

Questions from Indiana Department of Environmental Management on the Consent Decree “Down Payment” modeling and answers from EPA Region 5 (*in red italics*).

- 1) One overriding question: are the approaches mentioned at the end of page 4 through page 7 of the March 20, 2015 memo “Updated Guidance for Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standards” all associated with the consent decree and required by September 18th deadline?

Yes, the modeling and boundary information in the March 20th Updated Guidance memo is applicable to the recommendations due Sept. 18th.

Are the next steps necessary to meet the requirement of the consent decree to model allowable emissions for an attainment demonstration to identify Attainment Areas, as listed in Page 5 and submit this analysis by the September 18th deadline? The way the March 20th guidance is set up, it is unclear whether this is a multi-step process: model actuals then model allowables to determine either nonattainment boundaries or identify attainment areas or are we only modeling actuals to determine source impacts and that is all that is necessary.

The updated recommendations you submit on September 18th would include information on nonattainment areas including boundaries along with any attainment area recommendations. Using allowable emissions isn't necessary to recommending attainment based on modeling. That can be done using actual emissions as discussed in the Modeling TAD. Although it's not a final rule, the proposed Data Requirement Rule also discusses several options for ensuring continued compliance if actuals are used in the modeling. The final rule is due out late summer/early fall. One way to ensure continued compliance is to use allowable emissions.

- a. If the actual emissions are modeled and indicated no violation of the 1-hour SO₂ NAAQS, is there any additional analysis necessary, such as any meteorological or other weight of evidence analyses?

EPA will consider all available evidence in promulgating its designations. Nevertheless, in absence of contrary information (e.g. monitored violations), additional information is generally not necessary to confirm results based on modeling using actual emissions that the area is attaining. Additional analyses could be conducted and submitted as weight of evidence but that isn't required. However, additional analyses would be needed to determine boundaries.

- b. On the flip side, if 1-hour SO₂ violations are modeled using actual emissions, would the area automatically be assumed nonattainment or would we want to work with sources to come up with a strategy to lower modeled concentrations? We want to make sure

the intent of this process is to evaluate the most current emissions to determine concentrations for area designation purposes only.

The proposed Data Requirement Rule discusses the possibility of working with sources to implement controls or lower limits if that would eliminate the modeled violations. Since designations are intended to reflect current air quality, EPA considers such emission reductions only if they have occurred by the time EPA promulgates the designation, enough in advance of the designation to be able to confirm that emissions are reduced, and perhaps only if the reduction is enforceable. The state should consult the region in any case where such emission reductions are under consideration.

- 2) We assume we will use background concentrations in the actual emissions modeling results, similar to the adjusted 1-hour SO₂ background used for the 1-hour SO₂ nonattainment area modeling? Pick the nearest SO₂ monitor or a representative SO₂ background monitor?

Representative background concentrations should be added to the modeled analysis to represent the SO₂ contribution from small sources not being explicitly modeled as well as distant sources and natural background. Additionally, nearby significant sources should be included in the modeling. Guidance is available in the modeling TAD. This would be something to include in the protocol.

- 3) Along with the hourly CEM emissions data, would EPA prefer to have the corresponding varying hourly stack parameters such as stack temperature and flow rate from the CEM data modeled as well?

Our preference is to include the temperature and velocity hourly data if it's available. It would more accurately represent the impacts from the source in question and would provide a more realistic assessment.

- 4) Consent Decree source: there are two other sources in the county with SO₂ emissions exceeding 475 tons/yr. Is there a threshold for emissions and/or distance from the sources listed that we could use to screen out other sources from the impact area?

There is no emission threshold bright line that would be used to screen out sources. Modelers' judgment, along with applying the guidance available in the TAD document, and associated references, should be used to determine if nearby sources cause a significant concentration gradient in the area of interest around the primary source. This decision needs to be made in conjunction with the determination of an appropriate background monitored value. Again, this is something to include in the protocol document.

- 5) Initial modeling will be using 2011 -2013 emissions and meteorology until 2014 emissions and meteorology is available, hoping by mid-summer. We will be contacting sources to get 2011

through 2014 hourly CEMs data and will be finishing the 2013 and 2014 meteorological data very soon.

FYI, the updated version of AERMET should be available around the time that the App. W changes are proposed...approximately late May/early June?? I'd recommend using the most recent version of AERMET. Or, if met data has already been processed, I'd recommend evaluating whether the changes in the most recent version are likely to be significant to your application when deciding whether to reprocess. The most recent version of AERMOD should be used.

- 6) Guidance mentioned placing receptors only in locations where a monitor could be placed (assuming bodies of water, other company properties, etc)? Are there other areas that a monitor could not be placed that we could consider?

No other areas come to my mind but I'm sure this question will come up as we examine source specific modeling applications.