



An Overview of GHG PSD Permitting

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(Traditionally) PSD Applies if...

- **New Sources**: Plant will be new major stationary source
 - ◆ New Source PTE \geq 100 or 250 tpy (depending on List of 28 status)
- **Existing Minor Sources**: Make a modification that in itself is “major”
 - ◆ Project Emissions Increase for one pollutant \geq 100 or 250 tpy
 - Note that in this case, applicability threshold for other pollutants drops to Significant Emission Rates
 - No netting allowed
- **Existing Major Sources**: Make a modification that results in an increase of a regulated NSR pollutant above PSD Significant Emission Rates
 - ◆ E.g., 15 tpy PM₁₀, 40 tpy VOC, NO_x, or SO₂, 100 tpy CO, etc.
 - ◆ May attempt “net-out” of PSD review with contemp. decreases



Existing Sources: Project Emission Increase

- **Project Emission Increase:** Difference between projected actual emissions (PAE) and baseline actual emissions (BAE)
- **BAE:** Average rate actually emitted during any 24-month period, within a 10-year period
 - ◆ Multiple existing emission units: only one 24-month period is used per regulated NSR pollutant
- **PAE:** Maximum annual rate an existing emissions unit is projected to emit a regulated NSR pollutant over 5/10 year period
 - ◆ PAE can be set equal to the emission units PTE



Existing Sources: Net Emission Increase

- Net Emission Increase = $(PAE - BAE) +$
Contemporaneous Change
- Contemp. Period: 5 years prior to the
application submittal date to the start of
construction
 - ◆ All projects must be included
- Contemp. Change = $PTE - BAE$
 - ◆ Shutdown Unit: $PTE = 0$



What is “Regulated NSR Pollutant”?

See 40 CFR 52.21(b)(50)

- Pollutant covered by NAAQS or precursor
 - ◆ PM_{10} , $PM_{2.5}$, SO_2 , NO_x , CO, Pb, O_3 , VOC
- Pollutant covered by a NSPS
 - ◆ H_2S , TRS, H_2SO_4 , Fluorides, etc.
- Ozone depleting substances
- Any pollutant that otherwise is “subject to regulation under the Act”
- HAPs are excluded unless regulated as constituent or precursor of above categories



Implications of Method Used to Modify PSD Regulations for Tailoring Rule

- Unless a project meets the CO₂e thresholds, GHGs are not “subject to regulation”, and thus....
 - ◆ Never become a “regulated NSR pollutant”
 - ◆ 100/250 tpy thresholds do not apply to GHGs
 - ◆ GHG emissions are not part of major source definition
 - ◆ PSD source classification is unaffected by GHG emissions



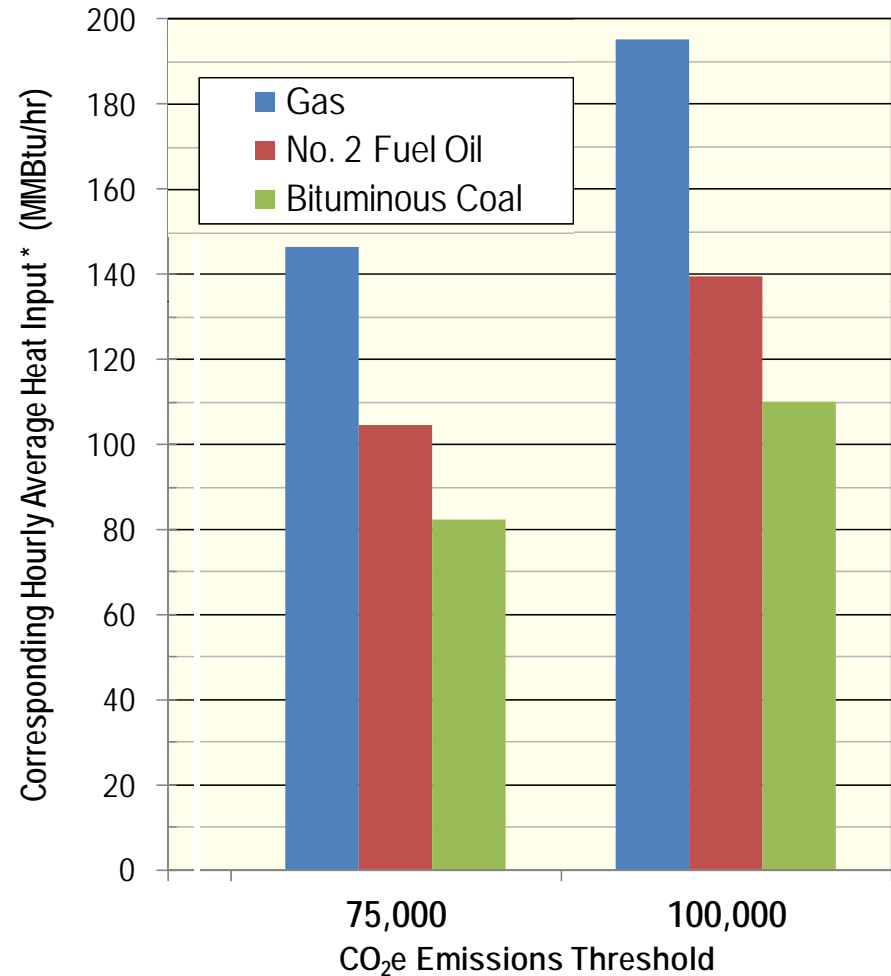
“Subject to Regulation” Scenarios

1. Construct a completely new facility
 - a) CO₂e PTE is greater than 100,000 tpy OR
 - b) At least one non-GHG pollutant PTE is greater than 100/250 tpy and the CO₂e PTE is greater than 75,000 tpy
2. Modify an existing minor PSD source of GHGs
 - a) NEI greater than 100,000 tpy CO₂e
3. Modify an existing major PSD source for at least one non-GHG pollutant
 - a) NEI greater than the SER for a non-GHG pollutant AND
 - b) Greater than 75,000 tpy for CO₂e
4. Modify an existing major PSD source of GHGs
 - a) NEI of greater than 75,000 tpy CO₂e

What do CO₂e thresholds look like?*

Emission Unit	NOx (tpy)	PM (tpy)
Gas Boiler, 195 MMBtu/hr	84	6
No. 2 Fuel Oil, 140 MMBtu/hr	44	14
Bitum. Coal, 110 MMBtu/hr	137	180

In non-attainment areas, the projects that trigger GHG PSD, will require A LOT of offsets!



*Based on default emissions factors in 40 CFR 98 or AP-42



GHG PSD Applicability: Example 1

- Company A proposes to construct a new chemical plant.
 - ◆ Given:
 - Attainment for all regulated NSR pollutants
 - PTE of 105,000 tpy CO₂e and 80 tpy NO₂
 - All other pollutants less than 100 tpy PTE
- Is PSD Permitting Required?
 1. CO₂e is greater than 100,000 tpy CO₂e
 2. GHGs are “subject to regulation”

PSD permitting is therefore required for both CO₂e and NO₂ (the SER for NO₂ is 40 tpy).



GHG PSD Applicability: Example 2

- Five year laterCompany A proposes to increase the capacity of the facility
 - ◆ Net emission increase of 60,000 tpy CO₂e and 50 tpy NO₂
- Is PSD Permitting Required?
 1. CO₂e is less than 75,000 tpy CO₂e
 2. All other pollutants PTE < 100 tpy
 3. GHGs are not “subject to regulation”

PSD permitting is not required for GHG because they are not “subject to regulation.”

PSD permitting is not required for NO₂ because the net emission increase does not exceed the major source threshold of 100 tpy.



PSD Permitting - GHG BACT

- **Step 0: Defining the Basic Business Purpose**
 - ◆ May be able to restrict certain potential BACT options that might typically be listed in Step 1 described below.
 - ◆ Alternative fuel types maybe a viable option to reduce GHG emissions
 - ◆ If the alternative fuel type is outside the **basic business purpose** of the proposed project, may be able to determine that the alternative fuel not be considered at Step 1 of the process.
- **Step 1: Identify All Control Technologies**
- **Step 2: Eliminate Technically Infeasible Options**
- **Step 3: Rank Remaining Control Technologies by Control Effectiveness**
- **Step 4: Evaluate Most Effective Controls and Document Results**
- **Step 5: Select BACT**



Future EPA Actions

Near Term GHG Actions:

- EPA will complete another rulemaking no later than July 1, 2012 for Step 3 phase-in (will become effective July 1, 2013) to promulgate lower thresholds for PSD permitting
 - ◆ Not to go below 50,000 tpy CO₂e prior to 2016



Questions?

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