New Source Review: $PM_{2.5}$ NSR Implementation Rules

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NACAA Permitting Workshop
July 14, 2009

Status of Rulemakings

- $PM_{2.5}$ Final NSR Implementation Rule
  - Published in Federal Register on May 16, 2008 (73 FR 28321)
  - Effective on July 15, 2008
  - Covers NNSR & PSD (40 CFR parts 51 and 52)
- $PM_{2.5}$ Increments, SILs & SMC
  - Proposed on September 21, 2007
  - Estimated promulgation date is March 2010

Summary of $PM_{2.5}$ NSR Implementation Rule

- General Provisions
  - $PM_{2.5}$ precursors
  - Major source threshold
  - Significant emissions rates: $PM_{2.5}$ & precursors
  - Condensable PM (CPM)
- PSD Requirements
  - BACT for $PM_{2.5}$ & Precursors
  - $PM_{2.5}$ Increments, SILs, SMC
  - Air Quality Analysis: Modeling & Monitoring
  - CPM Transition Period
- Nonattainment NSR Requirements
  - LAER & Offsets: $PM_{2.5}$ & Precursors
  - Offset Ratios
  - Interpollutant Trading
  - CPM Transition Period

General Provisions

- Major Source Threshold
  - PSD:
    - 100 tpy for source categories listed in 40 CFR 51.166(b)(1)(i)(a) and 52.21(b)(1)(i)(a)
    - 250 tpy for all other source categories
  - NA NSR
    - 100 tpy for all source categories
- Significant Emissions Rate
  - 10 tpy, $PM_{2.5}$ emissions
  - Precursors follow their existing SER

General Provisions

- Condensable PM
  - Transition period announced prior to final rule
  - Final rule continued transition period
  - States not required to address CPM for $PM_{10}/PM_{2.5}$ during transition period but can require at their or source's discretion
  - Revised test method rulemaking underway
  - After 1/1/2011 (or possibly earlier) the transition period ends and NSR permits must include CPM emissions limits

PSD Program for $PM_{2.5}$

- Key Dates
  - Effective date
    - Parts 51 and 52 PSD rules – **JULY 15, 2008** (60 days from date of Federal Register publication)
  - Implementation date:
    - Federal PSD: **JULY 15, 2008** (effective date)
    - State programs: 3 years from FR date to revise SIP and submit to EPA for approval

PSD Program for $PM_{2.5}$

- Air Quality Analysis
  - Applicants must demonstrate compliance with $PM_{2.5}$ NAAQS
    - Permits issued under Federal PSD program must use $PM_{2.5}$
    - Permits under state PSD program may continue using PM_{10} surrogate policy if they cannot implement $PM_{2.5}$ requirements (States have 3 years for SIP revisions)
  - $PM_{2.5}$ increments proposed but no final rule yet
- Preconstruction monitoring
  - Applicants must collect ambient monitoring data
    - Permits issued under Federal PSD program must use $PM_{2.5}$ data
    - Permits issued under state PSD may continue using PM_{10} surrogate policy if they cannot implement $PM_{2.5}$ requirements (3 years for SIP revisions)
  - Representative, existing $PM_{2.5}$ data may be used in lieu of new monitoring data
  - $PM_{2.5}$ SMC proposed but no final rule yet

PSD Program for $PM_{2.5}$

- Precursors
  - Under both Federal PSD program and state SIP requirements
    - SO_2 always a precursor
    - NOx is "presumed in"
    - VOC is "presumed out"
  - States may demonstrate that NOx not a precursor
  - States may demonstrate that VOC is a precursor

Nonattainment Area NSR

- App S
  - States may use 40 CFR part 51 app S for interim implementation of PM2.5; PM_{10} surrogate policy for NA no longer applies
  - If state is unable to implement via app S, EPA will act as reviewing authority for $PM_{2.5}$

Nonattainment Area NSR

- Precursors
  - Under appendix S (for interim implementation)
    - only SO_2 is a precursor
  - Under requirements for SIPs
    - SO_2 is a precursor
    - NOx is "presumed in"
    - VOC and ammonia are "presumed out"
    - States may demonstrate that NOx is not a precursor
    - States may demonstrate that VOC or ammonia is a precursor

Nonattainment Area NSR

- Interpollutant Trading (Offsets)
  - Direct $PM_{2.5}$ emissions may be offset with reductions of
    - direct PM2.5 emissions (at least 1:1 ratio)
    - other precursors (at EPA-approved ratios)
  - State must obtain EPA approval to use EPA's recommended ratios via App S or SIP (EPA Regional Office can approve use).

Status of Litigation & Petition for Reconsideration

- Petition for Reconsideration and stay of new rule submitted to EPA by NRDC, ED and Earthjustice on July 15, 2008, followed by a "Motion to Stay Pending Review" filed with the court on August 18, 2008.
- Court denied Petitioners' motion to stay aspects of the rules.
- On a joint motion by Petitioners and EPA, the court has stayed the litigation until June 1, 2009, to provide EPA time to consider the petition for reconsideration. The petitioners have agreed to extend the litigation stay by 60 days – August 1, 2009

Status of Litigation & Petition for Reconsideration

Petitioners asked EPA to reconsider 4 elements of the final $PM_{2.5}$ NSR Rule:

1. 3-year schedule for SIP revision submittal & policy to continue using PM_{10} surrogate policy in the interim.
2. Grandfathering of PM_{10} surrogate policy under Federal PSD program (EPA + delegated states).
3. Transition period for condensable particulate matter (CPM).
4. Interpollutant Trading: EPA-preferred offset ratios for $PM_{2.5}$ precursors.

Status of Litigation & Petition for Reconsideration

- In January 2009, then-Administrator Johnson signed a letter to petitioners denying both reconsideration and stay of rule.
- On February 10, 2009, same petitioners filed a second request for reconsideration to Administrator Jackson.
- On April 24, 2009, EPA issued a letter to the petitioners granting the petition for reconsideration in order to allow public comment on each of the four issues raised in the petition and also stayed the grandfathering provision for 3 months. Notice of the stay was published on June 1, 2009.
- In that letter to the petitioner, EPA also indicated our intent to propose repealing the grandfathering provision under the Federal PSD program. EPA has not yet determined any specific proposed action on the other 3 issues.

New Source Review:
$PM_{2.5}$ Increments, SILs, SMC Rule (PSD)

$PM_{2.5}$ Increments, SILs, SMC Background Information -

- $PM_{2.5}$ NAAQS established in 1997
- PM_{10} increments, established in 1993 to replace TSP, have until now been the basis for PSD for PM
- This rule will establish the increments necessary to implement a PSD program specific to $PM_{2.5}$
- NPRM issued on Sept 21, 2007
- We proposed options for developing concentration levels for increments, SILs, and SMC
- 35 commenters responded
  - 9 state/local agencies and associations
  - 21 industry and industry groups
  - 1 environmental group
  - 1 Federal agency
  - 2 Tribal
  - 1 private citizen

Proposed Increments for $PM_{2.5}$

- Option 1
  - Treat $PM_{2.5}$ as a new pollutant for NSR purposes and develop new increments based on "% of NAAQS approach" used by Congress for 1977 statutory increments [§ 166(a) of Act]
    - Class I: ~7% of NAAQS
    - Class II: 25% of NAAQS
    - Class III: 50% of NAAQS
- Options 2A & 2B
  - Treat $PM_{2.5}$ as a new indicator of PM and replace the existing PM_{10} increment indicator with new annual $PM_{2.5}$ increments. [§ 166(f) of Act]
    - Option 2A converts the existing annual PM_{10} increments based on a ratio of $PM_{2.5}$:PM_{10} emissions from 2001 NEI (0.8)
    - Option 2B converts the existing annual PM_{10} increments based on a ratio of $PM_{2.5}$:PM_{10} NAAQS levels
      - 15/50 = 0.30

Proposed Increments for $PM_{2.5}$[1]

Option	Proposed Increments (µg/m3)						NAAQS (µg/m3)	
	Class I		Class II		Class III		Annual	24-hr
	Annual	24-hr	Annual	24-hr	Annual	24-hr		
1…….	1	2	4	9	8	18	15	35
2A…..	1	2	4	9	8	18		
2B…..	1	2	5	9	10	18		

[1] Increments define the maximum allowable increase in the ambient concentration (over the baseline concentration) of a pollutant in a given area. Existing increments apply to PM_{10}, SO_2, and NO_2.

Proposed SILs[2]

Option	Proposed SILs (µg/m3)					
	Class I		Class II		Class III	
	Annual	24-hr	Annual	24-hr	Annual	24-hr
1…….	0.04	0.08	1.0	5.0	1.0	5.0
2…….	0.16	0.24	0.8	4.0	0.8	4.0
3…….	0.06	0.07	0.3	1.2	0.3	1.2

[2]**Significant impact levels** (SILs) define when a proposed source impact exceeds *de minimis* impact. Impacts exceeding the SIL (1) require comprehensive air quality analysis, and (2) are considered to cause or contribute to a modeled violation of NAAQS or PSD increment. Also, SILs are used to define the significant impact area which determines the distance to be modeled.

Proposed SMC[3]

- Option 1 – 10 µg/m^3
  - Based on lowest detectable concentration (multiplied by uncertainty factor of "5")
  - Value is same as current SMC for PM_{10}
  - NOTE: During administrative process uncertainty factor has been re-evaluated based on current monitoring information
- Option 2 – 8 µg/m^3
  - Based on ratio of $PM_{2.5}$:PM_{10} emissions
- Option 3 – 2.3 µg/m^3
  - Based on ratio of $PM_{2.5}$:PM_{10} NAAQS

[3]**Significant monitoring concentration** (SMC) defines when a proposed source impact or existing background air quality is significant for purposes of determining if site-specific ambient monitoring data is needed to conduct the air quality analysis