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February 4, 2010

Docket ID No. EPA-HQ-OAR-2007-0352
Environmental Protection Agency
Mail Code 6102T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Sir/Madam:

On behalf of the National Association of Clean Air Agencies (NACAA), thank you for this opportunity to comment on the proposed Primary National Ambient Air Quality Standard for Sulfur Dioxide, which was published in the *Federal Register* on December 8, 2009 (74 *Federal Register* 64810). NACAA is the national association of air pollution control agencies in 53 states and territories and over 165 metropolitan areas across the country.

I. NACAA Supports EPA's Proposal to Set a New 1-Hour Standard for Sulfur Dioxide

EPA is proposing to strengthen the primary National Ambient Air Quality Standard (NAAQS) for sulfur dioxide (SO_2) by establishing a new 1-hour standard at a level between 50-100 parts per billion (ppb). EPA is also proposing to revoke the existing 24-hour and annual primary SO_2 standards. As EPA's proposal follows the recommendations of the Clean Air Scientific Advisory Committee (CASAC), NACAA supports the agency's recommendations.

Exposure to SO_2 is linked to a wide variety of adverse health effects. SO_2 causes tightening of the airways, which worsens coughing and wheezing and increases asthma attacks. Exposure to SO_2 also increases the likelihood of being admitted to the emergency department or the hospital for breathing problems. Children, teens and older adults are at greatest risk, especially those with asthma. Over 50 peer-reviewed community health studies have been published since 1996 examining the effects of hourly and daily SO_2 concentrations on the rate of hospital admissions and emergency room visits for breathing problems. These studies show that current ambient SO_2 exposures are associated with adverse impacts to public health, thus showing a need for strengthening the standard.

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CASAC is EPA's Congressionally-chartered body of independent scientific advisers and is specifically charged in section 109 of the Clean Air Act with giving advice to the EPA Administrator on the setting and revising of NAAQS. In its comments on the second draft of EPA's risk and exposure assessment (REA), CASAC said it agreed with EPA on the need for a 1-hour standard and supported the proposed range identified in EPA's REA of 50-150 ppb.[1] CASAC said that it agreed with EPA that "the current 24-hour and annual standards are not adequate to protect public health, especially in relation to short term exposures to SO_2 (5-10 minutes) by exercising asthmatics."[2] With respect to the levels for a 1-hour standard, CASAC said that the REA "clearly provides sufficient rationale" for setting a level as low as 50 ppb.[3] CASAC said that an upper limit of 150 ppb "could be justified under some interpretations of weight of evidence, uncertainties, and policy choices regarding margin of safety."[4] However, we believe EPA has provided a strong justification for setting the upper limit of the range at 100 ppb. For example, EPA notes that a 99th percentile 1-hour standard at 100 ppb would likely protect approximately 97 percent of asthmatic children at moderate or greater exertion from experiencing at least one exposure at 200 ppb per year, whereas a standard of 150 ppb would only protect about 88 percent of asthmatic children at moderate or greater exertion from at least one exposure at 200 ppb per year. In addition, a standard level at 100 ppb would likely protect about 97-98 percent of exposed asthmatic children from experiencing at least one moderate or greater lung function response.[5] Given the Clean Air Act's requirement to set a NAAQS the attainment and maintenance of which is requisite to protect the public health *with an adequate margin of safety*, we believe a range of 50-100 ppb for a new 1-hour SO_2 standard is warranted and amply justified by the science.

Turning to the existing annual and 24-hour standards, CASAC was clear that revoking the annual standard was justified but was less certain in its comments about the 24-hour standard. CASAC said that EPA's REA "does a good job showing that an annual standard is not justified" and that CASAC was supportive of the discussion in the REA on discontinuing the standard.[6] With respect to the 24-hour standard, CASAC said that the REA "did not make a strong statement about whether the 24-hour standard should be retained, although the evidence presented (Table 10.3) was convincing that some of the alternative one-hour standards could also adequately protect against exceedances of the current 24-hour standard."[7] A 24-hour standard ensures that multiple exceedances in a day are accounted for, which a one-hour standard does not

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[1] Jonathan Samet, CASAC chair, "Letter to EPA Administrator Lisa P. Jackson Regarding CASAC's Review of EPA's Risk and Exposure Assessment to Support the Review of the SO_2 Primary National Ambient Air Quality Standards: Second Draft," (EPA–CASAC–09–007) (May 18, 2009) at p.1.

[2] Id. at 15.

[3] Id. at 16.

[4] Id.

[5] 74 *Federal Register* 64842.

[6] Samet, *supra* note 1, at 15.

[7] Id.

necessarily do. Because of asthmatics' sensitivity to SO_2, a one-hour standard alone may not be sufficiently protective. NACAA is supportive of revoking the existing 24-hour standard, as it is not protective of public health, but believes that EPA should explore setting a new 24-hour standard in a not-to-be-exceeded format, to protect against multiple high exposures in a day.

Given the extensive scientific evidence of SO_2's adverse health effects and CASAC's recommendations, NACAA supports setting a 1-hour standard for SO_2 between 50-100 ppb and revoking the 24-hour and annual primary standards. However, as discussed above, EPA should consider promulgating a new 24-hour standard to protect against multiple high level exposures in one day.

II. EPA Needs to Provide More Flexibility in the Monitoring Requirements and Fully Fund the Monitoring Program

a. EPA Must Develop More Flexibility in Monitoring Requirements to Avoid Duplication and Increase Cost Effectiveness

EPA is proposing a "two pronged" approach to monitoring activities. The first prong uses a Population Weighted Emission Index (PWEI). This combines emission inventories and population numbers to determine which CBSAs should have monitors and how many they should have. The second prong would place monitors based on state-level SO_2 emissions. These monitors would be placed as needed, based on the National Emissions Inventory (NEI), but without necessarily considering population exposure.

NACAA is concerned that the two pronged approach in the proposed regulation will lead to duplicative monitoring in some areas and require monitors in areas where monitors are not needed. EPA recognizes the potential for duplicative monitoring, but the proposal does not permit the removal of duplicative monitors. NACAA urges EPA to allow for the removal of redundant monitors. In addition, EPA should allow for removal of a monitor in the following situations: (1) where there is only one monitor for a given source or CBSA and data show that the concentrations in the area are less than 75 percent of the NAAQS; or (2) where there is more than one monitor in a given CBSA or for a given source and data show that concentrations are less than 80 percent of the NAAQS. Furthermore, in some instances, the PWEI does not appear to be well-correlated with ambient SO_2 concentrations. In order to reduce the number of potential monitors in areas where ambient levels are low, EPA should limit the total number of monitors required in CBSAs based on additional metrics, such as total number of monitors, historical data, area, trends analysis and/or modeling, and allow for removal of monitors as described earlier.

For source oriented monitors, placement at the point of 1-hour maximum concentration must be realistic and flexible. EPA must allow agencies to determine the most scientifically defensible location, while taking into account potential exposures and access to locations with adequate siting. NACAA encourages a process where Regions work with air monitoring agencies to meet this goal.

EPA is proposing to require agencies to use 5 minute averaging times, which are useful for identifying short term exposures and associated concentrations and can be used to identify potential sources if coupled with meteorological measurements. While this may be easily achievable for some agencies with the appropriate data collection infrastructure, requiring all agencies to perform these duties imposes significant costs. Many agencies do not have the capabilities to perform and review data on a smaller time scale than one hour. If EPA wants all agencies to develop these capabilities, EPA will need to provide significant additional funds and provide a longer time period for these upgrades to be performed.

EPA proposes that the SO_2 monitoring network be evaluated every five years. This is an unnecessary duplication of effort in light of the current requirements for the annual network plan and five year network review. The annual plan and five year review requirements are outlined in 40 CFR Part 58. The current requirements should be regarded as the primary source of monitoring network information for all NAAQS pollutant monitoring, regardless of the pollutant. If the agency adopts our recommendation to allow the removal of monitors that no longer demonstrate concentrations of concern, as we describe above, and state and local air agencies inform EPA of monitoring network changes (removals, additions and relocations), as required in 40 CFR Part 58, a separate evaluation of the SO_2 monitoring network will not be necessary.

b. SO_2 Monitoring Changes Must Be Fully Supported by New Federal Funding

NACAA urges EPA to provide full and adequate new federal funding to implement the changes the agency proposes in the SO_2 monitoring network. NACAA also believes, based on its calculations, that the agency has underestimated the costs of the proposed monitoring network. EPA believes that approximately $^1/_3$ of the estimated 348 monitoring sites will meet the proposed requirements, 115 new sites will need to be developed and 115 monitors can be relocated. EPA estimates each new site will cost $72,000, for a total of $8,349,000 for the 115 new monitoring sites required for this proposal. The agency also estimates that relocation of existing sites to meet proposed requirements will cost $28,100 per site, for a total of $3,231,500 for the 115 sites that are estimated to be moved. While we appreciate the breakdown of costs as a useful starting point, we believe the actual costs will be much higher, as explained below. It is also important to note that EPA's estimates do not include associated labor and annual operational costs, which strapped state and local agencies will have an extremely difficult time absorbing during this period of hiring freezes, attrition and increased monitoring requirements currently being considered.

State and local agencies believe actual development costs will likely be almost double EPA's estimates. NACAA estimates that site development costs alone, excluding all instrumentation, would be approximately $12 million (see cost comparison below). Capital costs for the network, as proposed, would be approximately an additional $10 million. In addition, it is estimated that each new monitor placed will require a minimum of ½ FTE to produce the final data, which is not accounted for in EPA's estimates. Even with the potential flexibility and associated cost savings produced by recommendations discussed in these comments, state and local agencies simply cannot continue to absorb unfunded costs associated with this and other network expansions, such as the lead and near roadway NO_2 networks.

	EPA Estimate			NACAA Estimate		
	Development	Capital	Annual Operation/Data Reduction	Development	Capital	Annual Operation/Data Reduction
118 Existing	N/A	None	No Increase	N/A	$1,180,000	No Increase
115 Relocated	$3,116,500	$115,000	None	$5,895,475	$3,622,500	No Increase (if already funded)
115 New	$2,829,000	$5,520,000	None	$6,177,800	$5,520,000	$3,500 + ½ FTE (per site)
Total Network Costs			$11,580,500	Excluding Additional Labor		$22,798,275

Without additional funding, state and local agencies will find it impossible to do this additional monitoring.

c. EPA's Monitoring Approach for Criteria Pollutants Reflects a Different Direction Than the National Monitoring Strategy and Will Entail Significant Work for State and Local Agencies That EPA Must Be Prepared to Fully Fund

EPA and NACAA jointly developed a National Monitoring Strategy that provided a framework for operation and maintenance of the national air monitoring networks. The primary purpose of the National Monitoring Strategy was to gain a better understanding of the relationships and potential reaction in the atmosphere of various pollutants, develop a strategy to apply the lessons learned and use the information developed for a variety of purposes, not just for determining attainment/non-attainment. It also described a zero sum gain philosophy where there were limited additional resources available for monitoring activities.

NACAA is concerned that EPA appears to be changing the focus of the monitoring program as currently described in the National Monitoring Strategy from recording ambient measurements to measuring emissions from sources, based on the more source-oriented monitoring lead, NO_2 and SO_2 proposals. NACAA estimates that the cost of this new focus on source oriented monitoring will be in the range of $75 million (not considering the cost of rural ozone monitoring) only for the required and proposed monitoring by EPA regulations. If this is the direction that EPA wishes to take, the Monitoring Strategy should be updated to reflect the changes to the agency's goals and objectives so that future changes to the various networks can be economically accomplished. Even though there could be increases in STAG funds, there will be considerable shortfall in the funding of the new monitoring requirements and there could be other more important program needs.

The National Monitoring Strategy must be updated to reflect the recent change in emphasis to source oriented monitoring. This effort to update the strategy should focus on how the monitoring program in the future can generate data to produce a better understanding of what is happening in the environment, but the effort also must recognize that a monitoring program

also needs to be cost-effective. For example, the near roadway network proposed for NO_2 could be utilized in the future for PM, CO and toxic compounds sampling. Significant cost savings could be realized if state and local agencies know future expansion is a possibility and if siting requirements in regulations are proposed in such a way to allow for this. NACAA urges EPA to update the National Monitoring Strategy with NACAA collaboration and input that incorporates this new direction along with the different philosophies and funding issues involved. Additionally, EPA should consider developing a strategy that allows for research through intense small monitoring networks to determine proper siting prior to the deployment of full monitoring programs. Working with NACAA partners, lessons learned in the smaller, more focused networks could then be used to build more cost effective, scientifically sound national networks.

Furthermore, the agency must develop methodologies to cost effectively collect data and, as explained above, provide flexibility to state and local agencies to properly site monitors and provide for removal of monitors where an agency can demonstrate that health impacts are not likely to occur in the area represented by that monitor.

The new monitoring networks EPA is proposing require more resources and staff to locate, develop, operate and maintain. State and local agencies must receive full funding, including funding for necessary increases in staff and operation and maintenance costs, to perform these duties. This funding should be provided under section 103, rather than section 105, which requires matching funds from state and local agencies. NACAA strongly urges EPA to adjust its estimates and provide all funding to adequately address these needs. In addition, since the zero sum gain philosophy described in the National Monitoring Strategy no longer seems applicable, EPA should update the document to identify a clear funding mechanism (section 103) or consider promulgating regulations that make the sources pay directly for the monitoring efforts carried out by state and local agencies.

III. NACAA Supports EPA's Approach to Designations and Transition

EPA's schedule for designating areas takes into consideration the schedule for implementing the new monitoring network. As the new monitoring network requirements will not apply until January 1, 2013, EPA intends to complete designations on a two-year schedule, by June 2012, based on three years of complete, quality assured, certified air quality monitoring data from the current monitoring network. If a monitor in the existing network indicates a violation of the 1-hour SO_2 NAAQS, EPA intends to designate the area nonattainment, regardless of whether or not the monitor is located such that it could be counted towards meeting the proposed new network requirements. However, if the monitor indicates that the monitoring site meets the 1-hour SO_2 NAAQS, EPA's decision on the designation of the area would be made on a case-by-case basis.[8] NACAA supports this approach as it ensures public health protection.

With respect to transitioning from the current to the proposed new SO_2 standard, the agency is proposing that the existing NAAQS "remain in place for any current nonattainment

[8] 74 *Federal Register* 64859.

area, or any area for which a state has not fulfilled the requirements of a SIP call, until the affected area submits, and EPA approves, a SIP with an attainment demonstration which fully addresses the attainment requirements of the revised SO_2 NAAQS."[9] For attainment areas, EPA is proposing that the current SO_2 NAAQS would remain in effect for one year following the effective date of the initial designations under section 107(d)(1) for the revised SO_2 NAAQS before the current NAAQS are revoked in most attainment areas. However, any existing SIP provisions under sections 110, 191 and 192 of the Clean Air Act associated with the existing annual and 24-hour SO_2 NAAQS would remain in effect, including all currently implemented planning and emissions control obligations, including both those in the state's SIP and that have been promulgated by EPA in FIPs.[10] NACAA supports this approach as it provides strong anti-backsliding protections.

IV. NACAA Supports Revisions to the Air Quality Index to Conform with the New Primary Standard for Sulfur Dioxide, if Promulgated

NACAA commends EPA for proposing conforming changes to the Air Quality Index (AQI) for SO_2 at the same time the agency is proposing revisions to the primary standard. The AQI is an effective tool for informing the general public about their air quality and the associated health effects. In proposing revisions to the AQI, EPA has requested comment on the AQI value of 100 and the other breakpoints at the lower end of the AQI scale (i.e. AQI values of 50 and 150). EPA is not proposing to change the breakpoints at the higher end of the AQI scale (i.e. AQI values of 200 to 500). An AQI value between 0-50 indicates "good" air quality; 51-100 indicates "moderate" air quality; 101-150 indicates "unhealthy for sensitive individuals" air quality; and above 151 indicates "unhealthy" air quality. NACAA supports EPA's proposal to finalize conforming changes to the AQI, if revisions to the primary standard for SO_2 are promulgated. EPA is proposing to set the AQI breakpoint of 100 at the short-term primary standard in the range of 50-100 ppb SO_2, one-hour average. Historically, it follows that the AQI breakpoint for 50 would then be set at the annual standard, if there is one, or at one-half the short-term primary standard, or in the range of 25-50 ppb SO_2, 1-hour average. If the short-term standard is set above 100 ppb (contrary to EPA's proposal), and the annual standard is not revoked, then the AQI value of 50 would be set at the annual standard of 30 ppb SO_2. Correspondingly, the AQI breakpoint of 150 is historically set approximately equidistant from the AQI values of 100 and 500, unless there is health evidence that suggests a specific level to be appropriate. EPA proposes to set the AQI breakpoint value for 150 in the range of 175-200 ppb SO_2, 1-hour average and for 200 at 300 ppb SO_2, 1-hour average. As NACAA supports the ranges for the standard proposed by EPA, NACAA accordingly supports the levels for the AQI proposed by EPA. Additionally, NACAA requests that EPA work with state and local agencies to develop a forecast model and appropriate guidance for incorporating SO_2 into their daily air quality forecasts.

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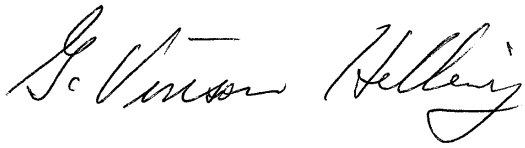
[9] 74 *Federal Register* 64864.

[10] Id.

Thank you for this opportunity to comment on the proposal. Please free to contact us if we can provide additional information.

Sincerely,



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