



## New Source Review Program Update

# 2009 U.S. EPA Regional/State/Local Dispersion Modelers Workshop

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# Agenda

**1. What is New Source Review?**

**2. Prevention of Significant Deterioration**

**3. Nonattainment New Source Review**

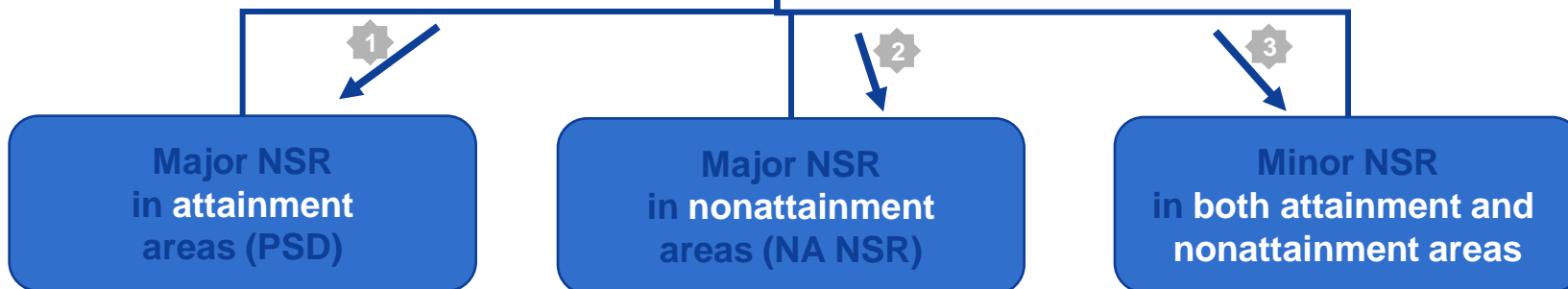
**4. Other NSR Rules and Guidance**



# What is New Source Review?

New Source Review  
a pre-construction  
permitting program for new  
or modified stationary sources

NSR is divided into three parts:



- Major source thresholds used to identify whether a source is major or minor.
  - 100 or 250 tons/year for PSD, depending on the source category.
  - 100 tons/year or lower for NA NSR depending on the severity of the nonattainment.
- Regulated NSR pollutants include the National Ambient Air Quality Standards (NAAQS) and some other pollutants such as sulfuric acid mist and hydrogen sulfide. In NA NSR, the regulated NSR pollutants are only the NAAQS.



# Prevention of Significant Deterioration (PSD) Program



# PSD Modeling Analyses

## **Significant Impact (Each PSD pollutant, Class II)**

- Screening modeling to determine the project's significant impact area (SIA). Done by each PSD applicant in Class II areas.

## **NAAQS (Each PSD applicant with SIA, Class II)**

- Refined cumulative modeling (project + existing sources) within the SIA to determine cumulative impacts.

## **Increment (Each PSD applicant with SIA, Class II)**

- Refined cumulative modeling (project + existing increment affecting sources) within SIA to determine cumulative impacts.

## **Class I Area (Each PSD pollutant)**

1. Significant Impact Assessment – modeling of the project's emissions at FLM provided Class I area receptors.
2. Class I Increment – cumulative modeling at FLM provided receptors.
3. AQRV's – modeling of project's emissions at FLM receptors for comparison to FLM target/threshold values.

## **Additional Impacts (Class II)**

- Growth, visibility, soil and vegetation analysis

## **Ambient Air Quality (Each PSD pollutant, Class II)**

- Compare previously determined project sig. impact concentrations to monitoring de minimis impact levels (if monitoring data appropriate) . Perform pre-construction air quality monitoring if above do not exempt pollutant.



## Appendix S

- Transitional NA NSR program for newly designated nonattainment areas
- Applies in new nonattainment areas until nonattainment NSR SIP is approved for that area
- Generally tracks NA NSR SIP rules
- Final Rule 2007:
  - Revised Sections II and IV of Appendix S to be consistent with 1990 CAA and the 2002 NSR reforms



# **Other New Source Review Rules (applicable to both PSD and NA NSR) and Guidance**



# Implementation of NSR for PM<sub>2.5</sub>

- July 1997: PM<sub>2.5</sub> NAAQS promulgated
- January 5, 2005: PM<sub>2.5</sub> designations established
- Nov. 1, 2005: PM<sub>2.5</sub> Implementation rule proposed
- March 29, 2007: PM<sub>2.5</sub> Implementation rule promulgated with PM<sub>10</sub> surrogate policy
  - NSR PM<sub>2.5</sub> Implementation Rule Final 5/16/08
  - Reconsideration granted 4/09



# NSR PM<sub>2.5</sub> Implementation

- PM<sub>2.5</sub> precursors
- Major source thresholds
- Significant emissions rates: PM<sub>2.5</sub> & precursors
- Condensable PM (CPM) and CPM Transition Period
- BACT for PM<sub>2.5</sub>
- Offsets: PM<sub>2.5</sub> & Precursors
- Offset Ratios
- Interpollutant Trading



# PM2.5 Reconsideration

- Allowing States with approved PSD programs to rely on PM10 SIP for up to 3 years or until PM2.5 SIP approved, whichever sooner
- Grandfathering of permit applications that rely on PM10 surrogate policy and were complete on 7-15-2008
  - Stay granted 4-24-09
- Allowing States to exclude condensable particulate matter from NSR applicability until 1-1-2011
- PM2.5 precursor trading ratios in PM2.5 nonattainment areas



# PM2.5 Increments, SILS, SMC

- Increments, Significant Impact Levels, and Significant Monitoring Concentrations for PM2.5 in PSD areas
- Proposed 9-21-07
- Final projected February 2010



# Increments, SILs, SMC

- **Increment** –  $\mu\text{g}/\text{m}^3$ ; maximum allowable air quality deterioration, measured as an increase in the ambient concentration of a pollutant over baseline concentration for a particular area.
- **Significant Impact Level (SIL)** –  $\mu\text{g}/\text{m}^3$ ; defines when a proposed source's impact exceeds *de minimis* impact. A source whose modeled impacts exceed the SIL must conduct a cumulative air quality analysis to determine if a NAAQS or increment will be violated. If modeling indicates that the NAAQS or increment will be violated, and the source's contribution exceeds the SIL at the violation site, the source is determined to "cause or contribute to" that violation and must mitigate their contribution accordingly.
- **Significant Monitoring Concentration (SMC)** -  $\mu\text{g}/\text{m}^3$ ; defines when a proposed source impact or existing background air quality is significant for purposes of determining if site-specific ambient monitoring data must be submitted in permit application.



# Increments Illustrated

24-hr NAAQS,  $35 \mu\text{g}/\text{m}^3$

PSD Growth Ceiling,  $27 \mu\text{g}/\text{m}^3$

Existing air quality,  $18 \mu\text{g}/\text{m}^3$





# PM<sub>2.5</sub> Increments, SILs and SMCs

- Separate proposal from PM<sub>2.5</sub> Implementation Rule
  - Significant Impact Levels (SILs) – screening tool used to determine if a comprehensive increment analysis is needed
  - Significant Monitoring Concentrations (SMCs) – screening tool to determine if site-specific ambient monitoring is needed
- Proposal considers three options for each:
  - Increments:
    - Percent of NAAQS option, the "Equivalent Increment" approach and a variation of the second option that also considers the stringency of PM<sub>2.5</sub> NAAQS
  - SILs:
    - Percent of increments option, emissions ratio of PM<sub>10</sub> option, and NAAQS ratio of PM<sub>10</sub> option.
  - SMCs:
    - Emissions Ratio option, NAAQS Ratio option, and Lowest Detectable Concentration option



# Interpretive Memo on CO<sub>2</sub>

- EPA Interpretation of “Regulated NSR pollutant” and “subject to regulation” under the Act
- Includes only those pollutants “subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant”
- Excludes pollutants, including CO<sub>2</sub>, for which the Act only requires monitoring
- Published 12/31/08
- Reconsideration granted 2-09



# Approval of NSR Reform SIP

- Wisconsin SIP incorporating 2002 NSR Reform rule approved 12-08
- NRDC/Sierra petition for reconsideration and request for withdrawal/stay of rule
- EPA is considering NRDC/Sierra requests



# Fugitive Emissions

- NSR Applicability for fugitive emissions
- Do not count fugitive emissions when determining whether a major modification has occurred unless in one of 28 source categories
- Final 12-19-08
- Reconsideration granted 4-09



## Aggregation, Debottlenecking and Project Netting

- September 8, 2006: EPA proposed three changes to the NSR program:
  - Aggregation – how to group related projects at a single source for NSR purposes
  - Debottlenecking – considers emission increases at units downstream and/or upstream from the changed unit
  - Project Netting – source-wide analysis of emissions increases and decreases over a five-year period
- Final Rule on Aggregation only: 1/15/09
  - Combine emissions when projects are substantially related either technically or economically
- Reconsideration granted 2/09
- Effective date of rule delayed



# Tribal NSR Rule

- Regulations/authority for nonattainment NSR and minor NSR in tribal lands
- Major stationary source requirements generally follow Part 51 and Part 52 rules
- Proposed 8/21/06
- Final expected 12/09



# NSR Reasonable Possibility

- Rule identifies when a source should do recordkeeping and reporting after undergoing a modification that does not trigger major NSR
- Requires recordkeeping and reporting when the projected increase in emissions to which the "reasonable possibility" test applies equals or exceeds 50 percent of the Clean Air Act's NSR significance levels for any pollutant.
- Final 12-21-07
- Granted reconsideration 4-09



# Flexible Air Permitting Rule

- Strategies for flexible NSR and Title V permitting
  - Advance approval of alternative operating scenarios and approved replicable methodologies
- Final 1/13/09
- Under EPA review



# Corn Milling Ethanol Rule

- NSR and Title V applicability for corn milling promulgated 5-07
- EPA denied NRDC reconsideration request in 2008 and NRDC sued.
- Lawsuit held in abeyance while new NRDC request for reconsideration is reviewed
- EPA considering whether to grant reconsideration



# Power Plant Review Team (PPRT)

- Headquarters review of draft comments on proposed power plant permits to ensure national consistency
- Regional Offices (ROs) typically have 30 calendar days to submit comments on proposed construction permits
- Headquarters typically has 5 days to review letters that Regions draft



# Questions?

