



## New Source Review (NSR) Reform

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## Brief Background

- New Source Review (NSR) is the Federal pre-construction permitting program
- Comprises:
  - ◆ Prevention of Significant Deterioration (PSD) for attainment pollutants
  - ◆ Nonattainment NSR for nonattainment pollutants
- Focuses on emissions of criteria pollutants:
  - ◆ PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO, Lead
- Until NSR Reform, PSD rules had remained virtually unchanged since August 7, 1980 (the "old" PSD rules)



## Problems with PSD Permit applicability under “old” program

- Actual-to-potential emissions calculation used to assess the emission increase from a project
  - ◆ Pre-project emissions = last 2 years
  - ◆ Post-project emissions = potential to emit (maximum capability to emit)
  - ◆ Small projects could look very large on paper using this calculation
- Lack of clarity of (and narrowing interpretation of) routine maintenance/repair exemption
- Unclear policy on aggregating projects close together in time
- Confusion over appropriate way to estimate “associated emissions increases” (i.e., increases in emissions at unmodified parts of a plant that are caused by the modification).

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## Problems with PSD Permit applicability under “old” program

- Enforcement concerns
  - ◆ EPA initiatives in multiple industry sectors focused on enforcement of alleged past NSR violations
  - ◆ Many enforcement questions centered around small modifications that had large impacts when the actual-to-potential test was applied, or depending on how “associated emission increases” were calculated.

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## NSR Reform

- 12/31/2002 Final Rule
  - ◆ Actual to Projected Future Actual Methodology
  - ◆ Plantwide Applicability Limits (PALs)
  - ◆ Clean Unit Exclusion [Rejected by court 6/24/05]
  - ◆ Pollution Control and Prevention Projects [Rejected by court 6/24/05]
- 8/27/2003 Final Rule
  - ◆ Routine Maintenance, Repair, and Replacement (RMRR) equipment replacement definition [Rejected by court 3/17/06]
- 11/7/2003 Final Rule (Amendments)
  - ◆ Added definition of replacement unit [Rejected by court 3/17/06]
  - ◆ Clarified setting of PAL

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## Additional Reform Proposals

- 9/14/2006 Proposed Rule
  - ◆ Addresses debottlenecking / utilization increases at unmodified units
  - ◆ Aggregation of projects
  - ◆ Project-by-project Netting
- 3/8/2007 Proposed Rule
  - ◆ Clarify “reasonable possibility” for determining recordkeeping and reporting requirements under NSR Reform
- 6/6/2007 Proposed Rule
  - ◆ Addresses PSD Increment Modeling
- 8/28/2007 Proposed Rule
  - ◆ Flexible Permitting Options: Green Groups (mini-PALs)
- 9/12/2007 Proposed Rule
  - ◆ PM2.5 Increments, modeling significance levels, & monitoring de minimis levels

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## Implemented Differently in Various States

- States with Delegated PSD programs
  - ◆ Implement Federal Rule (40 CFR 52.21) directly
  - ◆ NSR Reform began to apply on 3/2/2003 (60 days after 12/31/2002 final rule)
- States with SIP-Approved PSD programs
  - ◆ EPA approves the states' own PSD programs
  - ◆ May vary (sometimes significantly) from the standard Federal PSD rule.
  - ◆ Almost all states have by now adopted NSR Reform into their rules



## PSD Program Status by State (updated May 2007)



## Northwest PSD Program Status

- Washington
  - ◆ Delegated program
  - ◆ Some small tweaks to Federal NSR Reform rule in state rules
- Oregon
  - ◆ Unique SIP-approved program
  - ◆ Have not adopted NSR reform (but have some similar elements in their rule)
- Idaho
  - ◆ SIP-approved program that mimics NSR Reform Rules directly
- Montana
  - ◆ “Old” PSD rules; have so far declined to implement NSR Reform
- Alaska
  - ◆ SIP-approved program that mimics NSR Reform Rules directly
  - ◆ Even adopted similar elements into state minor NSR program

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## New Emissions Calculation

- Most significant of the changes
- Existing units - actual-to-projected actual test: uses the difference between
  - ◆ projected actual emissions (new definition) baseline actual emissions (new definition)
- New units – no change
  - ◆ actual-to-potential test (actual emissions equal zero)

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## New Emissions Calculation

- Existing sources may still use potential to emit
  - ◆ Simplifies the calculation
  - ◆ Eliminates future recordkeeping
- Making full use of the methods allowed in the new calculation is not simple
  - ◆ Many grey areas
  - ◆ Lack of EPA guidance to implement
  - ◆ Potential hazards for future

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## Baseline Actual Emissions

- Average rate the unit actually emitted during any consecutive 24-month period, within the past 10-year period
  - Includes average fugitive emissions
  - Includes average emissions associated with startups, shutdowns and malfunctions
  - Adjusted downward to exclude non-compliant emissions
  - ◆ Adjusted downward to exclude any emissions that would have exceeded an emission limit or operating restriction which the source must NOW comply with

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## Baseline Actual Emissions

- If the project at hand involved multiple existing emission units, only one consecutive 24-month period is used to determine the baseline actual emissions for all emission units impacted by the project
- Can use different consecutive 24-month periods for each regulated NSR pollutant impacted by the project
- Can't use 24-month periods with "inadequate information"



## Projected Actual Emissions

- Future side of equation
- "the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant..." [40 CFR 52.21(b)(40)(i)]
  - ◆ Next 10 years if the project involves increasing the emission unit's design capacity or its potential-to-emit of that regulated NSR pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source
  - ◆ Next 5 years otherwise



## Projected Actual Emissions - Calculation

- In determining projected actual emissions, the owner or operator...
  - ◆ Shall consider all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under the approved plan; and
  - ◆ Shall include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions

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## "Excluded" Emissions (my term)

- Actually part of the "projected actual emissions" definition [40 CFR 52.21(b)(40)(ii)(c)]
- "Shall exclude...that portion of the unit's emissions following the project that an existing unit
  - ◆ **Could have accommodated** during the consecutive 24-month period used to establish the baseline actual emissions ...; and
  - ◆ that are also **unrelated to the particular project**, including increased utilization due to product demand growth"

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## “Excluded” Emissions

- Often referred to as the “demand growth exclusion” but actually is much more broad than that
  - ◆ No requirement to tie excluded emissions to demand growth
  - ◆ Only need to demonstrate:
    - (1) what could have been accommodated prior to change
    - (2) what emissions are actually related to the project
- Enormous potential to avoid PSD in most cases by limiting emission calculation just to the effect of the project itself


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## Excluded Emissions

### *“Could have accommodated”*

- Many potential pitfalls – sources need to take care to avoid overestimates of pre-project capacity
  - ◆ Averaging period under PSD is annual
    - Could unit have sustained operation at that capacity for a full year?
    - Is estimated utilization adjusted downward to account for required maintenance
  - ◆ Think more broadly than just one emission unit
    - For a change to the boiler, can the plant actually handle the additional steam production?
    - Can it handle that steam year-round?
    - (This is an actual example – EPA weighed in on it during the review of a permit application for a paper mill)


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## Excluded Emissions

*“Unrelated to the particular project”*

- Not so simple as it looks
  - ◆ Prior to the project, how accurate are engineering estimates of what increases the project will accomplish?
  - ◆ How will source be able to demonstrate that an increase in production is not the result of the project?
- Void of guidance for interpreting this language is troubling
  - ◆ Possible target of future NSR enforcement?





## Simplify, Simplify

- “may elect to use Potential-to-Emit” (i.e., instead of future projected actuals) [40 CFR 52.21(b)(40)(ii)(d)]
  - ◆ Simpler
  - ◆ Advantage: Allows source to avoid future recordkeeping/reporting of projections
- You can use future projected actuals without claiming any exclusions from those emissions
  - ◆ Safer
  - ◆ Advantage: Avoid the thorny issues associated with the “excluded” emissions
- Going through PSD can be a valid strategy option
  - ◆ Particularly in states with a BACT requirement for non-PSD projects (e.g., Washington)

