# New EPA Guidance on GHG Permitting

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# Background

EPA Endangerment Finding (12/15/09)

leads to:

GHG Rule for Motor Vehicles (7/7/10)

leads to:

EPA determination that GHG emissions from stationary sources are automatically subject to regulation under PSD and Title V programs and to:

PSD Interpretive Memorandum (4/3/10) and Tailoring Rule (6/3/10) determining that GHG regulation will be phased in beginning 1/2/11.

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# GHG Regulation to be Phased In Multi-Step Process

- Step One: 1/2/11 – Only "anyway" sources will be subject to GHG regulation.

  - Sources that potentially emit at least 100/250 tpy of non-GHG pollutants and that potentially emit at least 75,000 tpy of CO2e are subject to GHG BACT.

  - Only sources currently subject to the program (i.e., newly constructed or existing major sources for a pollutant other than GHGs) would be subject to Title V requirements for GHGs.

- Step Two: 7/1/11 – Sources undertaking new construction that will potentially emit at least 100,000 tpy of CO2e, and existing sources potentially increasing emissions by at least 75,000 tpy of CO2e, are subject to PSD (and GHG BACT) and Title V.

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# Further Steps

- Step Three:  New rulemaking to begin in 2011 and conclude 7/1/12 to determine whether to lower thresholds, but new thresholds will not be effective until at least 7/1/13 and will not be less than 50,000 tpy through 4/30/16.  Will also look at various permit "streamlining" mechanisms.

- Step Four:  New study to be completed by 4/2015 to determine by 4/30/16 whether to lower thresholds further.

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# State Law Problem

- 43 States (and/or localities within these states) administer their PSD programs through SIPs – these programs are authorized under state law and approved by EPA.
- As of mid-2010, the laws of 13 SIP-approved states did not authorize GHG regulation.
- The laws of most (maybe all) of these SIP-approved states require PSD permits for sources that potentially emit above the CAA 100/250 tpy thresholds.

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# For the13 States that Do Not Authorize GHG Regulation:

- According to EPA, unless these laws were changed by 1/2/11, there will be a construction ban on facilities potentially emitting above the Tailoring Rule thresholds.

- Because federal law (the Tailoring Rule) will bar construction unless these facilities obtain a permit requiring GHG BACT controls, but state law will prohibit the permitting agency from issuing such a permit.

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# For States With Regulatory Thresholds at 100/250 Levels:

- When GHGs become regulated pollutants on 1/2/11, 100/250 tpy permitting thresholds under state law that apply to other pollutants will automatically become effective for GHGs.
- Unless these states increase their thresholds to the Tailoring Rule levels, numerous small sources will become subject to PSD regulation and GHG BACT, creating the permitting gridlock – the "absurd result" - that the Tailoring Rule was designed to avoid.
- Because the Tailoring Rule does not automatically change the state law thresholds.

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# Timing Problem for Changing State Law

- EPA did not begin addressing this problem until after Tailoring Rule was adopted in 6/10.

- Not  enough time for states to push through law changes through notice-and-comment rulemaking or legislative action and for EPA to then approve revised SIPs reflecting the changed laws.

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# The Regulatory Stampede

- In order to conform state and federal laws in the manner EPA wants by 1/2/11:

  - In December, EPA issued 7 rules, including 6 on the day before the Xmas holiday that totaled 544 pages and that were published in the Federal Register on 12/29 and 12/30.

  - Virtually every state in the union has been galloping through rulemakings since mid- to late-2010 to fix the state law problems, many acting under emergency authority.

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# The Regulatory Stampede: States Whose Laws Don't Authorize GHG Regulation

- EPA GHG SIP Call and FIP (proposed 9/2/10, final 12/30/10).

- 13 states were subject to SIP Call requiring them to change their laws to authorize GHG regulation.

  - ostensibly given one year to change laws, but told that if laws not changed by 1/2/11, there would be a construction ban.

  - so offered "option" of being given an early SIP-Call date of 12/22/10 with knowledge that some states would not meet that date. But failure of states to meet 12/22/10 deadline would authorize EPA to impose FIP taking over permitting of GHG-emitting sources in those states in order to avoid the construction ban.

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# The Regulatory Stampede States Whose Laws Don't Authorize GHG Regulation: The Final Count

- 7 states elected the early SIP Call option. On 12/30/10, EPA found that they had not submitted a SIP on time and imposed a FIP
  → AZ, AR, FL, ID, KA, OR, WY

- EPA found that 5 states would change their state laws within first six months of 2011, so no FIP (but construction ban until changes made)
  → CA (Sacto and AQMD), CT, KY (most of state), NE, NV (Clark Co)

- Unresolved FIP issues: will there be delegations and what will be the terms; EPA will only administer state PSD programs to extent of GHG emissions; state will administer for non-GHG emissions; dual masters, good luck getting a permit in timely fashion

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# Texas

- Texas refused to accept an early SIP submittal deadline, says EPA is acting illegally, and says Texas SIP (that does not authorize GHG regulations) remains in place until Texas changes it after reasonable period of time (3 years).

- On 12/30/10, EPA adopted an interim final rule (without notice and comment) imposing a FIP on Texas, even though under SIP Call Texas is supposed to be given one year. Claims Texas has already said it will not meet the one-year deadline and EPA needs to act immediately to prevent a construction ban in the state.

- D.C. Circuit granted Texas a stay of this interim rule on 12/30/10 so court could hear the merits of Texas' challenge. Briefing during the week of 1/3/10, decision expected soon.

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# The Regulatory Stampede: States Whose Laws Require Regulation at the 100/250 tpy Threshold

- Differing accounts as to how many states made the necessary changes on time. Likely a number of states right now where sources emitting CO2e above 100/250 tpy that undertake new construction or modifications are violating CAA.
- Detour based on EPA attempt in final Tailoring Rule to avoid the necessity for states to change their thresholds by "interpreting" state thresholds at the Tailoring Rule level for GHGs – most states rejected this option.

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# The Regulatory Stampede: States Whose Laws Require Regulation at the 100/250 tpy Threshold

- In theory, anyway, EPA still has to approve these changed state thresholds for GHGs. No time to do so by 1/2/11.

- EPA "parallel-processed" some state approvals and still has some in queue.

  → Form of expedited approval.

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# The Regulatory Stampede: States Whose Laws Require Regulation at the 100/250 tpy Threshold

- EPA also promulgated rule at end of year retroactively limiting EPA's prior approval of state SIPs to the extent that the SIPs authorize GHG regulation at thresholds below the Tailoring Rule levels…on theory that EPA made an "error" in these prior approvals by not having anticipated need to tailor thresholds for future GHG regulation. EPA says this has effect of pre-approving the changed state permitting thresholds, so EPA does not have to approve the changes now.
- Rule applies to 24 states under PSD, 33 under Title V.
- Major legal issues, to say the least.

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# The Regulatory Stampede: Conclusion (for now)

- 8 States became subject to FIPs as of 1/2/11, including Texas, which is resisting. Terms of FIPs (delegation agreements, dual permitting still to be resolved).
- 5 states are subject to continuing SIP Call to change their laws to authorize GHG regulation at specified times in first half of 2011. Currently effective construction ban in these states for sources emitting CO2e above Tailoring Rule thresholds.
- Some states have not yet changed their thresholds to the Tailoring Rule levels and/or received EPA approval of SIP revisions. Some sources in these states may be in violation of CAA permitting requirements.
- Major unresolved legal questions as to the validity of EPA's process for requiring and then approving SIP revisions.

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# Guidance and Associated Material

- Guidance Document.
- Control Measures White Papers for 7 Industry Sectors: coal-fired EGUs, large industrial, commercial, and institutional boilers, pulp and paper manufacturing, cement manufacturing, iron and steel, petroleum refineries, nitric acid plants.
- GHG Mitigation Strategies Data Base.
- GHGs added to RACT/BACT/LAER Clearinghouse.
- 3 hours of training videos.

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# Guidance – Main Points

- Continued use of 5-step “top-down” BACT process (although says states are not mandated to use).
- Says no major changes in policy for implementing GHGs as compared with traditional pollutants.
- Says states should look at efficiency as BACT.

  → Says efficiency as BACT for GHGs is not a change in policy as efficiency is typically a BACT measure for non-GHGS, but that’s not true.

- Great discretion to states on many fundamental issues.

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# Guidance – Main Points

- Where measures to reduce GHGs may conflict with measures to reduce non-GHGs, consider trade-offs.
- No ambient modeling or monitoring, since no GHG NAAQS or PSD increments.
- No additional impacts of Class I impacts analysis for GHGs.
- Encourages output-based emissions limits with longer (30- or 365-day) averaging times.
- Ranking of control options based on total “net output based CO2e.
- Treatment of biomass still undetermined. Additional guidance this month (?), additional rulemaking (?).

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# Guidance – Major Issues

## How Useful Is it Anyway?

- After the build-up and the delays in issuance, EPA's mighty labor produced a mouse: 58 pages that won't tell you much more than you already know.
- Very little specifics: certainly no specificity of what $/ton CO2e avoided = cost-effective BACT.
- Very big on state discretion, but that doesn't answer any questions. Instead, it leaves the field open for project opponents to argue almost anything they want, and that could create delay.
- Most that can be said is that EPA thinks that states should look at efficiency measures as BACT.

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# Guidance – Major Issues

## Redefining the Source

- BACT has historically not been interpreted to require a fundamental redesign of the facility proposed. The applicant defines what type of facility it wants to build; BACT is an add-on control or a process improvement that reduces emissions from the proposed facility.
- EPA and EAB have been chipping away at this understanding.
- BACT Guidance has an on-the-one-hand, on-the-other-hand approach to redefining the source that leaves the matter a muddle.

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# On the One Hand: Applicant Can't Be Required to Redesign its Facility

- Permitting authorities should "look first at … how the applicant defined its goal, objectives, purpose or basic design for the proposed facility …" and then "discern which design elements are inherent for the applicant's purpose and which design elements may be changed to achieve pollutant emissions reductions without disrupting the applicant's basic business purpose."

- This "framework" is "ultimately a question of degree," so Applicant must fully document its business purpose. "Any decision to exclude an option on 'redefining the source' grounds must be explained and documented in the permit record, especially where such an option has been identified as significant in public comments."

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# On the One Hand: Maybe Applicant Can Be Required to Redesign its Facility

- EPA states that it "does not interpret the CAA to prohibit fundamentally redefining the source and has recognized that permitting authorities have the discretion to conduct a broader BACT analysis if they desire."
- Thus, states may consider and require fundamental changes to the design of a proposed facility in the BACT analysis.
- Although many states will not want to allow for redefining the source, some states may wish to exercise this discretion.
- This increases complexity of GHG permitting for applicants, creates more uncertainty as to ultimate outcome, and could lead to controversy and delay.

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# Guidance – Major Issues

## Fuel-Switching, Particularly for Coal-Fueled EGUs (Clean Fuels)

- On the one-hand, "permitting authorities can show in most cases that the option of using natural gas as a primary fuel would fundamentally redefine a coal-fired electric generating facility."
- On the other hand, EPA says states have discretion to require fuel-switching, so long as that decision is fully documented in the top-down BACT analysis.
- And switching from one type of coal to another (lower CO2-emitting) coal is not fuel-switching.
- Much of the controversy in the PSD program has been as to coal plants. At present, not many new ones in pipeline. Key issue is how this will play out as to modifications. Environmental community may argue that when existing coal plant modifies, it should be required to switch to gas.

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# Guidance – Major Issues

## CCS as BACT

- On the one-hand, EPA discounts CCS as BACT:

  "EPA recognizes the significant logistical hurdles that the installation and operation of a CCS system presents and that sets it apart from other add-on controls that are typically used to reduce emissions of other regulated pollutants and already have an existing reasonably accessible infrastructure in place to address waste disposal and other offsite needs."

- And EPA says that to be selected as BACT, CCS must be demonstrated to be technically feasible and cost-effective in all three steps of the CCS process—capture/compression, transportation and storage.

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# Guidance – Major Issues

## CCS as BACT

- On the other hand, EPA says CCS must be included at step one, which should not be the case because CCS is not in use in the U.S. except in very limited situations. Given that CCS is included in step one, a fairly detailed analysis will be needed to exclude it in steps two and three.

- And EPA states that "[w]hile CCS is a promising technology, EPA does not believe that at this time CCS will be a technically feasible BACT option *in certain cases*" (emphasis supplied). This statement makes it seem as if CCS may be selected in many if not a majority of cases.

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# Guidance – Major Issues

## CCS as BACT

- Moreover: "in cases where it is clear that there are significant and overwhelming technical (including logistical) issues associated with the application of CCS for the type of source under review (*e.g.*, sources that emit CO2 in amounts just over the relevant GHG thresholds and produce a low purity CO2 stream) a much less detailed justification may be appropriate and acceptable for the source."

- This statement makes it seem as if the only or primary instance in which a detailed CCS analysis is not required is where sources emit only relatively small amounts of CO2 and produce a low purity CO2 stream, whereas CCS should be excluded in a much greater number of cases.

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# Guidance – Major Issues

## BACT as Including "Outside the Fence" Requirements?

- Guidance: Scope of BACT for existing facilities: only those units that have been modified. Scope of BACT for new facilities is entire facility.

- But: Coal EGU White Paper discusses combined heat and power and coal drying at mine as possible BACT.

→ Requiring off-site activity would be a major expansion of BACT with no certain limits. EPA's New Source Review Workshop Manual says that BACT includes either add-on controls to the emitting unit or inherently lower-emitting processes or practices.

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# Coal-Fired EGU White Paper

- Also remarkably uninformative.
- Primary focus is on efficiency, but mostly on new units, and provides no information industry does not already know.
- Very little on the main event for coal EGUs for the foreseeable future, which is what efficiency will be required for existing units when they modify. Many different types of coal plants in U.S. of many different ages, raising a host of issues as to what types of efficiency improvements are cost-effective and can be considered as BACT. EPA's White Paper doesn't help.
- Coal-switching

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# Thoughts on Meeting the New Requirements

1. Justify everything (10 words are better than 1)

   - Need extensive discussion of what your business purpose is and why you need to build this particular facility.
   - Need to justify your fuel choice as intrinsic to the facility.
   - Need very wide-ranging discussion of efficiency at all levels of facility. Expect opponents to go through your facility item-by-item.

   Bill Becker (head of NACAA): ""For the first time in history," Becker says, "EPA will require that facilities go through a process of examining every piece of their operations and take actions to improve energy efficiency."

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# Thoughts on Meeting the New Requirements

2. Politics matter more than ever

- Broad discretion in states to redefine source if they wish means that states may be urged by activists to engage in wholesale re-engineering of proposed facilities based on broad social goals.

- That is a political argument that some state agencies may be receptive to more than others. On big issues like this, staff will look to political appointees to make the call, and Board/Commission may need to weigh in.

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# Thoughts on Meeting the New Requirements

3. Work with staff to create reasonable boundaries

   - Given broad discretion to states, agencies may be urged to consider so many factors in BACT analysis that process will never end.

   - A line must be drawn somewhere to keep the process moving. But keep point one above in mind: more analysis is generally better than less.

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