

A large, faint watermark of the Environmental Protection Agency (EPA) logo is centered in the background. The logo features a stylized flower with three leaves and a circular seal containing the text "UNITED STATES ENVIRONMENTAL PROTECTION AGENCY".

# 1-Hour SO<sub>2</sub> NAAQS Modeling/Monitoring/Etc.

Erik Snyder

Lead Regional Air Quality Modeler  
EPA Region 6

CENSARA/LADCO April 24, 2014



**POSITIONS or VIEWS  
EXPRESSED DO NOT  
REPRESENT OFFICIAL EPA  
POLICY  
..... Or DRAFT Policy**

TWO DRAFT Documents released in December  
2013

**SO<sub>2</sub> NAAQS Designations Source-Oriented  
Monitoring Technical Assistance Document  
and  
SO<sub>2</sub> NAAQS Designations Modeling  
Technical Assistance Document**

In the Draft Monitoring Document it included three suggested approaches (or combinations) for selecting source oriented SO<sub>2</sub> monitoring sites are:

- 1) conduct new modeling to aid in candidate site identification,
- 2) conduct exploratory monitoring to inform permanent monitor placements,
- 3) take advantage of existing emissions, monitoring, and modeling data to identify candidate monitor sites.

The Draft Modeling Document included some discussion of how modeling for 1-hour SO<sub>2</sub> monitoring siting and designations may differ from standard NSR/PSD/SIP modeling

- Placement of receptors only in areas where it is feasible to place a monitor (designations) vs. all ambient air locations (NSR, PSD, and SIP)
- Use of the most recent 3 years of actual emissions (designations) vs. maximum allowable emissions (NSR, PSD, and SIP)
- Use of 3 years of meteorological data (designations) vs. one to five years (NSR, PSD, and SIP)
- Use of actual stack height for designations using actual emissions vs. Good Engineering Practice (GEP) stack height for other regulatory applications (NSR, PSD, and SIP)

In addition to 40 CFR Appendix W (Guideline on Air Quality Models) there are two other guidance documents that provide information for consideration in modeling for designations.

- “Applicability of Appendix W Modeling Guidance for the 1-hour SO<sub>2</sub> NAAQS” August 23, 2010 -- confirming that Appendix W guidance is applicable for NSR/PSD permit modeling for the new SO<sub>2</sub> NAAQS (U.S. EPA, 2010a).
- “Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard” March 1, 2011 -- (U.S. EPA, 2011b) provides additional guidance regarding NO<sub>2</sub> permit modeling and is also relevant to SO<sub>2</sub>.

DEEP THOUGHTS.../INSIGHTS (19 years of experience of modeling and Aermid Implementation Workgroup )

Most of the modeling community experience is with permit modeling for NAAQS/Increment and/or SIPs

AIWG has previously looked at varying stack heights, emission levels, and ambient air perimeters in modeling for 1-hour SO<sub>2</sub>.

The DRAFT guidance provides more flexibility than NSR/PSD modeling and the impacts will be significantly lower in many/most/almost all cases with this additional flexibility.