

Nos. 14-000123 and 14-000124

IN THE UNITED STATES COURT OF APPEALS
FOR THE TWELFTH CIRCUIT

SYLVANERGY, L.L.C.,
Petitioner-Appellant,

vs.

SAVE OUR CLIMATE, INC.,
Petitioner-Intervenor,

vs.

SHANEY GRANGER, in her official capacity as Regional Administrator for Region XIII of the
United States Environmental Protection Agency,
Respondent-Appellee.

ON CONSOLIDATED PETITIONS FOR REVIEW OF A FINAL ORDER OF THE
REGIONAL ADMINISTRATOR.

PSD Appeal No. 15-0123

BRIEF OF APPELLEE SHANEY GRANGER

ORAL ARGUMENT REQUESTED

TEAM 40
Attorneys for Appellee

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JURISDICTION

On July 10, 2014, Sylvanergy, L.L.C. and Save Our Climate, Inc. (“SOC”) filed petitions for review of Sylvanergy’s Prevention of Significant Deterioration (“PSD”) permit pursuant to 40 C.F.R. § 124.19(a). The Environmental Appeals Board (“EAB”) denied petitions for review of the PSD permit on June 1, 2015. The Regional Administrator of the Environmental Protection Agency (“EPA”) then released the final permit decision as required by 40 C.F.R. §124.19(1)(2)-(3). The instant petitions for judicial review of the EPA’s final permit decision were timely. The jurisdiction of this Court rests on 42 U.S.C. § 7607(b)(1). The parties dispute whether this court has jurisdiction to review New Union Air Resources Board (“NUARB”)’s denial of Sylvanergy’s request for a Non-Applicability Determination.

STATEMENT OF THE ISSUES

- I. Whether NUARB’s denial of Sylvanergy’s request for a Non-Applicability Determination is unreviewable by this Court when Sylvanergy continued with the permitting process, induced the agency to make subsequent final permitting determinations, and has demonstrated no hardship were review to be withheld.
- II. Whether Sylvanergy’s proposed plant is a “major emitting facility” under the Clean Air Act when it is fueled by biomass and has the potential to emit more than the triggering threshold of a regulated pollutant.
- III. Whether biomass-fueled facilities are subject to Prevention of Significant Deterioration review as emitters of greenhouse gases when the D.C. Circuit struck down the exemption from review for sources of “biogenic” greenhouse gases.
- IV. Whether forcing a facility designed to burn wood pellets to instead use wood gasification, steam reformation, and carbon sequestration control technologies constitutes a redefinition of the facility under the Clean Air Act.
- V. Whether NUARB properly imposed the Sustainable Forest Plan as “Best Available Control Technology” under the Clean Air Act when the plan is the only feasible control technology that offsets the emissions of Sylvanergy’s proposed facility without redefining the facility.

STATEMENT OF THE CASE

This case is about allowing NUARB, a state air pollution control agency with delegated authority to administer the Clean Air Act (“the Act”), to regulate air pollution from emitting facilities and impose emission controls on facilities according to the requirements of the Prevention of Significant Deterioration (“PSD”) permitting program.

Sylvanergy proposes to build a biomass-fired electricity generation unit and wood pellet production plant that would burn wood acquired from an undisclosed source. Sylvanergy requested a Non-Applicability Determination (“NAD”) from NUARB to exempt its proposed biomass facility from PSD permitting requirements. NUARB rejected Sylvanergy’s NAD request. Sylvanergy then applied for a PSD permit. NUARB conducted PSD review and issued a PSD permit granting Sylvanergy permission to construct its plant according to the limitations and conditions of the permit.

Sylvanergy and Save Our Climate, Inc. (“SOC”) filed petitions for review, challenging NUARB’s determinations. R. at 4. The EAB denied both petitions for review. R. at 7. It found that it lacked jurisdiction to review the NAD denial because Sylvanergy did not seek review of the denial when it had the opportunity and because the denial was not a final permit decision subject to review. R. at 8. EAB declined to review NUARB’s permit determinations because it found that neither Sylvanergy nor SOC identified a “clearly erroneous factual or legal determination” made by NUARB in their petitions. R. at 13-14.

In the instant proceeding, Sylvanergy and SOC are challenging the permit determinations made by NUARB and ultimately issued as a final permit decision by the Regional Administrator of the EPA, Shaney Granger.

STATEMENT OF FACTS

The Sylvanergy Facility. Sylvanergy proposes to construct new biomass-fired electricity generation unit with a maximum heat input rate of 500 million Btu/hr. R. at 5. This facility would be co-located with a wood pellet production operation that has the capacity to produce 150,000 tons per year (tpy) of fuel for the plant. *Id.* The facility would include two ultra-low sulfur diesel start-up burners that have a combined maximum heat input rate of 120 MMBtu/hr. *Id.* The facility would emit several regulated air pollutants. *Id.* Operating at 96% capacity, the plant would emit 255 tpy of carbon monoxide. It would also emit 350,000 tpy of greenhouse gas emissions, measured in carbon dioxide equivalent units. *Id.*

Village of Forestdale. Sylvanergy proposed to locate its facility two miles from the center of the village of Forestdale, New Union. R. at 5. New Union is an attainment area for regulated pollutants, which means it has attained the level of air quality required by federal law. *Id.* Concerned about the impact of log trucks bringing raw logs to the facility for processing, Forestdale imposed its own operating restriction on Sylvanergy's proposed facility. *Id.* It requires the plant to operate no more than 6,500 hours per year, or 75% capacity, and can be enforced by the local building inspector. *Id.*

The Permitting Process. Sylvanergy's plan provides no method to completely offset greenhouse gas ("GHG") emissions. R. at 11. In its permitting process, NUARB considered several options to address GHG emissions. R. at 6-7. It considered wood gasification and partial carbon capture and storage technology as possible control technologies. Ultimately, it rejected these possibilities because requiring them would impermissibly redefine the proposed facility. R. at 13.

The Sustainable Forest Plan. NUARB instead determined that setting aside land for dedicated reforestation (the "Sustainable Forest Plan") is the best way to offset the emissions of the facility

and meet the Best Available Control Technology (“BACT”) requirements of the Act. R. at 7, 11. The land is available and the additional cost would not make the project economically unviable. R. at 11. The plan would increase local employment opportunities through the creation of logging jobs. R. at 12. It consists of 25,000 hectares and is expected to yield 250,000 tons of dry biomass per annum for the plant to use. R. at 7.

SUMMARY OF THE ARGUMENT

Sylvanergy and SOC variously argue that determinations made by NUARB during the PSD permitting process warrant remanding the permit. To the contrary, NUARB’s permit determinations follow plainly from binding case law and PSD regulations, are reasonable, and are therefore entitled to great deference.

In *Utility Air Regulatory Group v. EPA*, the Supreme Court upheld EPA’s interpretation of the Clean Air Act that sources subject to PSD review for other pollutants can also be subject to PSD review for greenhouse gases. 134 S. Ct. 2427, 2448 (2014).

This is precisely the authority NUARB followed when it applied the PSD regulations and found that a biomass facility could be subject to PSD review for greenhouse gases. NUARB followed EPA’s long-established and litigation-tested PSD permitting guidance and processes to eliminate control technologies that would unfairly require Sylvanergy to change its planned facility. NUARB continued to follow the PSD review process reasonably, and came up with the Sustainable Forest Plan that would allow Sylvanergy’s planned facility to commence construction without unfairly degrading the air quality that New Union enjoys. Neither the singular study that SOC heavily relies on nor Sylvanergy’s attempt to narrow the universe of

acceptable control technologies lead to the conclusion that NUARB's process lacked a rational basis for its decisions.

Sylvanergy also belatedly contends that the outcome of NUARB's preliminary applicability determination was incorrect. NUARB ultimately came to the correct applicability determination that Sylvanergy's facility is subject to review as a major emitting facility. NUARB did make a reasoning error in arriving at this outcome, but because the outcome of the applicability determination and the subsequent PSD process were identical to what they would have been had the error not been made, the error is harmless. This Court should not even review the preliminary applicability determination because after it was made, Sylvanergy applied for a PSD permit and induced the agency to use resources on the permitting process and create new determinations subject to review. The permitting process subsequent to the applicability determination make the preliminary determination interlocutory and unreviewable under the Administrative Procedure Act.

STANDARD OF REVIEW

The standard of review applicable to the PSD applicability determinations and all PSD permit determinations is prescribed by the Administrative Procedure Act. The Court may only set aside NUARB's determinations if they are found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). This standard of review is highly deferential and presumes the validity of agency action. *Wild Earth Guardians v. Bureau of Land Management*, 8 F.Supp.3d 17, 25 (D.D.C. 2014). A reviewing court may not "substitute its judgment for that of the agency." *Motor Vehicle Mfrs. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); *see also Ethyl Corp. v. EPA.*, 541 F.2d

1, 34-36 (D.C. Cir. 1976). Under this standard of review, a reviewing court may only set aside the agency's determinations if the agency committed "clear errors of judgment," such as when an agency offers an explanation that "is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Id.*

A reviewing court must also afford great deference to an agency's interpretation of its own regulations. *Auer v. Robbins*, 519 U.S. 452, 461 (1997); *Bowles v. Seminole Rock & Sand Co.*, 325 U.S. 410, 425 (1945). An agency's interpretation of its own regulations is controlling unless "plainly erroneous or inconsistent with the regulation." *Id.*; *see also Decker v. Northwest Environmental Defense Center*, 133 S. Ct. 1326, 1337 (2013) ("it is well established that an agency's interpretation need not be the only possible reading of a regulation—or even the best one—to prevail.").

ARGUMENT

I. This court does not have jurisdiction to review NUARB's Non-Applicability Determination rejection because the rejection is not a final agency action and because Sylvanergy waived its right to seek review.

This court does not have jurisdiction to review NUARB's rejection of Sylvanergy's request for a non-applicability determination ("NAD") because NUARB's NAD determination is not a "final action" subject to judicial review. NUARB's rejection of Sylvanergy's NAD request is not a final agency action because withholding review of the NAD would not work considerable hardship on Sylvanergy. Additionally, the NAD is not a final agency action because Sylvanergy created new, unexhausted administrative opportunities to have its interests vindicated after the NAD determination. Furthermore, Sylvanergy waived its right to seek judicial review of the NAD decision by engaging with NUARB in the PSD review process.

A. NUARB’s NAD determination is not sufficiently final to warrant review as a final agency action.

NUARB’s NAD determination is not a final agency action subject to judicial review. A stakeholder in a determination made under the Act may only seek judicial review of the determination if the determination is a final agency action. 42 U.S.C. § 7607(b)(1) (2012); *cf.* 5 U.S.C. § 704 (specifying reviewable actions in a parallel judicial review clause). Whether an agency determination is a “final action” subject to review is determined by two inquiries: ripeness and exhaustion. *Hawaiian Elec. Co. v. EPA*, 723 F.2d 1440, 1442-44 (9th Cir. 1984). The ripeness inquiry asks whether the issue is fit for judicial decision and whether withholding review would work considerable hardship on the parties. *Abbot Laboratories v. Gardner*, 387 U.S. 136, 149 (1967). The exhaustion inquiry asks whether the petitioning entity has “exhausted” its agency remedies and whether the agency determination is interlocutory in nature. *FTC v. Standard Oil Co.*, 449 U.S. 232, 244 (1980); *Puerto Rican Cement Company v. EPA*, 889 F.2d 292, 295 (1st Cir. 1989) (hereinafter “*Puerto Rican Cement*”). In *Standard Oil*, the Supreme Court indicated that finality should be analyzed pragmatically with substantial consideration given to the practical effect of the agency action on the complaining entity. *See FTC v. Standard Oil Co.*, 449 U.S. 232, 242-243 (1980).

NUARB’s NAD determination is no longer ripe for review. In *Puerto Rican Cement*, the court found that the NAD rejection was ripe because “to withhold review would work considerable hardship on the Company, forcing it either to abandon its building plans, to compromise them by agreeing to emissions limitations, or to engage in a long, costly PSD review process.” *Puerto Rican Cement*, at 295. Without review of the NAD rejection, the company would have been paralyzed, faced with the risk of paying for PSD review and receiving an outcome that would have rendered its plan infeasible. Here, Sylvanergy does not face similar

hardship. Sylvanergy has already incurred the expense of undertaking PSD review. The outcome of NUARB's BACT review process allows Sylvanergy to build its plant and run it at productive capacity. R. at 7, 11. The Environmental Appeals Board specifically noted that Sylvanergy did not contend that the cost of the BACT technology required would render the project economically unviable. R. at 11. Sylvanergy would therefore experience no substantial hardship should this court withhold review.

Furthermore, Sylvanergy has not exhausted its available administrative remedies. The court in *Puerto Rican Cement* found that the company had satisfied the exhaustion prong of finality primarily because of the collateral nature of the NAD inquiry. *Puerto Rican Cement*, at 295-296. Challenging the NAD determination was effectively the last administrative remedy available to the Puerto Rican Cement Company, since proceeding with PSD review was infeasible. *Id.* Here, Sylvanergy has undertaken the PSD review process already. By inducing the agency to expend resources reviewing its PSD application, Sylvanergy has induced the creation of new, challengeable determinations subsequent to the NAD rejection. In the instant proceeding, Sylvanergy is seeking vindication of its interests with respect to those subsequent determinations: it is challenging the process and outcome of NUARB's PSD review. Accordingly, the earlier NAD rejection has lost its finality—it is now just one of a long line of interactions between Sylvanergy and NUARB. On the PSD review and BACT issues in the instant proceeding, Sylvanergy is fairly receiving its day in court, challenging the outcome of its interactions with NUARB.

B. Sylvanergy waived its right to seek judicial review of the NAD decision by failing to seek review of the NAD rejection prior to beginning the onerous PSD review process.

Sylvanergy waived its right to seek judicial review of the NAD decision by engaging with NUARB in the PSD review process. As the Environmental Appeals Board opined, “Sylvanergy had the option of seeking judicial review of the denial of the NAD, and failed to avail itself of that option.” R. at 8. NUARB’s NAD determination in the instant case could have potentially warranted review prior to the beginning of the PSD process. *Puerto Rican Cement*, at 296. Sylvanergy began the PSD process without seeking agency review of the NAD, however. R. at 6. In doing so, Sylvanergy undermined the potential justification it had for review of the NAD and waived its ability to have the rejection reviewed, either by the agency or this court.

NUARB’s NAD determination could have potentially warranted review prior to the beginning of the PSD process. *Puerto Rican Cement* held a NAD determination to be sufficiently final and thus reviewable in light of the circumstances of that case. *Id.* (“...the EPA determination *before us* is sufficiently ‘final’ to warrant review.”) (emphasis added). The collateral nature of the NAD determination—whether or not the construction plans were subject to PSD review, as distinct from the PSD review itself—made the NAD rejection sufficiently final under the circumstances. *Id.* at 296. The Puerto Rican Cement Company could not proceed with its project because of the NAD rejection. *Id.* at 295. NUARB’s NAD determination could have potentially warranted review prior to the beginning of the PSD process for similar reasons. Sylvanergy would have had to apply for agency adjudication of the decision, and upon a threshold finding that its circumstances made the NAD determination sufficiently final, the agency and then the court could have reviewed the NAD determination.

Sylvanergy waived its right to review of the NAD determination, however, by failing to seek review of the NAD determination at the appropriate time and by beginning the PSD review process. By initiating the time-consuming and costly PSD review process, Sylvanergy

demonstrated that the NAD decision did not have the obstructive effect on its project that it had for the Puerto Rican Cement Company. *Id.* Even though Sylvanergy filed for PSD review “under protest” of the NAD determination, the justification for granting review of the NAD determination is absent from the present circumstances. Thus, Sylvanergy effectively waived its right to review of the NAD determination.

II. NUARB correctly determined that the Sylvanergy Biomass Facility is a “major emitting facility” subject to PSD review because it has the potential to emit carbon monoxide in excess of the triggering statutory threshold.

NUARB correctly determined that the Sylvanergy Biomass Facility is a “major emitting facility.” R. at 6. Though NUARB incorrectly concluded that the proposed facility is a “fossil-fuel fired facility,” it ultimately came to the correct conclusion that the facility is a “major emitting facility” subject to PSD review. *Id.* NUARB’s error in reasoning is not sufficient grounds to set its PSD review or its BACT determination aside because it would have arrived at the same conclusion had it reasoned correctly.

A new stationary source is a “major emitting facility” if it falls within one of the Act’s twenty-eight listed source categories subject to a 100 tpy threshold or has the potential to emit more than 250 tpy of a regulated pollutant. 42 U.S.C. § 7479(1) (2012). Regardless of how a facility arrives at its classification as a “major emitting facility,” the Act subjects all “major emitting facilities” to PSD review. *Id.*

NUARB incorrectly concluded that the facility is a fossil-fuel fired facility subject to the 100 tpy threshold because the facility would include fossil fuel-fired start up burners. R. at 6. The fossil fuel-fired start up burners do not justify characterizing the facility as a fossil fuel-fired facility subject to the 100 tpy threshold because the burners are not capable of firing fossil fuel at

the heat input threshold that would warrant that characterization. 40 C.F.R. § 60.40. The facility is also not a fossil fuel fired facility because, plainly, it fires biomass.

NUARB's conclusion that the facility is a "major emitting facility" was ultimately correct because the facility has the potential to emit more than 250 tpy of carbon monoxide, a regulated air pollutant. *See infra* Section II.B. The operating limit imposed by Forestdale does not affect the facility's "potential to emit" calculation because it is not federally or practicably enforceable, and Sylvanergy has not otherwise demonstrated the operational control's effectiveness.

NUARB's reasoning error does not nullify its determination that the plant is a "major emitting facility" because the error was not prejudicial. The Administrative Procedure Act states that courts shall "set aside agency action...unsupported by substantial evidence." 5 U.S.C. § 706(2)(E). When reviewing an agency's actions, the court must take "due account...of the rule of prejudicial error." 5 U.S.C. §706. In the case of an agency's substantive error, as here, a long line of jurisprudence has held that a reviewing court shall not vacate an agency's determination if the agency would have reached the same determination under the correct reasoning. *Delta Air Lines, Inc. v. CAB*, 564 F.2d 592, 598 (D.C. Cir. 1977) ("[W]here a subsidiary finding is unsupported or otherwise erroneous but the court is clear that its presence was not material to the ultimate finding, reversal is inappropriate."); *see, e.g., Allison v. Dep't of Transp.*, 908 F.2d 1024 (D.C. Cir. 1990); *Kurzton v. U.S. Postal Service*, 539 F.2d 788 (1st Cir. 1976). NUARB's error was not prejudicial because the facility is still a "major emitting facility." *See infra*, Section II.B. PSD review and the BACT determination are not affected by the error because those subsequent determinations are based on the technical specifications of the facility, not its classification as one of the twenty-eight source categories in § 169(1) of the Act.

A. The Sylvanergy facility is a biomass-fired facility not subject to the 100 ton per year threshold.

The Sylvanergy facility is not subject to the 100 tpy threshold because it does not fit into any of the source categories subject to that threshold. 42 U.S.C. § 7479(1) (2012). § 169(1) of the Act and its parallel regulation identify twenty-eight source categories subject to the 100 tpy threshold. *Id.*; 40 C.F.R. § 52.21(b)(1)(i)(a)-(b).

Sylvanergy was correct in its NAD request that its proposed plant is not a “fossil-fuel fired steam electric plant.” R. at 7-8. The facility’s use of diesel start-up burners does not subject the plant to application of the “fossil-fuel fired steam electric plants” designation because the amount of fossil fuels Sylvanergy proposes to use is below the threshold required to receive the designation. 40 C.F.R. § 60.40(a)(2). The designation applies to “each fossil-fuel and wood-residue-fired steam generating unit *capable of firing fossil fuel* at a heat input rate of more than 73 MW (250 MMBtu/hr).” *Id.* (emphasis added). The Sylvanergy Biomass Facility is not capable of firing fossil fuels as a heat input rate of more than 250MMBtu/hr. R. at 5. Combined, the two USLD start-up burners have a maximum heat input rate of 120MMBtu/hr, less than the 250MMBtu/hr threshold. *Id.*¹

B. The Sylvanergy facility has the potential to emit more than 250 tons per year of carbon monoxide because the operational control imposed by Forestdale does not affect the potential to emit calculation.

The facility is properly classified as having the potential to emit (“PTE”) more than 250 tpy of carbon monoxide because it would produce 255 tpy of carbon monoxide if operated at full capacity and because Forestdale’s operating control is not federally or practicably enforceable. In

¹ This interpretation is consistent with the proposed “Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources” that exempts biomass fired units that fire ten percent or less fossil fuels. Clean Power Plan, 79 Fed. Reg. 1430, 1446 (proposed Jan. 8, 2014) (to be codified at 40 C.F.R. 60, 70, 71, and 98).

states that have a PSD State Implementation Plan (“SIP”), an operational control imposed by a state or local authority may only limit a facility’s PTE if it is “federally enforceable or legally and practically enforceable by a state or local air pollution agency.” Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit, 6 (Jan. 22, 1996) (hereinafter “Interim Policy”).² In states that do not have a PSD SIP, like New Union, an operating restriction imposed by a state or local authority is subject to the same requirement, but can also possibly limit a facility’s PTE if shown to be practically effective. *See infra* Section II.B.1.

NUARB correctly reasoned that Forestdale’s operational control does not affect the Forestdale Biomass Facility’s PTE calculation because it is not federally or legally and practically enforceable by a state or local air pollution agency. R. at 6. NUARB’s conclusion is further supported by the absence of any assurance given to NUARB that the restriction would be effective.

- 1. The D.C. Circuit’s PTE decisions and longstanding EPA guidance require that an operational control must be “federally enforceable or legally and practicably enforceable by a state or local air pollution control agency” or otherwise demonstrated to be efficient in order to affect the PTE calculation.**

The strict requirement that an operational restriction be “federally enforceable” originates in the PTE definition. 40 C.F.R. § 51.166(b)(4) (2015). PTE is defined as:

[T]he maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Id. The D.C. Circuit confronted EPA’s requirements for “federal enforceability” in two linked 1995 cases. *Nat’l Min. Ass’n v. EPA*, 59 F.3d 1351 (D.C. Cir. 1995); *Chem. Mfrs. Ass’n v. EPA.*,

² Available at <http://www2.epa.gov/sites/production/files/2015-07/documents/pottoemi.pdf>.

No. 89-1514 (D.C. Cir. Sept. 15, 1995). In *Nat'l Min. Ass'n*, the court addressed the “federally enforceable” requirement in the § 112 hazardous air pollutant (“HAP”) program of the Act. *Id.* The court found that EPA had not adequately explained why only federally enforceable limits should be considered in analysis of a source’s PTE, and remanded the HAP PTE regulation back to EPA. *Id.* at 1365. The court made clear, however, that Congress intended restrictions to be relevant to PTE analysis only when they are effective. *Id.* at 1362-64. The court stressed the need for controls to be “unquestionably” and “demonstrably” effective in order to be taken into account. *Id.* at 1364. It opined, “EPA clearly is not obliged to take into account controls that are only chimeras and do not really restrain an operator from emitting pollution.” *Id.* at 1362.

In *Chem. Mfrs. Ass'n v. EPA*, a one-page, unpublished decision, the D.C. Circuit heard substantially the same challenge to an identical PTE definition in the PSD program. No. 89-1514 (D.C. Cir. Sept. 15, 1995). The court vacated the PSD PTE definition and linked the case to *Nat'l Min. Ass'n v. EPA*, commenting, “[w]e recently decided a similar challenge in *Nat'l Min. Ass'n v. EPA*.” *Id.*

EPA interpreted the two cases in its Interim Policy shortly thereafter. Interim Policy, at 1 only vacated the federal PSD PTE definition, identical definitions in state PSD SIPs are not vacated, are still in effect, and should be read to require that limitations be “federally enforceable or legally and practicably enforceable by a state or local air pollution control agency,” to order to limit PTE. *Id.* at 6. According to the guidance, in states without SIPs governed by federal EPA regulations, operational controls that are “federally enforceable or legally and practicably enforceable by a state or local air pollution control agency” may be used “in some circumstances.” *Id.* at 6-7, fn. 2. EPA’s guidance and the D.C. Circuit’s forceful language regarding Congressional intent in *Nat'l Min. Ass'n v. EPA* strongly suggest that in a state without

a PSD SIP, the entity seeking to minimize the applicability of PSD requirements must still demonstrate that a control is effective in order to factor it into the PTE calculation. Practically, effectiveness could be shown by either adhering to the same standard to which states with PSD SIPs are subject, or by some other alternative demonstration in the applicability analysis stage that EPA or a delegated agency can rely on the control's effectiveness.

2. Forestdale's operational control does not limit the Sylvanergy Biomass Facility's PTE because it is not enforceable by a state or local air pollution control agency and because Sylvanergy did not demonstrate its effectiveness.

Forestdale's operational control does not limit the facility's PTE because it is not enforceable by federal, state or local air pollution control agency. The only indication of the control's effect is that it "can be enforced by the building inspector of the Village of Forestdale." R. at 5. There is no indication that NUARB or EPA can enforce the limitation.

Alternatively, the locally-imposed control could limit the facility's PTE if the party seeking to limit the applicability of PSD demonstrated that the control would otherwise be effective. *See Nat'l Min. Ass'n v. EPA*, 59 F.3d 1351, 1362 (D.C. Cir. 1995); *supra* Section II.B.1. Sylvanergy did not make a showing or give an assurance that the local control would be effective to NUARB in its permit application. Therefore, Forestdale's operational limit does not affect Sylvanergy Biomass Facility's PTE.

Sylvanergy's Biomass Facility has the PTE 255 tpy of carbon monoxide because Forestdale's operational control does not affect the facility's PTE. Since the facility's PTE exceeds the statutory and regulatory threshold for a new source review ("NSR") pollutant, the facility is a "major emitting facility" subject to PSD review. 42 U.S.C. § 7479(1) (2012); 40 C.F.R. § 52.21(b)(1)(i)(a).

III. Biomass-fueled facilities are subject to PSD review as emitters of greenhouse gases when they are otherwise subject to PSD regulation and meet the relevant regulatory threshold for greenhouse gas emissions.

Biomass-fueled facilities are subject to PSD review for GHGs when they are otherwise subject to PSD regulation and exceed the 75,000 tpy GHG emission threshold. 42 U.S.C. § 7521(a); *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2448-49 (2014) (hereinafter “*UARG*”); 40 C.F.R. § 52.21(b)(49). In *Center for Biological Diversity v. EPA*, the D.C. Circuit vacated EPA’s Deferral Rule, which created an exemption from GHG PSD review for “biogenic” source categories,³ including biomass-fueled facilities. 722 F.3d 401 (D.C. Cir. 2013) (hereinafter “*CBD*”). The exemption from PSD review for GHGs is thus no longer available. Furthermore, EPA and state agencies delegated to administer the PSD program do not have currently have the legal authority to exempt biomass-fueled facilities from PSD review for GHGs on a case-by-case basis by distinguishing biogenic carbon dioxide from other carbon dioxide. *See infra*, Section III.B.

A. The D.C. Circuit struck down the “Deferral Rule” and in doing so foreclosed the exemption from PSD regulation for “biogenic” GHGs.

The Deferral Rule no longer provides a viable exemption from PSD regulation for GHGs for facilities in biogenic source categories. *CBD*, at 404. The Deferral Rule provided an exemption from GHG regulation to facilities in biogenic carbon dioxide emitting source categories by excluding biogenic carbon dioxide from the regulatory definition of “greenhouses gases.” Deferral Rule, at 43,507. The rationale for the rule was that replacement source fuel,

³ “Biogenic carbon dioxide emissions are emissions “directly resulting from the combustion or decomposition of biologically based materials other than fossil fuels and mineral sources of carbon.” *Deferral for CO2 Emissions from Bioenergy and Other Biogenic Sources Under the Prevention of Significant Deterioration (PSD) and Title V Programs*, 76 Fed. Reg. 43490, 43493 (July 20, 2011) (hereinafter the “Deferral Rule”).

when grown, would sequester the carbon dioxide emitted from the burning of the fuel. *CBD*, at 406.

Though the majority in *CBD* did not address whether EPA has statutory authority to create a permanent exemption from PSD review for GHGs for biogenic source categories under some other rationale, it did vacate the temporary exemption provided by the Deferral Rule. *See generally, CBD*. For now, the exemption it granted from PSD review is not available for sources in biogenic source categories when the sources are otherwise subject to the PSD review process.

B. EPA and agencies with delegated authority to administer the PSD program lack authority to exempt sources from PSD review for GHG on a case-by-case basis under a sequestration rationale.

EPA and agencies with delegated authority cannot exempt sources from PSD review for GHGs on a case-by-case basis under a sequestration rationale because they have no authority to distinguish biogenic carbon dioxide from other GHG constituents. *See CBD*, at 412-413 (Kavanaugh, J., concurring) (explaining EPA’s lack of statutory authority to draw a distinction between biogenic carbon dioxide and other carbon dioxide).

EPA is required to regulate GHGs under the PSD program. EPA made an endangerment finding for six individual GHGs on Dec. 15, 2009, including carbon dioxide. Endangerment Findings for Greenhouse Gases under the Clean Air Act, 74 Fed. Reg. 66496 (Dec. 15, 2009) (hereinafter “Endangerment Finding”). The endangerment finding is the statutory trigger for regulating air pollutants under the Act. 42 U.S.C. § 7521(a). The endangerment finding set into motion a series of rulemakings which require EPA to regulate GHGs under various programs, including the PSD program. *See e.g.*, Light-Duty Vehicle GHG Standards, 75 Fed. Reg. 25324 (May 7, 2010); Action to Ensure Authority to Issue PSD Permits to Sources of GHGs, 75 Fed. Reg. 82246 (Dec. 30, 2010).

The endangerment finding defined “GHGs” as the aggregate of all six individual constituent GHGs. Endangerment Finding, at 66499; 40 C.F.R. § 86.1818. Under the PSD program, the Act requires that “the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter.” 42 U.S.C. § 7475(a)(4) (2012). GHG are a single pollutant subject to regulation under the Act. 40 C.F.R. § 86.1818. Therefore, to distinguish and exempt a constituent GHG pollutant from otherwise-required PSD review would be outside of the bounds of the authority delegated to EPA by Congress.

The Supreme Court’s decision in *UARG* cements EPA’s inability to exempt biogenic carbon dioxide sources from PSD review. *UARG* held that EPA’s decision to require BACT for GHGs emitted by sources otherwise subject to PSD review was a permissible interpretation of the Act. *UARG*, at 2448. Furthermore, by denying certiorari on the validity of the Endangerment Finding, the Supreme Court made the requirement to regulate GHGs virtually unchallengeable. *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d.102 (D.C. Cir. 2012), *cert. denied*, 134 S. Ct. 468 (2013). EPA could only exempt biogenic GHGs from PSD under a sequestration rational by a rulemaking modifying the definition of GHGs or through an act of Congress.

IV. NUARB properly rejected consideration wood gasification and partial carbon capture and storage technologies as BACT for the Sylvanergy facility.

NUARB properly excluded wood gasification and partial carbon sequestration from its BACT analysis because the controls would “redefine the source.” This Court may not overturn the agency’s determination unless it finds the agency action to be arbitrary and capricious. 5 U.S.C. § 706(a)(2).

Building a new “major emitting facility” in an attainment area like New Union requires a PSD preconstruction permit. Permits are granted to those facilities that can show that they have

employed the Best Available Control Technology (BACT) to limit their emissions. The CAA defines BACT as:

[A]n emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under [the Act] emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.

CAA § 169(3), 42 USC § 7479(3) (2012). The statute specifically states that the BACT determination should proceed on a “case-by-case basis.” *Id.* In line with this rigorous congressional mandate, a number of administrative decisions elaborate that the BACT analysis should be “careful and detailed,” *In re Cardinal FG Co.*, E.A.D. 153, 162 (EAB 2005), as well as tailored to fit the particulars of each case. *In re Prairie State Generating Co.*, 13 E.A.D. 1, 121 (EAB 2006), *aff’d sub nom. Sierra Club v. EPA*, 499 F.3d 653 (7th Cir. 2007).

EPA has issued guidance on the BACT determination process. *See* Office of Air Quality Planning & Standards, U.S. EPA, *New Source Review Workshop Manual* (draft Oct. 1990) at B.5-9. *See also* U.S. EPA OFFICE OF AIR AND RADIATION, GUIDANCE FOR DETERMINING BEST AVAILABLE CONTROL TECHNOLOGY FOR REDUCING CARBON DIOXIDE EMISSIONS FROM BIOENERGY PRODUCTION 3, 21 (2011) (hereinafter “GHG BACT Guidance”). This top-down method follows five steps: 1) identify all available control technologies, 2) eliminate technically infeasible options, 3) rank remaining control technologies, 4) evaluate most effective controls and document results, and 5) select the most effective control technology not eliminated in step 4. *Id.*

NUARB properly determined that wood gasification and partial carbon capture should not be included at step 1 of the BACT analysis because it would impermissibly “redefine” the facility. Step 1 of the BACT analysis is meant to capture a wide range of “available” control

technologies to ensure that the best option will be considered. BACT Guidance, at 12. However, permitting authorities are not required to consider control options that “redefine” a source. *See Sierra Club v. United States E.P.A.*, 499 F.3d 653, 654 (7th Cir. 2007); *Blue Skies Alliance v. Com’n*, 283 S.W.3d 525, 535 (Tex.App.2009) (“BACT analysis must consider any control technology that may be applied to the proposed facility, but does not need to consider any control technology that would require such a redesign of the facility that it would constitute an alternative proposal.”). To decide if an option would fundamentally redesign the facility, the agency looks to what the permit applicant has determined is the “facility’s end, object, aim, or purpose—that is its basic design.” *In re Prairie State Generating Co.*, 13 E.A.D. 1, 18 (EAB 2006). The agency then looks at which “design elements are inherent to that purpose, articulated for reasons independent of air quality permitting, and which design elements may be changed to achieve pollutant emissions reductions without disrupting the applicant’s basic business purpose for the proposed facility.” *Id.* at 19. Regarding IGCC specifically, EPA has determined that that IGCC technology “should not be excluded on redefining the source at step 1 of a BACT analysis in any particular case unless the record clearly demonstrates why the permit applicant’s basic or fundamental business purpose would be frustrated by application of this process.” PSD and Title V Permitting Guidance for Greenhouse Gases (2010) 30, n. 83.⁴ Several cases illuminate how this standard is applied.

In *Desert Rock*, a similar permit authorized the applicant to construct a new coal-fired electric generating facility. *In re Desert Rock Energy Company, LLC*, No. H-08-872, 2009 WL 3126170 (EAB Sept. 29, 2009). The Environmental Appeals Board remanded in part because the agency failed to adequately consider IGCC technology in the BACT analysis. *Id.* at *2. The EAB

⁴ Available at <http://www3.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf>.

explained the differences in IGCC and pulverized-coal burning technology, concluding that “IGCC is not simply an add-on emissions control technology,” but would instead require a differently designed power block. *Id.* at *32. Despite the differently designed power block, the EAB did not automatically conclude IGCC technology required a different design than the applicant had proposed. *Id.* Instead, the Board noted that “the crucial question [is] where control technology ends and a redesign of the proposed facility begins.” *Id.* at *36. The Board concluded that permitting authorities must consider that in most cases, BACT “should not be applied to regulate the applicant’s purpose or objective for the proposed facility.” *Id.* Applying the test, the Board found that the permitting agency had not provided a rational explanation for why IGCC technology would redefine the source and failed to adequately explain its conclusion in light of the agency having previously issued permits at similar facilities in which IGCC technology had been considered in the first step of the BACT analysis. *Id.* at *38. The agency’s explanation was particularly weak because the applicant had initially indicated that IGCC was a technology that could be considered for its proposed facility. *Id.* at *41, n. 70.

The facts in the instant case support the finding that wood gasification and partial carbon capture would impermissibly redefine the source. Although “[c]onsistency in the approach to decision-making is a primary objective of the top-down BACT approach [citation omitted],” *Desert Rock*, 2009 WL 3126170 at *38, the statutory definition of BACT specifically indicates it is defined on a case-by-case basis. 42 U.S.C. § 7479(3) (2006). The fact that some courts have found that IGCC should be included at step 1⁵ does not dictate the same outcome in this case

⁵ See e.g., *In re Desert Rock Energy Co.*, 2009 WL 3126170 (EAB Sept. 24, 2009), at slip op. 143-45 (Region abused its discretion in declining to consider IGCC as a potential control technology in step 1 of its BACT analysis); *In the Matter of: Am. Elec. Power Serv. Corp., Sw. Elec. Power Co., John W. Turk Plant, Fulton, Arkansas Permit No. 2123-Aop-Ro Issued by Arkansas Dep’t of Envtl. Quality on Nov. 5, 2008, PERMIT 2123-AOP-RO*, 2009 WL 7698416, *8 (Dec. 15, 2009) (state agency “failed to provide an adequate justification to support its conclusion that the IGCC technology should be eliminated from consideration on the grounds that it would “redefine” the proposed source”).

because there are important distinctions between NUARB's analysis and the analysis in cases like *Desert Rock*. First, the Sylvanergy business purpose is not just limited to creating a biomass-fired plant; the application and NUARB's analysis indicate that another business purpose is the integration of the biomass-fired electricity generation and wood pellet production facility. Second, unlike *Desert Rock*, IGCC was not included in the initial application (i.e., could satisfy its business purpose), thereby suggesting that IGCC would redefine the source. 2009 WL 3126170 at *2. Third, NUARB provided an adequate justification (i.e., that the facility would no longer be a wood-burning facility; rather it would be fueled by gas). R. at 13. The Utah Supreme Court agreed "that changing a fuel source would drastically redesign a proposed facility and therefore production processes that involve a completely different fuel source need not be considered. *Utah Chapter of the Sierra Club v. Utah Air Quality Bd.*, 2009 UT 76, 226 P.3d 719 (2009). Because Sylvanergy's business purpose is distinguishable from other case, and because IGCC constitutes a fuel switch and was not included in the initial application, this Court should conclude that the NUARB's failure to include IGCC technology in step 1 of the BACT analysis was not unreasonable, arbitrary, or capricious.

V. NUARB correctly determined the Sustainable Forest Plan as BACT for the Sylvanergy facility.

NUARB properly imposed the Sustainable Forest Plan as BACT because it is a legally-sound, common-sense BACT which ensures that carbon emission reductions will actually be realized. This Court may not overturn the agency's determination unless it finds the agency action to be arbitrary and capricious. 5 U.S.C. § 706(a)(2). Here, the agency action (imposition of the Sustainable Forest Plan) was not arbitrary and capricious because it is supported by the statutory grant of power in the Clean Air Act (CAA), is consistent with current EPA regulations and guidance, and is backed by sound science. NUARB correctly concluded that the Sustainable

Forest Plan (A) is an available control technology, (B) is the most effective control technology, and (C) would not threaten the environment.

A. NUARB properly included the Sustainable Forest Plan as an available control technology at step 1 of its BACT determination.

NUARB did not abuse its discretion by imposing the Sustainable Forest Plan because it is an “available” control technology encompassed within the language of the CAA, EPA regulations, and published EPA guidance. Step 1 of the BACT determination is intended to identify *all* available control options. GHG BACT Guidance, at 12. Congress intended “available” technology to be a broad category including “production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques.” 42 U.S.C § 7479(3) (2012). The Sustainable Forest Plan is an available control technology because it is either a clean fuel or it is part of the facility for purposes of emissions totaling.

1. NUARB permissibly imposed the Sustainable Forest Plan because it is a “clean fuel.”

NUARB’s imposition of the Sustainable Forest Plan was not arbitrary and capricious because it is a “clean fuel” within the meaning of the CAA. The Clean Air Act specifically includes “clean fuels” as an available method for controlling emissions in the BACT determination process. 42 U.S.C. § 7479(3) (2012). NUARB is entitled to a strong degree of deference when applying a statute it has the authority and expertise to administer. *Ethyl Corp. v. EPA*, 541 F.2d 1, 34-36 (D.C. Cir. 1976); *see also* 5 U.S.C. § 706(2)(A). EPA has not yet updated the definition of BACT in the PSD regulations to reflect the addition of the “clean fuels” language that occurred in the 1990 amendments to the Clean Air Act. 40 CFR 52.21(b)(12); 40 CFR 51.166(b)(12); GHG BACT Guidance, at 13. Nevertheless, EPA reads and applies its regulations consistent with the terms of the Clean Air Act. GHG BACT Guidance, at 13. As the EAB correctly noted, “not all biofuels

are created equal.” R. at 11. Bioenergy production is only carbon neutral when forests actually get replanted and when the wood comes from high-growth species. *See infra*, II.B. The record does not indicate where or how Sylvanergy is planning on obtaining raw logs and the company made no commitment to use sustainably harvested logs. R. at 5-7. In contrast, the Sustainable Forest Plan assures that regrowth occurs, that the wood does not come from forests with high carbon stocks (conventional and old growth forests), and that high growth rate is maintained.⁶ R. at 7. This means that less total carbon will be released and that the “carbon debt” is paid in a reasonable amount of time. *See infra*, II.B. Additionally, New Union will not be at risk of losing its natural forests through timber harvests.

Not permitting NUARB to impose a cleaner fuel (the Sustainable Forest Plan) as a substitute for a dirtier fuel would impermissibly read “clean fuel” out of the CAA. In *Sierra Club v. EPA*, the Seventh Circuit found that a coal power plant that proposed to receive high-sulfur coal from a distant source would be required to switch to low-sulfur coal, “[o]therwise “clean fuels” would be read out of the definition of such technology.” 499 F.3d 653, 656 (7th Cir. 2007). Imposing the Sustainable Forest Plan is permissible because it is similar to requiring a coal power plant to switch from high-sulfur coal to low-sulfur coal. Both high-sulfur coal and unsustainably harvested logs represent higher emissions of sulfur and carbon dioxide, respectively. Both low-sulfur coal and sustainably harvested logs represent lower-emitting versions of the same

⁶ NUARB clearly contemplated that wood from the Sustainable Forest Plan would be used at the Sylvanergy facility, saying that the dedicated forest in the plan would “assure sustainable biomass feedstock production.” R. at 7. In calculating the land area for the forest, NUARB made sure that the forest would produce more than enough wood to supply the facility’s needs. The Sylvanergy facility has a wood pellet production capacity of 15,000 dry tons per year. R. at 5. The forest can produce up to 250,000 dry tons per year. R. at 7. The New Union Loggers Association also understood the forest to supply the Sylvanergy facility when they commented that employment “will be provided by a dedicated New Union-based source of wood fuel feedstocks *for the facility*.” R. at 12 (emphasis added).

fuel type. Like the low-sulfur coal, sustainably harvested logs (required by the Sustainable Forest Plan) are permissible emission control requirements under the statute’s “clean fuel” provision.⁷

NUARB did not abuse its discretion because the Sustainable Forest Plan does not fundamentally redesign the facility. *See supra*, Section IV.A (discussing “redesign” jurisprudence”). Sylvanergy proposes to build a “biomass-fired electricity generation and wood pellet productions facility.” R. at 1. The Sustainable Forest Plan would not redesign the facility because literally no part of the facility would have to be redesigned. It would simply substitute sustainably harvested logs for logs of unknown origin. Because the Sustainable Forest Plan is a “clean fuel,” a category specifically included by Congress in the Act, and because it does not impermissibly redesign the facility, NUARB’s action was not arbitrary and capricious and should be upheld by this Court.

2. NUARB permissibly imposed the Sustainable Forest Plan because it is “under the bubble” for the purposes of emissions totaling.

Even if the Sustainable Forest Plan is not considered a clean fuel source, it can still be regarded as “under the bubble” or “within the fenceline” because both the Sustainable Forest Plan and the electric generating unit are part of the same “source.” The Act defines “major emitting facility” as “any. . . stationary [source] of air pollutants.” 42 U.S.C. § 7479(1) (2012). A “stationary source” is defined as “any building, structure, facility, or installation which emits or may emit any air pollutant.” *Id.* § 7411(a)(3). EPA has issued regulations interpreting “building, structure, facility, or installation” as “all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are

⁷ A similar argument could be made for “production process” along with “clean fuels.” “Production processes” are specifically mentioned in the statute as an available control option. 42 U.S.C. § 7479(3) (2012). Growing the trees to be used in wood pellet manufacture and burned for energy production is clearly the first step in the production process. Requiring that this be done in a way that assures carbon emissions reductions are actually realized is reasonable and permissible.

under the control of the same person.” 40 C.F.R. § 52.21(b)(6) (2012). As the expert agency, NUARB has broad authority to determine where the fenceline is drawn, or what is “under the bubble” for the purposes of calculating plantwide emissions. *Ethyl Corp. v. E.P.A.*, 541 F.2d 1, 34-36 (D.C. Cir. 1976) (discussing the strong deference afforded to an expert agency’s determinations). The Sustainable Forest Plan would be entirely within the “control” of Sylvanergy. R. at 11-12. Land is available nearby, making it “adjacent.” R. at 11. Finally, the forest and the electric generating unit clearly belong to the same industrial grouping since the one is supplying fuel (wood) to the other. This is a similar arrangement to a mine-mouth coal fired power plant, where one part of the facility supplies fuel to the other part. *See Sierra Club v. EPA*, 499 F.3d 653 (7th Cir. 2007). As Judge Knod characterized the plan, the Sustainable Forest Plan is “one portion of the source controlling emission from another part of the source.” R. at 12.⁸ Because NUARB has acted within its broad authority to allow one part of the source to control emissions from another, its action was not arbitrary and capricious.

B. NUARB properly selected the Sustainable Forest Plan as the most effective control option (BACT step 3) because it has the greatest potential to reduce CO2 emissions.

NUARB did not abuse its discretion by selecting the Sustainable Forest Plan because the Plan was correctly ranked as the best option at step 3 of the BACT analysis. This Court may only overturn NUARB’s determination if it finds that the agency lacked a rational or scientific basis for its rankings. *Ethyl Corp. v. E.P.A.*, 541 F.2d 1, 34-36 (D.C. Cir. 1976); *see also Motor Vehicle Mfrs. Ass’n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42 (1983) (holding that an agency has met its burden under arbitrary and capricious standard when it articulates a “rational connection between the facts and the choice made.”). Here, the agency

⁸It should be noted that Sylvanergy’s position on beyond the fence measures is ultimately inconsistent. Sylvanergy itself looks beyond the fenceline to find carbon reductions. R. at 11. It argues that the carbon from combustion will be sequestered as the forest re-grows elsewhere. *Id.*

acted in accordance with its published and current scientific understanding of the bioenergy fuel production. *See generally* GHG Bact Guidance. EPA has previously stated that some bioenergy facilities may be considered BACT per se. *Id.* at 1. In theory, energy production using biofuels could lead to a zero net increase of carbon dioxide concentrations in the atmosphere because the CO₂ that is released from combustion could be fully offset by carbon sequestration from regrowth of the fuel source. *Id.* at 5-6. However, EPA makes clear that the determination should proceed on a case-by-case basis. In this case, the absence of any evidence of complete offset of emissions in Sylvanergy's plan and leading science support NUARB's determination that a different BACT was required.

Biomass combustion leads to a net zero carbon dioxide emissions only under limited circumstances depending on the specific biomass used as well as on the net land-use effects. Gregg Marland and Bernhard Schlamadiner, *Biomass Fuels and Forest-Management Strategies: How do we Calculate the Greenhouse-Gas Emission Benefits?*, 20(11) ENERGY 1131, 1138-39 (1995) (hereinafter "*Marland*"). Biomass can come from a variety of sources including, corn plants, by-products (residues) of agricultural and forestry production, and from direct forest harvest. *Id.* at 1132-33. Since the facility at issue here uses raw logs to produce pellet fuel, R.5, this discussion will focus only on biomass from direct forest harvest. Initially, carbon emissions may be higher at a bioenergy plant compared to a fossil-fuel fired plant because biomass fired plants are not as efficient as their fossil fuel counterparts. *Biomass Sustainability and Carbon Policy Study*, MANOMET CENTER FOR CONSERVATION SCIENCES, 6 (June 2010) (hereinafter "*Manomet*");⁹ Carbon Emissions From Burning Biomass For Energy, P'ship For Policy Integrity, (last visited Nov. 6, 2015) ("biomass burning power plants emit 150% the CO₂ of coal, and 300-400% the CO₂ of natural gas, per unit energy

⁹ Available at http://www.manomet.org/manomet.org/files/ManometBiomassReport_FullLoRez.pdf.

produced.”)¹⁰. Thus, in absolute terms at the time of production, Sylvanergy’s biomass facility will emit more CO₂ than a fossil fuel plant to produce the same amount of energy. This carbon “debt” is paid off as trees regrow and sequester the carbon. GHG BACT Guidance, 5-6. However, this rate of pay-off depends on the ecosystem the wood comes from and the type of tree that replaces those harvested. *Marland*, 1133-34.

1. The Sylvanergy facility fails step 3 of the BACT analysis because it does not specify where the raw logs will come from.

Sylvanergy is not entitled to BACT per se status because it failed to specify the origin of its fuel wood. Some ecosystems store more carbon than others. *Id.* at 1133. Carbon is stored not only in trees but also in forest litter and soils. *Id.* Conventional forests, particularly old growth, store large amounts of carbon in each component of the ecosystem. *Id.* In contrast, short-rotation, fuel-wood plantations store less total carbon in the ecosystem. *Id.* at 1134. Thus, when a conventional forest is converted to a tree plantation, there will be a net decrease in carbon storage in addition to the carbon released when the wood is burned (because the carbon-storing leaf litter and soils is lost with the conversion). *Id.* at 1135. In fact, under some conditions “the opportunity cost in CO₂ is greater than the CO₂ benefit of the biofuels/wood-products system and the forest is best left standing unless we are prepared to consider a project lifetime greater than 100 years.” *Id.* Further, it should be noted that conventional and old growth forests provide other benefits besides carbon storage. Many citizens find aesthetic and recreational value in natural forests. *Manomet*, 8. New Union has a valid state interest in preserving its natural resources. Permitting the plan to go forward without assuring a sustainable wood source could endanger old growth forest in New Union and surrounding states. Sylvanergy could be planning on using conventional and old growth forest as fuel, thereby increasing total carbon emissions and destroying the natural forests of the state. As Judge Knod noted,

¹⁰ Available at <http://www.pfpi.net/carbon-emissions>.

Sylvanergy “made no commitment that its fuel sources would be sustainably harvested.” R. at 11. Moreover, Sylvanergy’s proposal does not ensure that trees will be regrown at all. R. at 5-7. In contrast, the Sustainable Forest Plan dedicates 25,000 hectares of land that will be used to produce sustainably harvested wood for the facility. R. at 7.

2. The Sylvanergy facility fails step 3 of the BACT analysis because it does not ensure that the wood will be regrown in a reasonable amount of time.

NUARB’s imposition of the Sustainable Forest Plan was permissible because the selection of quick-growing tree species ensures that the carbon debt will be paid in a reasonable amount of time. The growth rate of tree species strongly impacts the time required before net carbon emissions reach zero. *Marland*, 1134. Under a range of conditions including low growth rates, studies have shown it takes 50 or even 100 years for the benefits of harvesting conventional forests to outweigh the increased emissions. *Id.* at 1135. Use of fast-growing tree species decreases the amount of time required to pay the “carbon debt.” *Id.* at 1135-36. Sylvanergy failed to specify whether the facility would be using fast or slow-growing timber or generally any information about the timber. In contrast, the Sustainable Forest Plan envisions “short-rotation coppice plantings such as poplar.” R. at 7. The Sustainable Forest Plan therefore ensures that the benefits of carbon reduction from a biomass plant will be realized in a reasonable amount of time. NUARB properly concluded that the Sustainable Forest Plan was the highest ranked BACT because science shows carbon emissions from bioenergy production vary with the source of the trees used as well as the tree type.

C. The Sustainable Forest Plan survives BACT step 4 because it does not threaten the environment.

NUARB properly concluded that the Sustainable Forest Plan survives BACT step 4 because it determined that the plan does not promote disease or reduce biodiversity. BACT step 4 eliminates options ‘based on unacceptable adverse energy, environmental, or economic impacts.’ GHG BACT Guidance, at 20. This court can only set aside NUARB’s decision if it finds that

NUARB came to this conclusion improperly. The science is uncertain regarding whether monocultures promote tree diseases and pest invasions. *See* C.K.S. Chou, *Monoculture, Species Diversification, and Disease Hazards in Forestry*. 26 N. Z. J. Forestry, 20, 20 (1981). While there is some evidence to support the proposition that monocultures promote forest pests and diseases, *see e.g.*, I.A.S. Gibson and T. Jones, *Monoculture as the Origin of Major Forest Pests and Diseases*, in *ORIGINS OF PEST, PARASITES, DISEASE, AND WEED PROBLEMS* (J.M. Cherrett and G.R. Sujor eds., 1977), more recent studies have questioned this finding. For example, a recent study found “no overall support for the hypothesis that diversification of tree stands can prevent pest outbreaks and disease epidemics.” Julia Korecheva, *Diversification of Tree Stands as a Means to Manage Pests and Diseases in Boreal Forests?*, 36 Can. J. For. Res. 324, 324 (2006); *see also* C.K.S. Chou, *Monoculture, Species Diversification, and Disease Hazards in Forestry*. 26 N. Z. J. Forestry, 20, 24 (1981) (finding little support for the proposition that species diversity increases resistance to pests and disease). Similarly, some studies have found that monocultures do not reduce animal diversity. *See e.g., id* (“[W]hile mixed stands may reduce the densities of some specialized herbivores, they may be more attractive to generalist herbivores.”). Thus, it is doubtful that the Sustainable Forest Plan will increase forest pests and disease and decrease biodiversity simply because it is a monoculture. Even if monocultures do decrease biodiversity in the project area, the Sustainable Forest Plan will help preserve New Union’s existing natural forests and thus promote the overall biodiversity of the state. *See supra* II.B.1. NUARB properly concluded that the Sustainable Forest Plan survives BACT step 4 because it concluded, in light of the science available and EPA’s GHG BACT Guidance, that the plan does not promote disease or biodiversity, or, in the event that it does, that the Sustainable Forest Plan is a reasonable means to preserve existing natural forests.

CONCLUSION

For the foregoing reasons, EPA respectfully requests that this Court deny the petitions for review.