Effective PSD Permitting Strategies for GHG Emissions

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How Did We Get Here?

Mass. v. EPA

Johnson Memo

Endangerment Finding

PSD Tailoring Rule

EPA Permitting Guidance

• Tailoring Rule in effect since January 2, 2011
• GHG permitting remains a legal battleground
  – State challenges
  – The Battle of Texas
Tailoring Rule Applicability

- “Anyway” projects are those which trigger PSD review for criteria pollutants
  - 75,000 tpy CO$_2$e
- Non-anyway sources trigger PSD review solely for GHG
  - 100,000 tpy CO$_2$e
- NAAQS and Non-attainment New Source Review do not apply
- New source thresholds and modification thresholds are the same for any project
Guiding Principles

• EPA’s position is that PSD and BACT review processes should remain largely the same…
  – Actual-to-projected actual applicability test
  – Netting analysis
  – Top-Down BACT analysis

• …but! Several typical PSD elements do not apply or remain unresolved
  – PSD increment modeling not required (No NAAQS)
  – Lack of available permitting decisions or RBLC data
  – Lack of NSPS floor for control selection
  – Very limited options for add-on control strategies
  – Consideration of secondary emissions when selecting BACT
Netting Analysis

- EPA will allow historical CO$_2$e to be calculated from past operating data
  - Be sure to use the same GWP basis for past and future emissions
- Emission reductions can only be netted from on-site sources
- Demand growth exclusion may still be applied
  - “Reasonable Possibility” under New York v. EPA requires MR&R if the net increase > 50% of PSD applicability
  - Document! Document! Estimates must be defensible.
BACT Essentials

• BACT must be an *emissions limitation*
  – Simple work practice standards are unlikely to satisfy BACT

• Add-on control options are very limited
  – EPA’s position (through guidance) is that CCS *must* be explored in any *complete* BACT analysis
  – This is in contrast to their position that CCS will not be a feasible option for the vast majority of projects

• Inherently Lower-Polluting Processes will be the focus of many BACT determinations

• Industry-specific guidance tends to blur the line on “redefining the source”

• At what cost is a project economically infeasible?
CCS Considerations

Evaluate CCS in two categories:

• On-Site Sequestration projects
  – Highly dependent upon local geography
  – Study nearby O&G fields for EOR potential and capacity
  – Examine the potential of immediate geologic formations

• Carbon Capture and Transport projects
  – Third-party pipelines would seem to be the future for CCS, however serious legal issues arise
    o Permits have never mandated contracts with a specific third-party
    o Pipelines would serves as utilities, yet are not regulated by PSC
    o Permit compliance becomes dependent upon a single third party
Energy Efficiency

• Inherently Lower Polluting Process concept inevitably leads to energy efficiency
• Clash of paradigms:
  – *Industry*: Don’t you think we are as efficient as possible?
  – *EPA*: BACT is not based on an ROI, it has a net cost.
• Fuel selection may be the most effective option for many projects, favoring natural gas
• Electric efficiency for secondary emissions
• Benchmark process design efficiency
  – Claim credit when proposing highly efficient process designs
  – Identify energy integration efforts
Effectiveness

• Most traditional pollutant control strategies conflict with the energy efficiency goal
  – Controls have energy penalties, from LNBs to wet scrubbers
  – Consider energy penalty effects when benchmarking against top-performing similar sources; do they have controls?

• EPA’s position is that effectiveness should not be taken down to the light bulb level, efforts should be focused on process-level equipment
Questions?

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