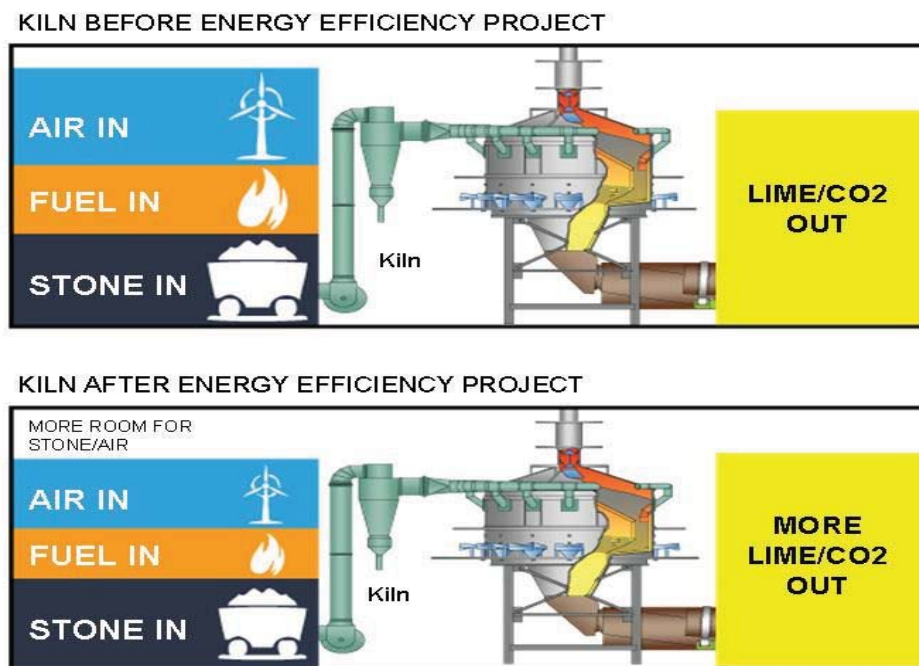


energy intensity of the lime production.



However, while energy efficiency projects reduce the rate of combustion-related GHG emissions per ton of lime produced, such projects may not change the rate of *process* CO₂ emissions per ton of lime produced. Therefore, *total* CO₂ process emissions could increase as a result of a modest increase in lime production made available by improved energy efficiency. The following example illustrates how a routine maintenance project that improves energy efficiency could increase total CO₂ emissions from a kiln greater than the proposed significance levels.

Lime plants periodically replace a kiln's feed end seal to both minimize ambient air from cooling the kiln air and to reduce the demand on the induced draft fan ("I.D. fan").⁵ By replacing the seals, there will be less ambient air in the kiln and less fuel will be needed to maintain the kiln's temperature. In addition, the I.D. fan will use less electricity because it no longer needs to pull cooler ambient air through the kiln. As shown below, the replacement of a seal would not result in an increase above the PSD significance levels for current criteria pollutants. However, there is a net emissions increase of CO₂ above 25,000 tpy simply because lime production is increased by roughly 50 tons per day.⁶ Thus, efforts to improve energy efficiency may have the net effect

⁵ An induced draft fan pulls air from the combustion end through the kiln in order to calcine and preheat the stone. If air leakage from the kiln seals is reduced, then the load and the demand for electricity by the induced draft fan will decline, and the performance of the baghouse will improve as less air is moved through the baghouse per unit of lime production.

⁶ Not all energy efficiency projects increase lime production capacity. Any increase in production is dependent on the kiln and other factors.

of increasing CO₂ emissions due to calcination emissions above the proposed significance levels.⁷

ENERGY EFFICIENCY PROJECT TRIGGERING 25,000 TPY THRESHOLD

Project: Replace feed end seal in preheater kiln							
Pollutant	PSD / NSR Significance Levels (tpy)	Emissions Factors	Emission Factor Units	Source of Emissions Factors	Baseline Emissions (tpy)	Potential Emissions (tpy)	Net Increase (tpy)
PM	25	0.12	lb/tsf	MACT	18.83	20.99	2.16
PM ₁₀	15	55	% of total PM	AP-42, Appendix B	10.36	11.54	1.19
PM _{2.5}	15	27	% of total PM	AP-42, Appendix B	5.09	5.67	0.58
NO _x	40	3.1	lb/ton lime	AP-42, Section 11.17	243.27	271.11 ⁸	27.84
SO _x	40	34.8-coal 180-coke ¹	lb/ton solid fuel	Mass Balance	111.21	111.21	0.00
CO	100	1.5	lb/ton lime	AP-42, Section 11.17	117.71	131.188 ⁸	13.47
CO ₂	25,000	1.4	tons/ton lime	Industry Average	219,730	244,878	25,148
Existing Production	430						
Future Production	479.21						
Fuel Consumption (tpy)	36,500						
Coal tpy	29,930						
Coke tpy	6,570						

Consequently, lime manufacturers face a dilemma – either be penalized for undertaking energy efficiency projects by limiting lime production, or continue to operate a kiln in a more expensive and less fuel-efficient manner. The Tailoring Rule can remedy this paradox *by excluding process* emissions from the applicability thresholds and significance levels.

It is pointless to subject process emissions to the PSD program. If calcination emissions are subject to PSD, then lime plants will be required to submit to the complex, expensive, and time-consuming process of obtaining a PSD permit, while state and federal regulators will expend resources reviewing the permit application, only to confirm what is already known - - that BACT for calcination emissions is no additional controls. Fuel costs alone are sufficient to ensure that new and modified kilns will utilize the most energy efficient designs that are economically and technologically available.

⁷ NLA does not concede that any energy efficiency projects discussed in these comments are non-routine or that the kilns were not capable of accommodating increased production. The sole purpose of the examples is to illustrate how very minor energy efficiency projects can increase calcination emissions above the proposed significance levels.

⁸ Although the calculations indicate that NO_x and CO emissions would potentially increase as a result of the project, these emissions would actually decrease per unit of production as a result of reduced fuel consumption. The projected increase reflects the fact that NO_x and CO emissions for lime plants in this example are calculated in terms of pounds *per ton of lime*.

Including process emissions within the PSD program also creates inherent unfairness to pyroprocessing industries because they will, for all practical purposes, have a lower significance level than the vast majority of GHG emission sources. For example, GHG emissions from an electric generating station result almost exclusively from the combustion of fossil fuels.⁹ A power plant will not trigger PSD review if the project does not increase *combustion* emissions by more than 25,000 tpy. In contrast, if a lime plant undertakes a project that increases combustion emissions, that plant will effectively have a significance level that is half that of most other sources because roughly half of lime plant GHG emissions are calcination emissions.

Because less than five (5) percent of the United States' GHG emissions are from industrial process emissions,¹⁰ exclusion of calcination emissions from the PSD program will not have a material effect on air quality or global warming. EPA can easily administer a PSD program that separates combustion and process emissions because the GHG Reporting Rule requires facilities to separately calculate and report GHG combustion and process emissions. *See e.g.*, 40 C.F.R. 98 Subpart C and Subpart S.

II. A Significance Level Less Than 25,000 TPY Will Subject Even More Trivial Projects to PSD

NLA believes EPA greatly underestimated the number of PSD permits that will be required for new and modified sources that exceed the applicability and significance levels for GHGs. Regulating agencies currently issue 280 PSD permits per year for new and modified facilities.¹¹ EPA incorrectly projects that a 25,000 tpy applicability and significance level will result in “only” 400 additional PSD permits per year. The projection of a 140 percent increase in the number of PSD permit applications is based on two assumptions: (1) 2% of existing sources would make modifications requiring a PSD permit for GHGs; and (2) most physical changes will trigger PSD for other criteria pollutants.¹² However, the kiln seal repair project described above calls into question the second assumption. EPA’s analysis fails to account for those industries with process emissions making minor, routine maintenance improvements that could result in an increase greater than the significance level only for CO₂.

If the significance level is less than 25,000 tpy, EPA is likely to capture thousands of additional minor activities that the PSD program was not intended to regulate. For example, a lime plant that performs routine maintenance by adjusting the burner flame could exceed a CO₂ significance level of 10,000 tpy. Lime kilns often use open pipe burners to combust fuel and provide heat to the kiln. The burner flame is frequently adjusted to improve heat transfer from the flame to limestone. If heat transfer improves, then less fuel is needed to produce the same amount of lime.¹³ As shown in the table below, the adjustment of the burner flame would not increase emissions of any criteria pollutant above the significance level. However, the change could

⁹ Power plants have minor process emissions from the use of limestone in their flue-gas desulfurization units.

¹⁰ “Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2007 (April 15, 2009), at 4-1 to 4-2.

¹¹ 74 Fed. Reg. 55,292, 55,301 (Oct. 27, 2009) (col. 1).

¹² *Id.* at 55,331 (col. 1); “Methodology for Estimating Modified Sources That Would Be Subject to PSD Permitting for GHGs.”

¹³ As explained above, reduced fuel consumption reduces exit gases and improves operation of the I.D. fan, creating more room in the kiln for limestone and the CO₂ emitted as part of the calcination process.

increase lime production by only 20 tons per day, which could lead to an increase in CO₂ emissions in excess of the 10,000 tpy significance level.

ENERGY EFFICIENCY PROJECT TRIGGERING 10,000 TPY THRESHOLD

Project: In preheater kiln with standard open pipe burner, adjust flame to optimize temperature in burning zone							
Pollutant	PSD / NSR Significance Levels (tpy)	Emissions Factors	Emission Factor Units	Source of Emissions Factors	Baseline Emissions (tpy)	Potential Emissions (tpy)	Net Increase (tpy)
PM	25	0.12	lb/tsf	MACT	18.83	19.76	0.92
PM ₁₀	15	55	% of total PM	AP-42, Appendix B	10.36	10.87	0.51
PM _{2.5}	15	27	% of total PM	AP-42, Appendix B	5.09	5.33	0.25
NO _x	40	3.1	lb/ton lime	AP-42, Section 11.17	243.27	255.19	11.91
SO _x	40	34.8-coal 180-coke ¹	lb/ton solid fuel	Mass Balance	111.21	111.21	0
CO	100	1.5	lb/ton lime	AP-42, Section 11.17	117.71	123.48	5.77
CO ₂	25,000	1.4	tons/ton lime	Industry Average	219,730	230,492	10,762
Existing Production	430						
Future Production	451.06						
Fuel Consumption (tpy)	36,500						
Coal tpy	29,930						
Coke tpy	6,570						

The lower threshold of 10,000 tpy is likely to dramatically increase the number of PSD permit applications and applicability determinations and lengthen the time needed to obtain a permit. The increase in permitting activity, coupled with the lack of guidance on what constitutes BACT for CO₂, will create gridlock and uncertainty within permitting agencies and industry, further strangling the PSD permitting process.

NLA cannot comment on the number of new PSD permits that may be required if the significance level is below 25,000 tpy because EPA’s analysis assumes a significance level of 25,000 tpy.¹⁴ Common sense, however, tells us that a lower significance level will require sources to evaluate more projects, obtain more applicability determinations, and/or obtain PSD permits for more projects.

¹⁴ See “Regulatory Impact Analysis for the Greenhouse Gas Tailoring Rule” at 18 (a significance level of 25,000 tpy is assumed for analytical purposes); “Methodology for Estimating Modified Sources That Would Be Subject to PSD Permitting for GHGs” at 3.

Lime plants that have gone through PSD review report that a two-year wait to obtain a permit is not unusual. This delay is likely to increase if a lower significance level is applied to minor, routine energy efficiency projects, like adjusting the burner flame. Increased permitting likely to flow from a lower significance threshold will further delay the permitting time, impose excessive costs on industry and permitting agencies, and delay or preclude environmentally beneficial projects. In the end, the PSD program, intended to encourage economic growth and environmental protection, could result in a decline in both.

III. The Tailoring Rule Should Be Effective After the Light-Duty Vehicle Rule is Implemented and BACT Is Determined

The Tailoring Rule -- including applicability of PSD requirements to sources of GHGs -- will be effective when GHGs are “subject to controls” under the CAA.¹⁵ EPA has suggested that GHGs be considered “subject to controls” 60 days after the publication date of the relevant vehicle standards. For the reasons set out below, this interpretation will cause serious problems for both sources and states, and EPA should instead interpret “subject to controls” as the date when EPA *certifies* that the first 2012 model vehicles meet the GHG limits in the vehicle rule.

The biggest problem with EPA’s proposed date is that it will wreak havoc on state-run PSD and Title V programs. States need time to conform their programs with EPA’s rule. Setting an effective date too soon may mean that in many states, automatic, statutory PSD applicability could apply before a version of Tailoring Rule has been incorporated into the State Implementation Plan (“SIP”). EPA already stated that it does not plan to issue a SIP Call, impose a Federal Implementation Plan, or otherwise require states to amend their PSD rules and Title V operating programs,¹⁶ so states are left to determine for themselves how to incorporate the new rule. If a state is unable to do this before the proposed effective date of the vehicle rule, there will be an avalanche of PSD permit applications and PSD applicability determinations that the Tailoring Rule is designed to avoid.

The National Association of Clean Air Agencies, which represents state air regulators responsible for implementing the PSD program, has also urged that the Tailoring Rule not be effective before EPA certifies the 2012 model vehicles so that states have more time to prepare for the Rule’s requirements.

The proposed Rule’s response to this concern is to immediately “correct” SIPs by revoking EPA’s prior approval of SIPs with thresholds below 25,000 tpy for GHGs. This plan carries a significant risk that courts may not agree that EPA may circumvent the procedural requirements of SIP Calls and public notice and comment by withdrawing prior approvals of any GHG threshold below EPA’s 25,000 tpy. In addition, this plan disrupts the normal, orderly process of revision of state programs.

Even if EPA can conform SIPs by adding boilerplate language that EPA limits its approval to thresholds in the Tailoring Rule, it cannot change state legislation imposing regulatory thresholds

¹⁵ *In re Deseret Power Elec. Coop.*, PSD Appeal No. 07-03 (EAB Nov. 13, 2008) at 33.

¹⁶ 74 Fed. Reg. at 55,343 (col. 2 and 3).

and govern source PSD and operating permit requirements. Those changes must be made by state legislators, and that process could take years to complete. States run the risk of being sued if states issue permits for sources that emit more than 100/250 tpy of GHGs *before* the state law and regulations are amended.

Additional time is also needed to develop BACT guidance that is necessary to fully evaluate the economic impact of regulating GHG emissions under the PSD and Title V programs. Currently, the Clean Air Act Advisory Committee's Climate Change Workgroup is struggling to develop BACT guidance for source categories that emit the most GHG emissions. By all accounts, there are sharp divisions within the Workgroup as to what BACT should be and a resolution does not appear to be imminent. Only after BACT is evaluated will EPA have information necessary to fully analyze the economic impact of this Rule.

Accordingly, EPA's final rule should provide that PSD applicability to GHG sources should be effective no earlier than when EPA *certifies* that the first 2012 model vehicles meet the GHG limits in the vehicle rule.

IV. There Is No Basis for EPA's Certification That The Rule Doesn't Impose A Significant Economic Impact on Small Businesses

The Small Business Regulatory Flexibility Analysis and the Small Business Regulatory Fairness Act (SBREFA) require EPA to certify whether a regulation imposes a significant adverse economic impact on a substantial number of small businesses. For businesses for which a significant adverse impact is determined, SBREFA requires EPA to evaluate measures to reduce these impacts.

EPA states in the light-duty vehicle rule that the ("SBREFA") review of the potential impacts on small entities of regulating GHG emissions under the PSD program would occur in the context of the Tailoring Rule.¹⁷ However, the Tailoring Rule lacks any analysis of the *costs* of regulating GHGs under the PSD program and the impact of those costs on small businesses. Instead, the analysis in the Rule focuses exclusively on *avoided* costs.

Nearly half of NLA's members are small entities that have Title V permits and would be "major" sources of GHG emissions covered by this Rule. As described above, the Tailoring Rule will discourage energy efficiency and other improvement projects at lime plants, and thus adversely impact them. One way EPA could minimize this impact for lime (and other pyroprocessing industries) is to (1) make the determination now that BACT for calcination emissions is no controls and (2) exclude calcination emissions from the threshold calculations.¹⁸ Absent consideration of such mitigation efforts, EPA's certification under Section 605(b) of the Regulatory Flexibility Act, which is subject to judicial review, is improper.

¹⁷ 74 Fed. Reg. 49,454, 49,629 (Sept. 28, 2009).

¹⁸ Because the vast majority of GHG emissions result from the combustion of fossil fuels, the Tailoring Rule focuses exclusively on combustion units and ignores process emissions. *See e.g.*, 74 Fed. Reg. at 55,297 (col. 1); "Summary of Administrative Necessity Basis for a CO₂-e Significance Level (Aug. 2009) (EPA analyzed annual sales data of boilers, Compression ignition non-emergency engines, and spark ignition engines to estimate the number of combustion units that may trigger PSD for CO₂-e).

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NLA appreciates the opportunity to submit these comments. Please feel free to contact me at (703) 243-0666 if you would like to discuss our comments or raise any questions.

Sincerely,

/s/ Leslie Bellas