NACAA
national association of clean air agencies

July 22, 2013

Mr. James Thurman
Mr. Nealson Watkins
Air Quality Assessment Division
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency

Dear Messrs. Thurman and Watkins:

On behalf of the National Association of Clean Air Agencies (NACAA), thank you for this opportunity to comment on EPA's *Draft SO_2 NAAQS Designations Modeling Technical Assistance Document* and *Draft SO_2 NAAQS Designations Source-Oriented Monitoring Technical Assistance Document* (respectively, the "Modeling TAD" and the "Monitoring TAD"), which were released for public review on May 21, 2013. NACAA is a national, non-partisan, non-profit association of air pollution control agencies in 43 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. These comments are based upon that experience. The views expressed in these comments do not necessarily represent the positions of every state and local air pollution control agency in the country.

The draft TADs comprise EPA's recommendations to air pollution control agencies on how to appropriately characterize the ambient air quality in the vicinity of large sulfur dioxide (SO_2) emissions sources for the purpose of making area designations under the June 2010 1-hour SO_2 National Ambient Air Quality Standard (NAAQS). Recognizing the practical resource constraints that states and localities face in the deployment of new SO_2 monitors, EPA is pursuing a "dual-pathway" approach to designations that allows state and local agencies to employ air dispersion modeling, ambient monitoring, or some combination of the two in the designations process. Because the potential modeling and monitoring strategies are complementary, NACAA is presenting its comments on both draft TADs in one letter.

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I. General Comments

A. Future Data Requirements Rule

Until state and local air pollution control agencies know how many sources within their jurisdictions will trigger ambient air quality characterization requirements, they cannot make any significant planning decisions or resource commitments for SO_2 designation purposes. This will not occur until EPA finalizes a data requirements rule that sets forth the criteria for identifying the sources for which air quality must be characterized—in particular, the SO_2 emissions thresholds to be incorporated in that rule. We understand that EPA anticipates finalizing the data requirements rule in 2014. NACAA urges EPA to complete this process as soon as possible. Our members cannot conduct modeling, or design and operate new monitoring networks, for requirements that have not been defined. In addition to establishing clear-cut emissions thresholds below which sources do not need to be modeled or monitored, a *de minimis* level should be established to designate areas as attainment where few or no SO_2 sources operate.

After the data requirements rule is finalized, NACAA recommends that EPA issue a revised draft TAD that combines the draft Modeling TAD and Monitoring TAD into one document. There may need to be further discussions on the coordination of modeling and monitoring. The technical issues associated with monitoring and modeling strategies are inextricably intertwined. For example, decisions over the siting of new air monitors will almost inevitably involve at least some amount of screening modeling. Also, where modeling is the primary means to determine designation, there may be justification to site one or more monitors to verify the modeling predictions. Modeling and monitoring staff should be looking at these important issues collaboratively.

B. Timing

Under EPA's current timeline, area designations based on modeling data would be made in 2017, but designations based on source-oriented monitoring would be made in 2020, to allow for the collection of three years of monitoring data. NACAA urges EPA to address this issue, perhaps by synchronizing the timelines for both approaches. If modeling is done by 2017 or earlier, EPA should allow confirmatory monitoring by 2020 if the modeling results show marginal attainment or nonattainment.

II. Comments on the Draft Modeling TAD

A. Emissions Inputs

The Modeling TAD contains EPA's recommendations for using dispersion modeling as a "surrogate" for three years of ambient monitoring data, because designations are typically established based on an area's three-year design value. Accordingly, EPA recommends that states conduct modeling with AERMOD using the three most recent years of temporally varying actual emissions data (except in cases where modeling the most recent three years of allowable emissions would demonstrate attainment based on those more conservative emissions assumptions). EPA recommends that continuous emissions monitoring system (CEMS) data be

used where available. NACAA concurs. In addition, EPA should address what emissions inputs should be used for hours where CEMS data are missing (or if those hours should be ignored instead).

NACAA recommends that EPA change the recommended emissions inputs from the "most recent three years" of emissions data to the "most recent *representative* three years" of data. It is more important to exclude emissions data from years with abnormal operations than to use the most recent data, especially when a source operated with extended periods of closure or significantly decreased operations. EPA should also recommend a process for substantiating whether the most recent three years of CEMS data are representative.

B. Meteorological Data

Along with the three years of actual emissions data, the draft TAD calls for the most recent three years of (i) site-specific meteorological data or (ii) adequately representative National Weather Service (NWS) data to be used in designations modeling, on the theory that these data would provide the best simulation of emissions concentrations that would otherwise be detected by three years of source-oriented monitoring. As EPA recognizes, this recommendation diverges from the *Guideline on Air Quality Models* (40 C.F.R. Part 51, Appendix W), which calls for the input of either one year of site-specific meteorological data or five years of representative NWS meteorological data in SIP planning and permitting applications. Because designations modeling has a different objective than other regulatory applications, EPA believes this departure from the *Guideline* is appropriate.

NACAA is concerned that in many if not most cases, there will probably not be enough time to collect three years of on-site meteorological data before the 2017 modeling deadline, because agencies will not know which sources to model until the data requirements rule is finalized. Sources do not typically collect on-site meteorological data on an ongoing basis; instead, they usually only collect data for one year in accordance with the *Guideline*. When collected appropriately, on-site data will always be more representative of the area around the modeled source than off-site NWS data. Thus, EPA should reconsider allowing for the use of one year of on-site data in designations modeling, instead of three years, where quality on-site data are available. Alternatively, EPA should consider whether it would be appropriate to develop a method for combining one year of on-site meteorological data with two additional years of representative NWS data for use in the designations modeling.

C. Interstate Issues

There will likely be situations where modeling results indicate nonattainment in neighboring states. EPA's role in such circumstances should be defined and requirements should be identified to address such findings.

III. Comments on the Draft Monitoring TAD

A. Lack of Approval Criteria for Monitor Siting

NACAA is very concerned that the draft Monitoring TAD fails to provide concrete, definitive criteria for what constitutes an adequate SO_2 air monitoring network. EPA discusses a wide array of information-gathering measures and approaches that air pollution control agencies *could* take in determining the appropriate number and locations of source-oriented monitors. It recommends that the agencies pursue as many such measures as possible (e.g., page 10: "…EPA suggests that the more data and analysis that goes into a source-oriented monitoring site evaluation process, the more appropriate the resulting monitoring network will be…")—but the Agency declines to establish minimum criteria to define what is reasonable and appropriate. Instead, EPA declares that "each situation will be case-specific," thus placing the burden of monitoring network design entirely on the shoulders of state and local air pollution control agencies.

EPA should not absolve itself from responsibility for network design in this manner. State and local agencies would be left with the responsibility of "proving" that their siting decisions are adequate without any supporting EPA standards to rely upon to justify those decisions. Placing an ambient monitor in every neighborhood that requests one is not realistic. State and local agencies may face enormous resource demands in responding to public concerns and negotiating monitor siting decisions for large numbers of emissions sources. Furthermore, under the draft TAD's "case-by-case" approach, there would be nothing to ensure consistency among EPA regions in their network plan approval processes.

NACAA recommends that EPA develop a definitive set of monitoring network approval criteria, with input from state and local agencies, and that it incorporate these criteria into the data requirements rule and the revised TAD. EPA should provide a method to quantify a reasonable minimum number of monitors per significant SO_2 emissions source at the most scientifically defensible locations. One possibility would be to establish a presumption that one monitor per source located at the highest expected 1-hour emissions concentration (where monitor siting is not precluded due to terrain or other issues) is sufficient under some defined conditions, with additional monitors required under specified circumstances, e.g., if the existing monitor finds SO_2 concentrations in excess of a certain percentage of the NAAQS. EPA should also consider setting an upper limit of requisite monitors per source.

B. Exploratory Monitoring for Monitor Placement

EPA states that passive SO_2 monitoring methods are "not the recommended method of choice for conducting exploratory monitoring to aid in determining where to place source oriented SO_2 monitors" and concludes that such methods should be used only as a "backup" to other exploratory monitoring methods. NACAA disagrees with EPA's assessment of the utility of passive monitors and recommends that this language be revised. Passive samplers are effective at assisting in the determination of spatial gradients of SO_2 around a source. EPA used passive samplers for preliminary siting assessments in the Near-road NO_2 Pilot Study; they should be no less acceptable in exploratory SO_2 monitoring.

EPA also discusses the potential use of emerging, low-cost "sensor" technologies in exploratory monitoring applications, but it provides no information on the accuracy of any potential approaches involving sensors. Undoubtedly, technological developments in this area will continue to progress over the coming years, but at the present time, information confirming the quality of data from such devices is generally lacking. Sensors should not be employed in exploratory modeling applications without a clear understanding of their limitations with respect to accuracy, utility, and reliability.

C. Lack of Monitor Shutdown Criteria

The draft TAD does not discuss circumstances under which air pollution control agencies may shut down SO_2 monitors that were established for the purpose of SO_2 area designations. Agencies should have the ability to efficiently shut down monitors that are no longer necessary. Because SO_2 designation monitoring is source-oriented, any change in the source, such as a fuel change or reduced hours of operation, should trigger a process for consideration of whether the monitor may be removed from a state's network plan. NACAA recommends that EPA develop detailed criteria in this regard and incorporate them in the TAD. EPA should also recommend a monitored SO_2 emissions level, measured over a specified period of time, below which a monitor may be shut down.

D. Funding

In the current economic climate, many states and localities simply do not have the resources to deploy new SO_2 monitors. Thus, it is necessary to consider alternative sources of funding, including requiring the significant SO_2-emitting facilities themselves to pay for the installation and operation of new source-oriented monitors. NACAA requests that EPA expressly acknowledge that states and localities may impose such requirements. In all events, implementation of the 1-hour SO_2 standard will place significant new demands on the limited resources of state and local agencies. It is wholly appropriate for industry to share these costs so that we all may experience the health benefits of the new standard.

Again, NACAA appreciates this opportunity to comment on the draft Modeling and Monitoring TADs. Please do not hesitate to contact us, or Karen Mongoven of NACAA, if you have any questions or would like additional information.

Sincerely,

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