TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 18, 2013

<Submitted electronically as requested>

U.S. Environmental Protection Agency
Nealson Watkins
watkins.nealson@epa.gov

Re: TCEQ Comments on EPA's Draft Source-Oriented Sulfur Dioxide (SO2) Monitoring Technical Assistance Document"

Dear Mr. Watkins:

The Texas Commission on Environmental Quality (TCEQ) appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA) draft Sulfur Dioxide (SO_2) Monitoring Technical Assistance Document (TAD). This draft TAD was posted on EPA's website on May 21, 2013.

Enclosed, please find the TCEQ's detailed comments relating to the draft TAD referenced above. If you have any questions concerning the enclosed comments, please contact Ms. Staphanie Ma, Network Coordinator in the Monitoring Division of the Office of Compliance and Enforcement, (512) 239-5256, or at stephanie.ma@tceq.texas.gov.

Sincerely,

Zak Covar
Executive Director

Enclosure

Texas Commission on Environmental Quality Comments to the U.S. EPA on the Draft *SO_2 NAAQS Designations Source-Oriented Monitoring Technical Assistance Document*

The Texas Commission on Environmental Quality (TCEQ) has developed comments on this draft technical assistance document (TAD). Any comments provided in this document are not an endorsement of the SO_2 Strategy to deploy additional monitors to characterize air quality for designation purposes but are intended as input in the event that the EPA chooses to proceed with such a requirement.

I. Background

On May 21, 2013, the EPA published two draft TADs for states implementing the 2010 sulfur dioxide (SO_2) national ambient air quality standard (NAAQS). These documents provide technical guidance on the use of modeling and monitoring to determine if an area is in compliance with the 2010 SO_2 NAAQS. The EPA is accepting comments on these documents for 60 days prior to finalizing the TADs. Comments offered below refer to the Draft *SO_2 NAAQS Designations Source-Oriented Monitoring Technical Assistance Document*. The TCEQ appreciates the opportunity to comment on this document.

II. TCEQ Comments on the EPA's Draft Monitoring TAD by Section

A. Section 1, Introduction

1. The TCEQ supports the use of ambient air quality monitoring data for SO_2 as the only valid basis for making attainment or nonattainment designations and believes the existing monitoring network is adequate for making attainment designations. The TCEQ does not support the use of modeling as the basis for designations. Such a designation has serious consequences to industry, the economy of an area, its citizens, and the state. Nonattainment designations should only be made based on data from 40 CFR Part 58 compliant (regulatory) monitoring showing a violation of the standard. Using modeling to determine a nonattainment designation could result in major capital expenditures for industry to "fix" something that may not be a real problem. To designate an area based on modeling is inconsistent with historical and present policies of the EPA. The TCEQ also does not support the *required* use of modeling to determine placement of monitors. Modeling could be useful for determining monitor placement in some cases, but should be a tool used at the discretion of states, locals and tribal areas. The TCEQ offers the following comments regarding concerns with the proposed use of modeling in monitor siting decisions.

2. The EPA should reconsider the unreasonable planned implementation strategy timeline provided in the SO_2 Strategy Paper[1]. This timeline is not achievable because critical elements (such as criteria for characterizing sources, emissions thresholds for monitoring of sources, and proximity to population) are not anticipated to be provided to states until the data requirements rulemaking is released in 2014, just two years before both modeling and monitoring plans must be finalized.

   To meet the planned implementation strategy timeline, states would have to work unproductively, with little time for verification or testing of the information. States would need to conduct preliminary evaluations without knowing the data requirements, which would result in significant staff and resource investments in reworking evaluations and models with no clear benefit. States would then have only one year to determine, in consultation with sources and EPA, the sources and areas that will be subject to new monitoring and/or modeling requirements; develop a strategy; gather needed information; develop modeling protocols; and complete the preliminary monitor deployment plan. For Texas, this could involve evaluation of hundreds of sources and unique circumstances.

   Without clear knowledge of the threshold and population limits, TCEQ cannot adequately prepare so that it meets the implementation strategy deadlines. Any work conducted before the data requirements rule is finalized will have to be recreated under the final requirements. In addition, because there is no mention of modeling protocols required for monitor placement, a substantial amount of both state and EPA staff time will be required to create a model that suits both entities.

   Even after the modeling protocol is approved, EPA did not allow states enough time to finalize the modeling and deploy monitors. Any new monitors must be deployed and modeling completed by January 2017, which leaves only six months for EPA's evaluation and approval of the plan and the states' implementation and deployment of the plan. Assuming that an emissions threshold and other tools limit the number of sites to be modeled to approximately 25 individual sites and about six complex (conglomerations of) sites, the modeling itself could be completed in approximately one year with a team of six to eight modelers and analysts working full-time. The one-year estimate is likely conservative as states do not already have these resources. At least two to three additional years would be required to perform site visits, propose monitor locations, provide public notice, secure the monitoring locations, prepare the new site, install the monitors, and perform system tests. Six months is an insufficient amount of time for EPA regional staff to review and comment on the protocols and is certainly not enough time to complete all the necessary tasks required to deploy and begin operation of monitors on January 1, 2017.

3. The TAD does not address the cost of operating and maintaining the expected number of additional SO_2 sites needed to characterize ambient air quality near sources. The cost to implement monitoring at a single site per source is approximately $80,000 for the initial deployment and an additional $45,000

[1] Next Steps for Area Designations and Implementation of the Sulfur Dioxide National Ambient Air Quality Standard, February 6, 2013 (SO_2 Strategy Paper)
http://www.epa.gov/airquality/sulfurdioxide/pdfs/20130207SO2StrategyPaper.pdf

annually to operate the site. If the TCEQ were to deploy one new monitor at just 25 sites, this would cost approximately $2,000,000 for the initial deployment and $1,125,000 annually for the operations. States do not have the resources to absorb this additional cost. Additional federal grant funding under Sections 103 (for the initial deployment of the sites) and 105 (for the continued operations of the sites) of the Clean Air Act would need to be provided by the EPA to meet the requirements in this TAD. The implementation timeline would also need to be extended for an additional three years to allow sufficient time for the EPA to provide grant funding and for states to obtain approval for monitoring equipment purchases and capital expenditures.

B. Section 2, Information Gathering to Support Site Selection Process

1. The TCEQ supports the TAD's suggestion to restrict the source evaluations to include only larger emission sources, as well as the suggestion that proximity to population is another consideration factor. The suggestion that states should also evaluate the emissions controls in place is not relevant to determining compliance with the SO_2 NAAQS and should be removed from this section of the TAD.
2. The TCEQ agrees with the EPA's suggestion to evaluate and use existing monitoring data to assist in siting a new monitor, whether or not it meets the full requirements for SLAMS monitoring, unless the data are not of high quality. The TCEQ also supports the TAD's suggestion that the TCEQ may become the Primary Quality Assurance Organization for certain privately produced data if the TCEQ uses the data to demonstrate NAAQS compliance.
3. The EPA should exercise caution when using existing modeling during the monitoring site evaluation process. The draft states that, "If existing modeling results are identified and available, they should be included in the monitoring site evaluation process, as those modeling results will likely provide data indicating where locations of ambient SO_2 concentration maxima may occur." The use of modeling results should be up to the state or local monitoring agency and dependent on the quality and applicability of the modeling for its intended purpose. Though existing modeling may provide some information regarding new monitor placement, caution should be used as the purpose of the modeling was not for monitor placement based on the 1-hour SO_2 NAAQS. Past modeling would have been used to show compliance with the 3-hour, 24-hour, or annual SO_2 NAAQS that not only have a different averaging time than the 1-hour NAAQS, but are deterministic (H2H) standards rather than the probabilistic form of the 2010 1-hour NAAQS (99^{th} percentile of the daily 1-hour maxima). The emission rates used in existing modeling would represent worst case rates rather than actual rates, and the stack heights are based on good engineering practice (GEP) rather than the actual stack height. The predicted concentrations from this type of modeling may not be indicative of actual air quality or the actual dispersion pattern of air contaminants. Furthermore, if the past modeling is sufficiently old, it would have been executed with older models, such as Industrial Source Complex Short Term (ISCST3), rather than the current preferred model, AERMOD. Using the same input data, AERMOD results may show maximum concentrations in different locations. For all these reasons, past modeling

is of extremely limited value, and additionally, may be difficult to find and access. Therefore, a presumption of its usefulness is inappropriate. If past modeling is available, states should have discretion regarding its evaluation and use.

4. The TCEQ agrees with the draft TAD's suggestion that representative meteorological data is an important consideration for the site selection process. However, the TAD inappropriately states that meteorological data from adjacent and separate neighboring valleys are not sufficient, and states and local agencies should consider the installation of one or more meteorological stations to site new SO_2 monitors. Installing meteorological stations to locate new SO_2 sites would be resource intensive and would not allow sufficient time to meet the timeline outlined in the SO_2 Strategy Paper.

C. Section 3, Approaches to Ambient Monitor Siting

1. Although the TCEQ did not completely agree with the EPA monitoring approach for lead (Pb), the Pb NAAQS offers the only other source-oriented monitoring strategy for criteria pollutants. The entire proposed source-oriented SO_2 monitoring TAD diverges significantly from this Pb approach. Unlike the proposed SO_2 TAD, the Pb NAAQS rule places the emphasis on the emission threshold by requiring at least one maximum-concentration, source-oriented ambient air quality monitor for each Pb source or cluster of Pb sources with actual annual emissions larger than 0.5 – 1.0 tons per year, depending on source type (75 FR 81126, 81138). In practice, the Pb monitoring requirement has been one appropriately placed maximum-concentration, source-oriented monitor for sources without ambient monitoring data or other history suggesting that nonattainment exists.

   The TCEQ urges the EPA to similarly place emphasis on emissions thresholds for determining whether or not each existing SO_2 source appears to have the potential to cause nonattainment where actual public exposure in ambient air is likely to occur.

2. The TCEQ supports the use of actual emissions modeling as an important input into any modeling that a state may perform to help site source-oriented SO_2 monitors.

3. The EPA should explicitly state that it is not necessary to model in locations around a source that are not feasible for monitor placement. The EPA discusses receptor placement for the modeling demonstrations and reasonably suggests that the modeling could ignore those locations that are not feasible as ambient monitoring locations. However, the EPA implies that this approach may not be allowable.

4. The EPA's discussion of using exploratory monitoring for permanent monitoring placement is too resource intensive and does not allow sufficient time to meet the timeline outlined in the SO_2 Strategy Paper. The TAD states that exploratory monitoring would need to be conducted year-round using methods that provide "highly time resolved data (i.e., data production on the order of minutes to hours)." The TAD discusses the use of non-reference or equivalent method sensor and sampler technology to conduct exploratory monitoring but then points out that it is difficult to assess the accuracy and precision of these methods without using collocated sensors in the field. The cost associated with procuring these sensors in

order to deploy collocated samplers around the expected number of SO_2 sources, even those above a likely emissions threshold, would be cost prohibitive.

D. Section 4, Source-Oriented SO_2 Monitor Site Selection

1. The TCEQ again urges the EPA to place a greater emphasis on SO_2 emissions thresholds in determining whether or not each existing SO_2 source appears to have the potential to cause nonattainment where actual public exposure in ambient air is likely to occur.

   The TCEQ also urges the EPA to modify the guidance to recognize the type of public exposure the primary SO_2 NAAQS is designed to prevent: exposure of an exercising asthmatic to short-duration SO_2 concentrations that can induce mild, reversible changes in respiratory function. The TCEQ urges the EPA to allow that the maximum-concentration, source-oriented SO_2 monitor sited to determine attainment or nonattainment of the primary SO_2 NAAQS be placed as close as feasible to the predicted maximum-concentration location at which actual public exposure of the type the SO_2 NAAQS is designed to prevent is reasonably likely to occur.