this effort, to identify and complete useful EPA rules and guidance documents that will facilitate consistent, efficient and timely submittal of State Implementation Plans (SIPs) and to promote efficient and consistent SIP review actions by EPA. We are especially pleased that a cornerstone of this initiative is an ongoing, close, collaborative partnership of federal, state and local environmental officials. We look forward to working with EPA on the PM LCAP – on an expedited schedule so that states and localities have the tools they need well in advance of the deadlines they must meet to fulfill their implementation responsibilities – and to putting similar practices in place for other NAAQS.

It is also important that any potential economic impacts of a more stringent PM<sub>2.5</sub> standard be taken into consideration during implementation.

Further, although EPA has projected that all but a few nonattainment areas for the primary PM<sub>2.5</sub> standard will attain by 2020 based on expected emissions reductions from a number of federal programs, there are concerns that EPA may have overestimated the scope of attainment and that additional areas may be unable to attain by 2020 and face continued challenges in meeting the standard. It is important that EPA work closely with such areas to identify and correct potential errors in attainment projections and to collaboratively establish viable implementation approaches.

### **Prevention of Significant Deterioration**

EPA is proposing to grandfather draft Prevention of Significant Deterioration (PSD) permits that are noticed for public comment before the effective date of the final PM NAAQS from compliance with the revised primary PM<sub>2.5</sub> standard and new secondary visibility standard. NACAA agrees with this proposal. We do not suggest a sunset provision, provided that permits afforded grandfathering are issued in a timely manner consistent with the 12 months required by the Clean Air Act.

NACAA also agrees with EPA's proposed surrogate approach for demonstrating that, under the PSD program, a new or modified source will not cause or contribute to a violation of the proposed secondary visibility standard. As proposed, the surrogate approach would allow PSD applicants to use the mass-based 24-hour PM<sub>2.5</sub> standard as a surrogate for visibility until outstanding technical issues are resolved. We recommend that EPA establish this surrogate approach by notice and comment rulemaking, and that the approach also be revoked by notice and comment rulemaking when EPA has clearly determined that technical issues have been resolved and use of the surrogate approach is no longer necessary.

Finally, NACAA encourages EPA to provide immediate guidance on the continued use of the PM<sub>2.5</sub> significant impact levels (SILs) established in *Prevention of Significant Deterioration for Particulate Matter Less than 2.5 Micrometers – Increments, Significant Impact Levels and Significant Monitoring Concentration* (75 FR 64864). In *Sierra Club v. EPA* (No. 10-1413), EPA has asked the U.S. Court of Appeals for the District of Columbia Circuit to vacate and remand the PM<sub>2.5</sub> SIL provisions contained in this rule and has indicated that guidance regarding this issue is forthcoming.

## **Monitoring**

### PM<sub>2.5</sub> Speciation

EPA is proposing that measurements using either the CSN or IMPROVE networks be eligible for use in calculating PM<sub>2.5</sub> visibility index values. The Proposed Rule would require each state with a core-based statistical area (CBSA) with a population of over 1 million to measure PM<sub>2.5</sub> chemical species, using CSN or IMPROVE, in at least one of its CBSAs. In states with multiple large CBSAs, PM<sub>2.5</sub> chemical species measurement would be required in each CBSA within the state with a population of 2.5 million or more.

As we note above, NACAA offers no comment on EPA's proposed secondary visibility standard, but does have comments regarding implementation of this standard should the agency move forward with it. With respect to EPA's proposal regarding PM<sub>2.5</sub> speciation, NACAA recommends that EPA clarify that PM<sub>2.5</sub> chemical species measurement is required only in urban areas, primarily utilizing the CSN network. To the extent that an individual monitoring agency may not have appropriate CSN measurements, and wishes to use IMPROVE instead, the agency should have that flexibility. Otherwise, the requirement should be confined to CSN, in keeping with the urban focus of the proposed PM<sub>2.5</sub> secondary visibility standard.

### Near Roadway Network

EPA is proposing to require PM<sub>2.5</sub> monitoring near roadways in CBSAs with a population of 1 million or more, which the agency estimates will result in near roadway PM<sub>2.5</sub> monitoring at 52 locations nationwide. As proposed, near roadway PM<sub>2.5</sub> monitors would be co-located at near roadway sites measuring nitrogen dioxide (NO<sub>2</sub>) and carbon monoxide (CO). EPA is also proposing to allow state and local agencies to relocate existing PM<sub>2.5</sub> monitors to near roadway locations, and to require implementation of the PM<sub>2.5</sub> near roadway network by January 1, 2015.

This proposal follows the agency's establishment of requirements for monitoring emissions of NO<sub>2</sub> and CO near roadways and the completion of a pilot study evaluating initial siting and design parameters for implementation of the near roadway network.

The inclusion of PM<sub>2.5</sub> measurements near roadways is consistent with CASAC's recommendations to develop the near roadway network with a multipollutant focus and to include PM<sub>2.5</sub> on the list of pollutants that should be measured.<sup>5</sup> EPA can improve the efficiency and effectiveness of the PM<sub>2.5</sub> network by phasing and focusing the scope of the near roadway portion of the network. While we provide several recommendations to this end in the pages that follow, we urge EPA to work with state and local agencies to develop a more comprehensive plan for implementing the near roadway network going forward.

In response to the current Proposed Rule, we recommend: 1) refocusing the near roadway network to provide better characterization of mobile source emissions at a more limited number of sites, including the correlation of emissions to key variables such as traffic volume, fleet composition, and prevailing winds; 2) phasing deployment of the near roadway PM<sub>2.5</sub> network beginning with CBSAs with a population of 2.5 million and greater, then expanding the network to CBSAs with a population of between 1 million and 2.5 million in later stages; and 3) deploying a near roadway PM<sub>2.5</sub> monitor at a multipollutant near roadway site after that site has been operating for at least one year. We provide detailed feedback on these and other aspects of the proposed PM<sub>2.5</sub> near roadway below.

Scope and Scale of Network Design – The PM<sub>2.5</sub> monitoring network outlined in the proposed rule is designed to meet two distinct objectives: 1) to provide consistent and representative data on neighborhood scale population exposure to ambient PM<sub>2.5</sub> and 2) to determine “near source” PM<sub>2.5</sub> impacts from high use roadways. These objectives in effect give rise to two “sub-networks” and the requirements should reflect a scope for each sub-network that provides the data necessary to meet the objectives with the most efficient use of resources.

NACAA understands the need to develop better characterization of near road exposures to PM<sub>2.5</sub>. At the same time, we believe it is important that the deployment of new near roadway monitors should not come at the expense of existing PM<sub>2.5</sub> network objectives, including neighborhood scale population exposure, AQI reporting, environmental justice, transport, and background. The proposed near roadway sites, although deployed nationwide, are essentially monitoring the same source. Variations in impacts will likely be primarily dependent on traffic volume, fleet composition, and meteorology (such as prevailing winds and mixing). Both the impacts and variations can be well characterized with a more focused, research-oriented network of sites designed specifically to provide the needed data. Population exposure can be extrapolated based on correlation with key variables, and a focused network will provide more detailed information to federal policymakers who develop motor vehicle emission control standards. The near roadway PM<sub>2.5</sub> network should be specifically designed to capture data needed to characterize near source exposures and correlate them to key source variables that

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<sup>5</sup> See Letter to EPA Administrator Lisa Jackson from Dr. Armistead Russell and Dr. Jonathan Samet, “Review of the ‘Near-road Guidance Document – Outline’ and ‘Near-road Monitoring Pilot Study Objectives and Approach’” (Nov. 24, 2010).

extrapolate to other locations. The network should also be designed to provide sufficiently detailed information to support informed policy decisions regarding emissions control.

We also recommend that expected maximum PM<sub>2.5</sub> monitoring sites be neighborhood scale sites, and that the monitoring network requirements for PM<sub>2.5</sub> in Appendix D, section 4.7.1(b) be changed to reflect the necessity of providing neighborhood scale data for all of the CBSAs where monitors are required. Neighborhood scale data are necessary to provide concentration data representative of the broadest possible population segment of each CBSA. Micro and middle scale data are not appropriate to characterize CBSA-wide exposures and cannot be used for many additional monitoring objectives, including health studies, pollution trends analysis, or public reporting of AQI values. Thus, areas with only one required PM<sub>2.5</sub> monitor may be forced to add additional monitors to address near roadway and/or maximum concentration monitoring requirements. To address this issue, we suggest the following:

Section 4.7.1 (b) (1) should be changed to: At least one neighborhood or urban scale monitoring station is to be sited in an area of expected maximum concentration.

Finally, PM<sub>2.5</sub> monitoring sites that are considered to represent area-wide air quality should be formally identified as such in each monitoring agency's Annual Network Plan. According to proposed changes to Part 58, Appendix D, section 4.7.1(b), required PM<sub>2.5</sub> monitoring stations *must be sited to represent area-wide air quality*, and micro and middle scale sites that represent many such locations are considered to represent area-wide air quality. However, for CBSAs with populations greater than 1 million, the Proposed Rule would require that one site be co-located with a near roadway NO<sub>2</sub> site, which has no corresponding requirement to be an area-wide monitor. This clear inconsistency needs to be resolved. Furthermore, while required sites (i.e., expected maximum, near roadway, and additional minimum number locations based on population) may need to be area-wide monitors, additional non-required sites may not represent area-wide air quality. A positive determination that a PM<sub>2.5</sub> monitor represents area-wide air quality, and thus is eligible for comparison to the PM<sub>2.5</sub> NAAQS, should be proposed in Annual Network Plan submittals, with subsequent concurrence and approval by the Regional Administrator. Representation of area-wide air quality should not be "presumed" as proposed in section 58.30(a)(2). To address this issue, we suggest the following:

Section 4.7.1(b) should be changed to: ...; however, micro-or middle-scale PM<sub>2.5</sub> monitoring sites that represent many such locations throughout a metropolitan area may represent area-wide air quality if identified as such in Annual Network Plans approved by the Regional Administrator.

Section 58.30(a)(2) should similarly be changed to: As specified in appendix D to this part, section 4.7.1, when micro- or middle-scale PM<sub>2.5</sub> monitoring sites are determined in approved Annual Network Plans to collectively identify....

Site Selection & Review – First, site selection criteria must be more flexible to harmonize both co-location and individual pollutant data objectives. We understand and agree with the objective to maximize resources by co-locating near road monitors, as well as the desire for

comprehensive, multi-pollutant data at a single location. However, in some instances, criteria used to optimally locate an NO<sub>2</sub> site may not adequately address the considerations to optimally locate a PM<sub>2.5</sub> site; in these cases, the co-location requirement could actually *increase* the number of monitors required and the corresponding implementation costs. In order to ensure the best possible measurement of near roadway PM<sub>2.5</sub> concentrations and optimize the use of funds where possible, NACAA recommends that state and local agencies be given flexibility to identify alternative siting locations on a case-by-case basis, where there is a scientific justification for doing so. This flexibility is included in the current CO near road network requirements, and should be similarly included for PM<sub>2.5</sub>.

Second, determination of the location of the expected maximum concentration site should not be subject to year to year variations in meteorology or spatial or temporal patterns of emissions. In order to promote monitoring network stability and reduce the potential for frequent new or changing monitoring locations, evaluation of expected maximum concentration sites should occur on a five year cycle concurrent with five year Network Assessments, rather than annually in Annual Network Plans. We suggest explicitly stating that the five year Network Assessment is the appropriate place and timeframe for determination of expected maximum concentration locations, as well as the assessment of potential changes to monitoring frequency, minimum monitoring requirements, and other major network changes that depend on longer-term air quality data assessment or demographic changes.

Third, the requirements governing height and distance from the road for PM<sub>2.5</sub> near roadway monitors should be the same as those for near roadway NO<sub>2</sub> monitors; however, the requirements for distance to the nearest vertical wall or obstruction should be increased to match the requirements for current micro and middle scale installations. It is not advisable to install a PM<sub>2.5</sub> monitor adjacent to a wall or other obstruction that would disrupt the normal upwind to downwind flow across the roadway. Data collected against walls would be difficult to interpret because it would not be possible to ascertain gradients away from the road and because the data could not be used for an assessment of population exposure.

Phasing and Timing – NACAA suggests that EPA phase implementation of the near roadway PM<sub>2.5</sub> monitoring network. Phasing implementation of the near roadway network allows information gleaned from the pilot study and the initial sites to inform continued network design and siting. A phased approach is also in line with CASAC's recommendation that the near roadway network be implemented in stages. CASAC noted that a phased approach is needed to absorb lessons from EPA's near roadway pilot study to ensure the best possible siting of near roadway monitors.<sup>6</sup> This could be accomplished by phasing deployment of the near roadway PM<sub>2.5</sub> network beginning with CBSAs with a population of 2.5 million and greater, then expanding the network to CBSAs with a population of between 1 million and 2.5 million in later stages. Data gathered from the initial sites should be analyzed and used to evaluate network implementation for the remaining sites if necessary and as appropriate, based on protection of public health, data needs, and utilization of available resources.

Given the proposed requirement to co-locate PM<sub>2.5</sub> near roadway monitors at near roadway stations measuring NO<sub>2</sub> and CO, implementation of the proposed near roadway PM<sub>2.5</sub>

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<sup>6</sup> *Id.*

monitoring network depends upon successful implementation of the NO<sub>2</sub> near roadway monitoring network. Thus the implementation date for PM<sub>2.5</sub> near roadway monitors should be contingent upon successful deployment of the near roadway NO<sub>2</sub> sites where co-location is planned. We also suggest that near roadway NO<sub>2</sub> stations be deployed and operated for at least one year before a PM<sub>2.5</sub> monitor is deployed at that station. This will ensure that the power, access and safety requirements of the station are sufficient for long-term operation as a permanent station. This will also help to account for and avoid potential delays in the implementation schedule. Finally, it will allow a more reasonable integration of resource demands, not only from a cost perspective but also in terms of labor and training.

Funding – NACAA continues to stress that monitoring requirements must be fully funded, including staffing as well as operation and maintenance costs. New monitoring mandates must be supported by appropriate increases in federal funding. State and local agencies need additional, adequate federal funding in order to move forward with new monitoring requirements and continue to operate and maintain existing monitoring networks, which are crucial to the protection of public health and the environment. Implementing a multipollutant near roadway monitoring network requires the purchase of new equipment and installation of new sites, relocation of monitors, and additional staff, operation and maintenance costs, and must be fully funded under Clean Air Act section 103.

While EPA suggests that state and local monitoring agencies will be able to relocate existing PM<sub>2.5</sub> monitors to near roadway sites, this may not be a feasible option in every affected CBSA. Data from existing area-wide monitors are needed from each CBSA because they provide neighborhood scale data utilized by epidemiologists to determine the effectiveness of the health based NAAQS. In areas with only one area-wide PM<sub>2.5</sub> monitor, the monitoring agency may be unable to relocate its existing monitor. In such instances, EPA must provide full funding for the purchase, installation, and operation and maintenance of a new PM<sub>2.5</sub> monitor for location near roadway. Deployments in smaller CBSAs should be accomplished through EPA Regional Administrator coordination with the affected monitoring agency.

EPA should clarify that in those instances where the state or local agency believes relocation of a monitor will not affect their ability to adequately represent PM<sub>2.5</sub> concentrations, the new near roadway monitor is to be relocated from an existing site within the state. This will help ensure clarity between monitoring agencies and EPA Regional Offices when negotiating changes to monitoring network plans.

It is also important to note that the relocation of existing monitors does result in additional costs to state and local agencies, as it requires the use of additional staff time and resources. These costs must be fully funded. For those monitoring agencies that may not be able to relocate existing monitors – because they are needed to provide neighborhood scale data for a CBSA, for attainment planning or model confirmation, to address specific community-based air quality concerns, or because they are part of ongoing research efforts – full funding for the purchase, installation, and operation and maintenance of an additional monitor must be provided. We believe EPA has significantly underestimated the initial cost of the proposed monitoring requirements, as well as the costs of ongoing network operation.

Implementation Issues – NACAA also continues to encourage EPA to work with state and local agencies to address a number of complicated implementation issues that are raised by the near roadway monitoring network and nonattainment area designations. EPA should begin this discussion with state and local agencies as soon as possible, so that these issues are appropriately vetted and addressed in advance of any designation deadlines. NACAA is concerned about the general issue of how to address nonattainment based on a near roadway monitor reading. The Clean Air Act requires states to address and reduce emissions in order to achieve attainment, and the focus of the emission control effort is within a nonattainment area, typically a CBSA or county. In a near roadway, ultra-microscale environment, however, one issue that arises is what control measures – beyond federally required motor vehicle fleet standards that are beyond our control – are appropriate or effective for state and local agencies to take. EPA should consult with NACAA on implementation issues that arise when relevant regulatory nonattainment requirements are triggered by near roadway monitors. This should include a discussion of the appropriate use of the data in relation to stationary sources and for setting PM<sub>2.5</sub> background levels.

Black Carbon – NACAA strongly encourages EPA to support consistent measurement of black carbon near roadways. This is in line with CASAC, which recommended the inclusion of black carbon as a priority near roadway measurement.<sup>7</sup> Emissions of black carbon in the U.S. are primarily from mobile sources such as diesel engines and vehicles. Exposure to black carbon is associated with health effects consistent with exposure to PM<sub>2.5</sub>, including respiratory and cardiovascular symptoms and premature death.<sup>8</sup> EPA should identify consistent measurement of black carbon near roadways, and fully fund that measurement under Clean Air Act section 103.

#### Data Handling and Quality Assurance

Acceptance and Exclusion of Data – First, NACAA supports the move towards a “weight of evidence” approach to determining data quality and validity. However, there should still be a minimum set of requirements for data collection and reporting in order for data to be used for attainment/non-attainment decisions. These requirements should apply to all air quality data collected by state, local, and tribal agencies, but also to “secondary” data collected by other monitoring efforts. We propose that all secondary data that is to be used for NAAQS comparison must be submitted to Air Quality Systems (AQS) and certified by the Primary Quality Assurance Organization (PQAO). This will ensure the permanent public availability of the data in the official database of record. As these data have the potential to affect attainment/non-attainment designations, a state or local agency may wish to coordinate with the PQAO to ensure data quality. EPA should work with state and local monitoring agencies to develop a process for ensuring that any conflicts regarding data quality between PQAOs and state and local agencies are addressed.

We also propose that there be minimum time periods, sampling frequencies, and data completeness requirements for the use of secondary monitoring data appropriate to the form of the standard for a particular pollutant. For instance, at least three years of data are needed for ozone and PM<sub>2.5</sub> design value calculations. Lead monitoring should require at least three months

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<sup>7</sup> *Id.*

<sup>8</sup> See EPA: Effects of Black Carbon, available at: <http://www.epa.gov/blackcarbon/effects.html>.

of consecutive sampling for NAAQS comparison. A common sense approach to the assessment of data quality from a variety of air quality data sources is important, but there must be some minimum criteria to ensure transparency and fairness in the evaluation process, while allowing for nonattainment determinations when it is clear the standard is not being met. In addition to a set of minimum requirements, we suggest that EPA develop explicit guidance regarding the methodology and criteria for assessing validity of air quality data from secondary sources. Such data evaluations should be included as part of the five year Network Assessment.

Second, NACAA supports the proposed provision to exclude certain Federal Equivalent Method (FEM) PM<sub>2.5</sub> data from NAAQS comparison if certain performance criteria relative to the Federal Reference Method (FRM) are not met. The criteria for exclusion, as proposed, rely heavily on the equivalency testing criteria of Part 53. However, the testing procedures of Part 53 are very different from typical collocated network operation. While some aspects of Part 53 equivalency criteria may be relevant, others such as seasonality, frequency, and multi-monitor averaging are not relevant to network operation. Additionally, some differences are mentioned explicitly, the criteria for FEM exclusion should be revisited considering in-practice operations and data collection. We propose that EPA develop explicit guidance on the evaluation of FEM and FRM comparability, including: specific criteria for exclusion; the spatial extent to which exclusion could apply given limited collocated sites; discussion and acknowledgement of the known biases and causes of the discrepancies; the health-based rationale for data exclusion, as the NAAQS are based on studies primarily using FRM data; and an action plan for addressing shortcomings in the FEM equipment and/or the FRM method itself. Such guidance could be in the form of preamble language, technical assistance documents, official EPA guidance documents, or EPA reports. State and local agencies will need a solid basis for decisions on FEM data exclusion, and EPA must provide a comprehensive and public analysis to help support such decisions.

Acceptance and Exclusion of Monitors – NACAA suggests that EPA allow monitoring agencies to identify non-performing FEMs both prospectively and retrospectively. These new instruments are very complex and EPA has provided very little guidance on the acceptable operating ranges for the many critical instrument parameters that help assure that the instruments are producing valid data. We suggest that EPA work with state and local agencies to develop an acceptable approach for exclusion of data. EPA should also develop sample language for inclusion in individual agencies' PM<sub>2.5</sub> Quality Assurance Project Plans (QAPPs) regarding criteria for FEM data exclusion.

The Class III FEM designation criteria also need to be improved. The current criteria are flawed and have permitted the designation of a series of instruments that cannot adequately perform in actual monitoring situations. EPA recognized that the approved Class III FEMs do not produce data that compare acceptably to collocated FRMs in some areas, and the proposed regulation includes a requirement that these approved FEMs must meet all of the data objectives necessary for method designation for a period of at least one year after acceptance by a monitoring agency. While this is a good start, we are concerned that alone it may not resolve the problem because it does not address the data objectives used in the FEM evaluation protocols, which do not match the required routine operating schedules for monitoring agencies. For example, the FRMs used by monitoring agencies are operated from midnight to midnight while

the vendors used mid-morning to mid-morning for the FEM evaluation protocols. This difference creates a bias because the routine monitoring agency filter samples will retain a smaller proportion of volatile PM than the vendor operated FRMs. The vendors were also required to operate and average the results from triplicate FRMs and triplicate candidate FEMs. These averaged results are more stable and consistent than individual FRM and FEM data.

Timing – For some monitoring objectives, chemical and elemental analyses are performed after filters are weighed for mass. It is preferable to validate the filter mass data prior to chemical and elemental analysis such that resources are not wasted by processing filters that do not meet quality assurance requirements. The certification date should be extended to six months from the end of the quarter in which the data was collected to provide sufficient time for lead, CSN and IMPROVE data certification.

Speciation – We also note that it may be necessary for EPA to develop a laboratory audit program for laboratory speciation data from CSN. Currently, an EPA contract laboratory is supplying this data. However, should state and local monitoring agencies begin to establish their own laboratories or use other private laboratories for these analyses it will be necessary to develop a laboratory audit program in order to ensure that data are consistent. We note that agencies that may decide to continue to use the EPA contract laboratory, rather than establishing their own laboratory, should not be required to contribute grant funds to the development of a laboratory audit program.

On behalf of NACAA, we thank you for this opportunity to provide comments on the proposed PM NAAQS. We look forward to working with EPA as this important rulemaking continues and to successfully implement the final standards. Please do not hesitate to contact any of us, or Nancy Kruger or Misti Duvall of NACAA, if you have any questions or need further information.

Sincerely,



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