

# SO<sub>2</sub> NAAQS Information & Outreach Meeting

April 8, 2011



# Introduction to Media Site Technology

- How presentation will be handled
- Attempt to respond to questions and concerns during presentation
- Post responses to SO<sub>2</sub> Website for Questions that require further investigation



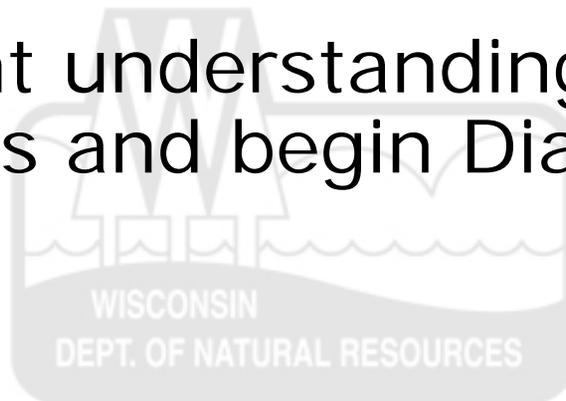
# Welcome

- Pat Stevens, Administrator – DNR Air & Waste Division
- John Melby Jr., Director – Bureau of Air Management
- Focus on collaboration, cooperation, and transparency.



# Why are We Here?

- New SO<sub>2</sub> National Ambient Air Quality Standard (NAAQS) is significantly more restrictive than previous standard
- Preliminary modeling indicates many sources in Wisconsin will be effected by SO<sub>2</sub> Regulation
- Share current understanding of SO<sub>2</sub> Requirements and begin Dialogue



# Background on the 2010 SO<sub>2</sub> NAAQS

- SO<sub>2</sub> Standard applies Nationwide
- SO<sub>2</sub> Standard not new to Wisconsin
- Why EPA Revised the SO<sub>2</sub> Standard?
- Health Implications
- Levels of the SO<sub>2</sub> Standard – 75 ppb
- Current SO<sub>2</sub> Monitoring Network
- Potential Future SO<sub>2</sub> Monitoring Network (Jan 2013)

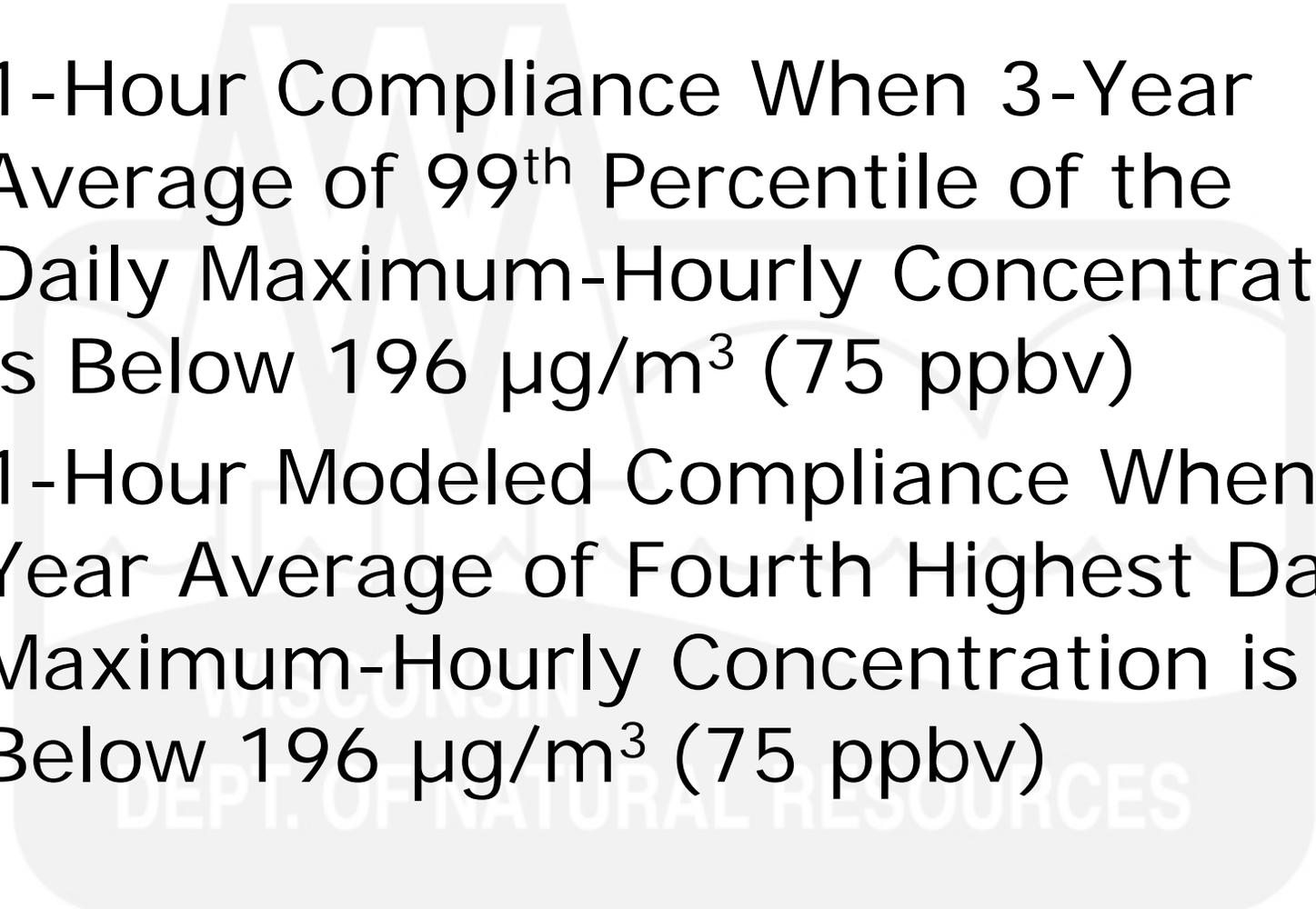
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Modeling Demonstration





# SO<sub>2</sub> NAAQS

- 1-Hour Compliance When 3-Year Average of 99<sup>th</sup> Percentile of the Daily Maximum-Hourly Concentration is Below 196 µg/m<sup>3</sup> (75 ppbv)
  - 1-Hour Modeled Compliance When 5-Year Average of Fourth Highest Daily Maximum-Hourly Concentration is Below 196 µg/m<sup>3</sup> (75 ppbv)
- 



# Purpose of Demonstration

- For Unclassified Areas, Wisconsin DNR Must Show Modeled Attainment with 1-Hour Standard
- USEPA May or May Not Provide Guidance on the Size or Types of Sources Potentially Affected
- Demonstration will Assess the Impact of a Variety of Levels of Emission to Ambient Air



# Dispersion Modeling Analysis

- Reported, Actual Emissions Used to Determine the Four Levels of SO<sub>2</sub> Emission Analyzed: Small, Medium, Large, and Extra-Large
- Standard USEPA and WDNR Dispersion Modeling Procedure Followed, Including Treatment of Ambient Air (i.e. fence)



# Small SO<sub>2</sub> Source

- Roof exhaust(s) from large foundry
- Modeled concentrations sensitive to level of emission, stack parameters, size of property, and building layout
- Highest impact very near the source



# Medium SO<sub>2</sub> Source

- Small coal boilers from one stack
- Modeled concentrations higher with reduced stack gas exit velocity & stack gas temperature
- Highest impact not immediately adjacent to source



# Large SO<sub>2</sub> Source

- Large coal boiler from one stack
- Inclusion of other oil boilers at source results in modeled concentrations above standard
- Modeled concentrations higher with reduced stack gas exit velocity & stack gas temperature



# Extra-Large SO<sub>2</sub> Source

- Several coal boilers from one stack
- Modeled concentrations above standard with reported emissions and stack parameters
- Highest impact away from source
- Modeled concentrations higher with reduced stack gas exit velocity & stack gas temperature



# Resources

- WDNR SO<sub>2</sub> Implementation Web Page:  
[http://dnr.wi.gov/air/aq/pollutant/SO2\\_Implementation.htm](http://dnr.wi.gov/air/aq/pollutant/SO2_Implementation.htm)
- WDNR Air Management Dispersion Modeling:  
John Roth {[john.roth@wisconsin.gov](mailto:john.roth@wisconsin.gov)}
- WDNR Air Permits Web Page:  
<http://dnr.wi.gov/air/permits.html>
- USEPA SCRAM Web Page:  
<http://www.epa.gov/scram001/>



# Questions and Feedback



# Review State Implementation Plan (SIP)

- Why is the SIP Important?
- Designation Process
- Timelines
- Maintenance SIP and Refined Modeling  
(Clean Air Act Section 110 (a)(1))



# Important Dates

- June 2, 2010 - SO<sub>2</sub> NAAQS Revision Signed by EPA Administrator
- June 22, 2010 - SO<sub>2</sub> NAAQS Revision Published in Fed Register
- March 21, 2011 - DNR opens comment period on initial SO<sub>2</sub> Designation recommendation
- March 24, 2011 – EPA releases Guidance on SO<sub>2</sub> Designations



# Important Dates (cont.)

- April 25, 2011 – Public Hearing for initial SO<sub>2</sub> Designation recommendations
- April 29, 2011 – Comment Period closes for initial SO<sub>2</sub> Designation recommendations
- June 3, 2011 – Deadline for States to submit SO<sub>2</sub> Designations to EPA
- June 3, 2012 – EPA Promulgates SO<sub>2</sub> Designations



# Important Dates (cont.)

- June 3, 2013 – States required to submit CAA 110(a) Maintenance SIP for Unclassifiable Areas
- February, 2014 – States required to submit CAA 172(c) SIP for Non Attainments Areas
- August, 2017 – All areas required to attain the SO<sub>2</sub> standard



# Technical Support Document for Initial SO<sub>2</sub> Designations

- Public Comment Period began on March 21, 2011
- Proposed Non Attainment Area includes City of Rhinelander, Towns of Crescent, Newbold, Pine Lake and Pelican (196 ppb)
- Remainder of Oneida County and all other Wisconsin counties recommended as Unclassifiable



# EPA Guidance for SO<sub>2</sub> Area Designations

- EPA anticipates using analytical approach that employs both air quality monitoring and modeling information for designation
- Most Areas will be designated as “unclassifiable”
- Determining Boundaries and Designations based on 5 Factor Analysis



# Current Unknowns Regarding the SO<sub>2</sub> NAAQS

- Pending EPA Modeling and Implementation Guidance
- Cut point for modeling purposes
- Compliance
- Permitting Impacts
- Effects of Electrical Generating Unit (EGU) Boiler Maximum Control Technology (MACT), Industrial-Commercial-Institutional (ICI) Boiler MACT, and Proposed Clean Air Transport Rule 1 (CATR1) and Expected (CATR2)
- Allowable or Federally Enforceable Permit Limits vs. Potential to Emit (PTE) (Develop consistent Measurement)



# Questions and Feedback



# Conclusion/Next Steps

- Summary of Presentation
- Employ Regional Approach
- Anticipate Follow Up Meetings
- May develop smaller technical teams
- Endeavor to answer all questions by April 22, 2010
- Contact info:  
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- THANK YOU!