

A&WMA DVC Breakfast Seminar: 1-Hour NAAQS

Tim Leon Guerrero
Meteorologist EPA Region 3
November 11, 2010

1-HOUR NO₂ & SO₂ NAAQS

Modeling Tips:

- Plan early (and often)
- Contact model reviewing agency early in the process
- Develop a modeling protocol before work begins

1-HOUR NO₂ & SO₂ NAAQS

Pre Protocol:

- Source Emission Inventory
 - All Sources (Emergency Equipment)
 - Maximum Short-Term Emissions
 - Loading Analysis
 - Reasonable Malfunctions (Bypass)
 - Fuel Types
 - Start Up/Shut Down (Emission Controls)
 - Hours of Operation

1-HOUR NO₂ & SO₂ NAAQS

Pre Protocol:

- Source Information
 - Plant Layout
 - Ambient Boundaries
 - Building Downwash (GEP)
 - Stack Information

1-HOUR NO₂ & SO₂ NAAQS

Protocol to Establish:

- A general modeling outline
 - Modeling Checklist
- Emission Inventories
 - Source, Off-Site
- Background Monitoring Data
 - SO₂, NO₂, O₃
 - On-Site Monitoring (Preconstruction)
- Meteorological Data

1-HOUR NO₂ & SO₂ NAAQS

Protocol (continued):

- Establish modeling SILs (and SMC)
- Current regulatory version of AERMOD not capable of calculating NO₂ or SO₂ in the form of the NAAQS
 - Applicants will have to describe how modeling will be done to show compliance with the NAAQS
- Background concentration fully justified/described.
- Which Tier approach will be used for NO₂?
 - Need justification to use Tier 2 National Ambient Ratio (0.75)
 - An approved modeling protocol required for Tier 3 (OLM, PVMRM, site-specific NO₂/NO_x Ratio)
 - OLM and PVMRM are considered nonregulatory default options (refined screening)
 - Need in-stack NO₂/NO_x ratios for PVMRM
 - Is source in quasi-equilibrium area?
 - O₃ Data (match met data?)

1-HOUR NO₂ & SO₂ NAAQS

Loose Ends/Other Items

- SO₂ & NO₂ Monitoring Network Enhancements
 - Modeling and Emission Inventory Based (SO₂)
 - Near-Road Monitoring Network (NO₂)
 - Ambient Monitoring or NAAQS Compliance?
- Designation Process
 - Modeling used to delineate nonattainment areas (SO₂)

Contact Information

Tim Leon Guerrero

Air Quality Analysis

215 814-2192

leon-guerrero.tim@epa.gov



Questions/Discussion

