



An Overview of Pre-2002 Version of PSD/NSR Applicability





Purpose

- Provide a basis for how applicability of the Pre-2002 NSR rules worked
 - For enforcement, the relevant rules for determining whether there was a violation are the rules that were in effect at the time of the modification

Who is subject to NSR?

Pollutant
Attainment Status

Source

Major source

Change

Major
modification

Netting



Step 1 - Attainment Status

- What is the attainment status for the pollutants emitted from the source?
- Which NSR rules apply?



Step 2 - Is the Facility a “Source”?

- What constitutes the “source”?
 - Building, structure, facility, or installation
 - in the same industrial grouping (first 2 digits of SIC code),
 - located within a contiguous or adjacent area, *and*
 - Under common control¹
 - Consider support facilities





Step 3 - Is it a PSD “Major Source”?

In an attainment area, a stationary source that emits or has the potential to emit...

PSD Thresholds²:

- 100 tpy of any pollutant subject to regulation under the Act (excluding HAPs), for 28 listed source categories
- 250 tpy for other source categories



Step 3 - Is it a NNSR “Major Source”?

In a non-attainment area, a stationary source that emits or has the potential to emit...

NNSR Thresholds:

- generally 100 tpy for any nonattainment pollutant
- be aware of dual source definition as applicable in certain SIPs



Special “Major Source” Thresholds for NNSR for Ozone, PM, and CO

Area Classification		Major Source PTE (tpy)
Ozone	Marginal	100 (precursors)
Ozone	Moderate	100
Ozone	Serious	50
Ozone	Severe	25
Ozone	Extreme	10
CO	Moderate	100
CO	Serious	50
PM10	Moderate	100
PM10	Serious	70



Potential to Emit

A source's capacity to emit a pollutant when operating at maximum design limits, *except* as constrained by Practically Enforceable conditions.³





Potential to Emit *(continued)*

Federally Enforceable conditions include:

- emission limits in either a permit or a regulation
- requirements to operate air pollution control equipment
- restrictions on hours of operation
- type of material allowed to be processed or combusted

Federally Enforceable conditions used to limit PTE must have sufficient monitoring, recordkeeping, and reporting



Fugitive and Secondary Emissions

- Fugitives counted for certain listed source categories when determining major source status or major modification⁴
- Secondary emissions are not included in potential to emit⁵
 - Emissions which would occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source itself



Step 4 - Is it a “Modification”?

Common physical changes or changes in the method of operation include:

- New Production Lines
- Increased capacity of existing equipment
- Process reconfiguration
- Change in fuels not otherwise exempt
- Non-routine replacement



Exemptions

The following are not, by themselves, physical changes or a changes in method of operation:⁶

- Routine maintenance, repair, or replacement
- Alternative fuel or raw material that the **source** was capable of accommodating before 1975
- Increase in operating rate or hours of operation that does not exceed a permit limit
- Change in ownership, with no other changes
- Certain 1970's energy crisis driven conversions
- [Additional state exemptions]



“Routine Maintenance, Repair, Replacement”

You should consider:

- Nature of the change
- Extent of the change
- Purpose of the change
- Frequency the change is performed
- Cost of the change
- Other relevant factors

Step 5 - Is it a “Major” Modification?

A physical change or change in the method of operation of a major source that will result in a significant net emissions increase.⁷



“Significant Net Emission Increase”

Area Designation		Modification Trigger (tpy)
Ozone	Attainment	40 (NOx and VOC precursors)
Ozone	Marginal	40
Ozone	Moderate	40
Ozone	Serious	25 (count all increases in 5 years)
Ozone	Severe	25 (count all increases in 5 years)
Ozone	Extreme	0
CO	Attainment	100
CO	Moderate	100
CO	Serious	100 (if mobile sources significant)
CO	Serious	50
PM2.5	All	10
PM10	All	15
PM	All	25
NO2	All	40
SO2	All	40
Any other pollutant subject to regulation	All	any amount for those not listed in the rule*

*More pollutants are listed in the rule than are in this table.



Debottlenecking

- When determining whether a change results in a significant net emissions increase, look at emissions increases from all emissions units affected by the change, both upstream and downstream of the change
 - Specifically, removal of any limitation (physical or permit) in a process line that enables the source to increase throughput and therefore can potentially increase emissions at other emissions units upstream or downstream in the process line



Example of Debottlenecking

- Example from July 28, 1983 PSD Determination in Region 10
 - A digester system in a kraft pulp mill produces black liquor which is sent through a multiple effect evaporator system where it is concentrated and is then burned in a recovery boiler
 - When the digester is expanded, in a way that additional black liquor will be produced, emissions from the recovery boiler must be counted in determining the net emissions increase
 - Since the recovery boiler itself will not be undergoing a physical change or change in the method of operation, it will not have to apply BACT



Example of Debottlenecking

■ Utility Example

- A coal prep plant is expanded to provide more coal to a coal fired utility boiler. The boiler is not modified but operates at a higher rate because of the additional coal provided by the coal prep plant.
- The increase in emissions from the boiler must be counted in determining the net emissions increase caused by the expansion of the coal prep plant.
- Since the boiler itself will not be undergoing a physical change or change in the method of operation, it will not have to apply BACT, but BACT must be applied at the coal prep plant for each pollutant for which NSR is triggered.



Netting

The process of considering contemporaneous and creditable changes at an existing major source to determine if a “significant net emissions increase” of a pollutant will result from a modification



Netting Equation⁷

Net Emissions Change =

Emissions increases associated with
the proposed modification

(netting is optional)

MINUS

All source-wide creditable contemporaneous emissions
decreases

PLUS

All source-wide creditable contemporaneous emissions
increases



Endnotes (all regulatory cites from July 1, 2001 CFR)

1. See 40 CFR 52.21(b)(6)
2. See 40 CFR 52.21(b)(1)
3. See 40 CFR 52.21(b)(4)
4. See 40 CFR 52.21(b)(1)(iii) and (i)(4)(vii)
5. See 40 CFR 52.21(b)(4)
6. See 40 CFR 52.21(b)(2)(iii)
7. See 40 CFR 52.21(b)(3)