

PM_{2.5} Final NSR Implementation Rule

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Final Rules

- Signed by Administrator on Thursday, May 8, 2008
- Posted www.epa.gov/nsr
- FR publication: May 16, 2008
- Effective date: July 15, 2008

Summary of Requirements

- General Provisions
 - PM_{2.5} precursors
 - Major source thresholds: PSD/NANSR
 - Significant emissions rates: PM_{2.5} & precursors
 - Condensable PM: PM₁₀/PM_{2.5}
- PSD Requirements
 - BACT for PM_{2.5}
 - PM_{2.5} Increments, SILs, & SMC
 - Air Quality Analysis: Modeling & Monitoring
- Nonattainment NSR Requirements
 - Offsets: PM_{2.5} & Precursors
 - Offset Ratios
 - Interpollutant Trading

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General Provisions

- **PM_{2.5} Precursors**
 - SO₂ is always a precursor
 - NO_x: “presumed in” precursor -
States may submit demonstration that NO_x emissions in a specific area do not contribute significantly to ambient PM_{2.5} concentrations
 - VOC/ammonia: “presumed out” precursors -
States may submit demonstration that VOC and/or ammonia emissions in a specific area contribute significantly to ambient PM_{2.5} concentrations

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General Provisions

- Major Source Threshold
 - PSD:
 - **100 tpy direct PM_{2.5} emissions for source categories listed in 40 CFR 51.166(b)(1)(i)(a) and 52.21(b)(1)(i)(a)**
 - **250 tpy direct PM_{2.5} emissions for all other source categories**
 - NA NSR
 - **100 tpy direct PM_{2.5} emissions for all source categories**
- Significant Emissions Rate
 - 10 tpy, direct PM_{2.5} emissions
 - Precursors SO₂, NO_x, VOC = 40 tpy, each precursor

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General Provisions

- Condensable PM (CPM)
 - NPRM stated that CPM must be accounted for in permits for PM₁₀/PM_{2.5}
 - Based on comments received for NPRM, EPA adopted transition period (TP) to validate CPM test methods
 - EPA will not require states to address CPM in establishing enforceable emissions limits for PM₁₀/PM_{2.5} in NSR permits during TP (States not precluded from addressing CPM in permits)
 - NSR TP ends on 1/1/2011 or a date established pursuant to test method rulemaking, whichever date is earlier
 - After NSR TP ends, NSR permits for PM₁₀/PM_{2.5} must account for CPM emissions

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PSD Program for PM_{2.5}

- Key Dates
 - Effective date of PM_{2.5} NSR rules
 - 40 CFR 52.21 (EPA & delegated States) – July 15, 2008
 - 40 CFR 51.166 (SIP-approved State programs) – July 15, 2008
 - Implementation date of PM_{2.5} NSR program:
 - EPA & delegated States: Effective date of 40 CFR 52.21 - July 15, 2008
 - SIP-approved programs: States have up to 3 years to revise SIP consistent with 40 CFR 51.166; until then States may follow PM₁₀ surrogate policy

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PSD Program for PM_{2.5}

- BACT
 - Applies to emissions units at new major sources where source emits significant amounts of direct PM_{2.5} emissions
 - Applies to emissions units that are part of major modification for direct PM_{2.5} emissions
 - Applies similarly to precursors—SO₂ and NO_x

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PSD Program for PM_{2.5}

- Air Quality Analysis
 - Applicants must demonstrate compliance with PM_{2.5} NAAQS
 - Permits issued under Federal PSD program (40 CFR 52.21) must do a PM_{2.5} analysis as of July 15, 2008
 - Permits issued under State PSD program (40 CFR 51.166) may continue using PM₁₀ surrogate policy until SIPs are revised (States have up to 3 years for SIP revisions)
 - PM_{2.5} increments, SILs & SMC to be finalized by Summer 2009
- 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 program may continue using PM₁₀ surrogate policy until SIPs are revised (3 years for SIP revisions)
 - Representative, existing PM_{2.5} data may be used in lieu of new monitoring data

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PSD Program for PM_{2.5}

- Precursors
 - Under both Federal PSD program and State SIP requirements
 - SO₂ always a precursor
 - NO_x is “presumed in”
 - VOC is “presumed out”
 - States may demonstrate that NO_x is not a precursor
 - States may demonstrate that VOC is a precursor

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NA NSR Program for PM_{2.5}

- Key Dates
 - Effective date of PM_{2.5} rules
 - 40 CFR part 51 app S – July 15, 2008
 - 40 CFR 51.165 (SIP-approved state programs) – July 15, 2008
 - Implementation date of PM_{2.5} program:
 - All States: begin PM_{2.5} program on effective date of appendix S – July 15, 2008; PM₁₀ surrogate program no longer applies
 - SIP-approved NA NSR rules: States have up to 3 years to revise SIP consistent with 40 CFR 51.165; until then, States must follow appendix S requirements for PM_{2.5}

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NA NSR Program for PM_{2.5}

- 40 CFR part 51 Appendix S applies after July 15, 2008 and PM₁₀ surrogate policy for NA no longer applies
- LAER, Offsets and other requirements apply to PM_{2.5}
- If State is unable to implement PM_{2.5} requirements via App S, EPA will implement

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NA NSR Program for PM_{2.5}

- Interpollutant Trading (Offsets)
 - Direct PM_{2.5} emissions may be offset with reductions of -
 - direct PM_{2.5} emissions (at least 1:1 ratio)
 - other precursors, e.g.,
 - SO₂:PM_{2.5} @ 40:1
 - NOx:PM_{2.5} @ 200:1 (east)
 - NOx:PM_{2.5} @ 100:1 (west)

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NA NSR Program for PM_{2.5}

- Precursors
 - Under Appendix S (for interim implementation)
 - only SO₂ is a precursor
 - Under requirements for SIPs
 - SO₂ is always a precursor
 - NOx is “presumed in”
 - VOC/ammonia are “presumed out”
 - States may rebut precursor presumption by making appropriate demonstration

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PM_{2.5} Questions & Answers

- Applicability

New source in a PM_{2.5} nonattainment area emits 200 tpy PM_{2.5}, 100 tpy NOx and 50 tpy SO₂.

Response:

NA NSR applies to PM_{2.5} via App S. PSD applies to NOx and SO₂.

Explanation:

PM_{2.5} emitted in major amounts in nonatt area.

NOx is major, but is not a PM_{2.5} precursor under App S; PSD applies.

SO₂ is PM_{2.5} precursor under App S, but source is not major; PSD applies.

- *Remember- Each precursor is treated independently for applicability purposes. Precursors should not be added to direct PM_{2.5}.*

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PM_{2.5} Questions & Answers

Applicability

Major source of SO₂ (275 tpy) in a PM_{2.5} nonattainment area proposes significant net emissions increases of PM_{2.5}, NOx and SO₂.

Response:

NA NSR applies to SO₂ via App S. PSD applies to NOx and SO₂. Minor NSR applies to PM_{2.5}.

Explanation:

SO₂ is PM_{2.5} precursor under App S, major mod for SO₂; NA NSR applies to SO₂ as PM_{2.5} precursor, and PSD applies to SO₂ as criteria pollutant.

NOx is not a PM_{2.5} precursor under App S (also not major for NOx); PSD applies.

Source is not major for PM_{2.5}; not subject to NA NSR; not subject to PSD because located in a NA. Presume State coverage under minor NSR program.

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PM_{2.5} Questions & Answers

PM_{2.5} Impacts

How do States account for the modeled impact from the secondary formation of PM_{2.5} (i.e., impacts due to sulfates and nitrates)?

Response:

Existing EPA-approved models used for PSD/NSR modeling do not adequately consider the chemistry needed to account for secondarily formed ambient PM_{2.5} concentrations resulting from emissions of SO₂ and NO_x. Source impact should account for only the impacts of direct PM_{2.5}.

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PM_{2.5} Questions & Answers

Precursor Offsets/Interpollutant Trading

Do precursor increases require offsets in PM_{2.5} nonattainment areas?

Response:

Yes, precursor emissions must be offset when they are subject to NA NSR as PM_{2.5} precursors. For example, a source's SO₂ emissions that are subject to NA NSR in a PM_{2.5} nonattainment area must be offset with an equivalent reduction of actual emissions of SO₂. Precursor emissions may also be used as emissions offsets for increases of PM_{2.5} when the appropriate ratios are applied. EPA's recommended ratios or other ratios developed by State and approved by EPA may be used.

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PM_{2.5} Questions & Answers

Precursor Offsets/Interpollutant Trading

Can SO₂ offsets from an SO₂ attainment area be used to offset PM_{2.5} emissions increases in a PM_{2.5} nonattainment area?

Response:

Yes, as long as the offsets are obtained from a source located in the PM_{2.5} nonattainment area where the PM_{2.5} increase will occur or from another PM_{2.5} nonattainment area that has been shown to contribute to the nonattainment problem in the PM_{2.5} nonattainment area where the PM_{2.5} increase will occur.

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PM_{2.5} Questions & Answers

Precursor Offsets/Interpollutant Trading

For a source located in a PM_{2.5} and O₃ NA and subject to NA NSR for NO_x, could the same NO_x emissions reduction be used as an offset to meet the offset requirements for both PM_{2.5} and O₃?

Response:

Yes, as long as the most conservative offset ratio is applied. It should also be noted that NO_x is not a PM_{2.5} precursor under App S; it will be a presumed precursor under a SIP-approved NA NSR program unless the State demonstrates that it is not a precursor.

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