SYLVANERGY, L.L.C.,

Petitioner

v.

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

Respondent

AND

SAVE OUR CLIMATE, INC.,

Petitioner

v.

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

Respondent

On Consolidated Petitions for Review of a
Final Order of the Regional Administrator

Brief of Petitioner Sylvanergy, L.L.C.
STATEMENT OF THE ISSUES ON APPEAL

I. Under the Clean Air Act petitions for review must be timely, and are limited to the administrative record. Objections must be raised with reasonable specificity during the public comment period to be raised during review. Does this court have jurisdiction to review NUARB’s denial of Sylvanergy request for a NAD when Sylvanergy filed a timely petition pursuant to the Clean Air Act and commented on the draft permit in a manner to petition its arguments for appeal?

II. Under the Clean Air Act a “major emitting facility” is a stationary source with the potential to emit 100 tons-per-year or more of any pollutant, and satisfies the applicable minimum size limit of one of four categories, including fossil-fuel fired steam electric plants of more than 250 million Btu. Is the Sylvanergy facility a “major emitting facility” subject to PSD review when the facility is not a “fossil-fuel fired” facility within the meaning of 42 U.S.C. § 7479(1)?

A. Is the Sylvanergy facility a “fossil-fuel fired” source subject to the 100 ton-per-year threshold under section 169(1) of the Clean Air Act where the facility consists of an advanced stoker designed wood-fired boiler and relies on wood biomass for energy production?

B. “Potential to emit” means the maximum emissions that can be generated while operating a facility within the constraints of the operational limits contained in state permits. Does the Sylvanergy facility have the “potential too emit” more than 250 tons-per-year of carbon monoxide where the Forestdale Plan limits the facility to 75% capacity factor?

III. The Supreme Court has held that EPA may not treat greenhouse gas as an air pollutant for the purposes of determining whether a source is a “major source” required to obtain a PSD permit. Is the Sylvanergy facility subject to PSD review as an emitter of greenhouse gas when the facility does not have the potential to emit pollutants in excess of relevant thresholds of other pollutants under the Clean Air Act?

IV. In the event Sylvanergy’s facility required a BACT analysis, Sylvanergy’s proposal should be deemed to have satisfied BACT because the natural carbon sequestration process inherent in biofuels should be considered BACT per se for the facility. Did NUARB properly reject consideration of a wood gasification and partial carbon capture storage plant as BACT for the Sylvanergy facility?

V. Did NUARB permissibly impose the Sustainable Forest Plan as BACT for the Sylvanergy facility when NUARB failed to properly account for economic factors, misconstrued and improperly applied the Governor’s Executive Order on carbon neutrality, and imposed an impermissible “beyond-the-fence” mitigation measure?
TABLE OF CONTENTS

Table of Contents.................................................................................................................3

Table of Authorities................................................................................................................5

Jurisdictional Statement..........................................................................................................8

Statement of the Case .............................................................................................................9

A. Forestdale Biomass Facility...............................................................................................9
B. The PSD Permit...................................................................................................................9
C. Sylvanergy Denied NAD....................................................................................................10
D. Procedural Background......................................................................................................11

Summary of the Argument.......................................................................................................12

Argument................................................................................................................................14

I. This court has jurisdiction to review NUARB’s denial of Sylvanergy request for a NAD because NUARB’s decision is final and Sylvanergy exhausted its administrative remedies. The Board’s decision was in clear error, and was arbitrary and capricious ........................................................................................................................................14

A. The action is final because it is ripe for review and because review will not deprive NUARB of the opportunity to amend its decision. Sylvanergy has felt NUARB’s decision in a concrete way ........................................................................................................................................15

B. Sylvanergy exhausted its administrative remedies because it petitioned NUARB for the NAD, appealed NUARB’s decision to the Board, and applied for a PSD permit under protest ........................................................................................................................................16

II. The NUARB did not properly determine that the Sylvanergy facility is a “major emitting facility” subject to PSD review because the facility is not a “fossil-fuel fired” facility within the meaning of 42 U.S.C. § 7479(1) and relies on wood biomass for energy production........................................................................................................................................17
A. Sylvanergy does not have the “potential to emit” more than 250 tons per year of CO because the Forestdale Plan limits the Facility to 75-percent capacity factor.............................................................................................................19

III. The Facility is not subject to PSD review as an emitter of greenhouse gas because the Facility does not have the potential to emit pollutants in excess of relevant thresholds under the act.............................................................................................................21

IV. In the event the Facility required a BACT analysis, the Facility’s proposal should be deemed to have satisfied BACT without implementing NUARB’s SFP or SOC’s WGPCCS..............................................................................................................................................24

A. The natural carbon sequestration process inherent in biofuels should be considered BACT per se for the Facility..............................................................................................................................................24

B. NUARB’s imposition of the SFP was arbitrary and capricious. ......................28
   1. Costs..................................................................................................................................29
   2. Governor’s Executive Order....................................................................................................29
   3. “Beyond-the-fence”................................................................................................................31

C. NUARB properly rejected SOC’s WGPCCS proposal as BACT for the FACILITY because it would impermissibly redefine the electricity source and impose excessive costs..........................................................................................................................33
   1. Redefining the Source............................................................................................................33
   2. Ignoring Economic Factors...................................................................................................35

Conclusion .................................................................................................................................40
# TABLE OF AUTHORITIES

<table>
<thead>
<tr>
<th>Cases</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama Power Co. v. Costle, 606 F.2d 1068 (D.C. Cir. 1979)</td>
<td>17, 18</td>
</tr>
<tr>
<td>Center for Biological Diversity v. EPA, 722 F.3d 401 (D.C. Cir. 2013)</td>
<td>11, 22</td>
</tr>
<tr>
<td>In re Hillman Power Co., 10 E.A.D. 673 (EAB 2002)</td>
<td>34</td>
</tr>
<tr>
<td>In re Old Dominion Elec. Coop., 3 E.A.D. 779 (Adm’r 1992)</td>
<td>34</td>
</tr>
<tr>
<td>In re Pennsauken County, N.J., Res. Recovery Facility, 2 E.A.D. 667 (Adm’r 1988)</td>
<td>34</td>
</tr>
<tr>
<td>In re Prairie, 13 E.A.D. (EAD 2006)</td>
<td>34</td>
</tr>
<tr>
<td>In re Sutter Power Plant, 8 E.A.D. 680 (EAB 1999)</td>
<td>30</td>
</tr>
<tr>
<td>In the Matter of Haw. Commercial &amp; Sugar Co., 4 E.A.D. 95 (EAB 1992)</td>
<td>34</td>
</tr>
<tr>
<td>Puerto Rican Cement Co. v. EPA, 889 F.2d 292, 294 (1st Cir. 1989)</td>
<td>14, 15, 17</td>
</tr>
<tr>
<td>Utility Air Regulatory Group v. EPA, 134 S.Ct 2427 (2014)</td>
<td>13, 22, 23, 32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statutes</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 U.S.C. § 531</td>
<td>27</td>
</tr>
</tbody>
</table>
16 U.S.C. § 1939 ................................................................................................. 28
42 U.S.C.S. § 7607 .............................................................................................8, 14, 17
42 U.S.C.S.C. § 7479 .......................................................................................17, 18, 29, 31, 35
42 U.S.C.S. § 7411 ............................................................................................32
42 U.S.C.S. § 7470 ............................................................................................24
40 C.F.R. § 124 ..................................................................................................8, 11
40 C.F.R. § 7 ....................................................................................................21
40 C.F.R. § 51 ...................................................................................................21
40 C.F.R. § 52 ...................................................................................................21
40 C.F.R. § 52.21 ...............................................................................................35
40 C.F.R. § 70 ...................................................................................................21
40 C.F.R. § 60.40 ...............................................................................................17, 18
40 C.F.R. § 60.41 ...............................................................................................18
CAA § 160(3) ...................................................................................................18
CAA Amendments of 1977 (Pub L. No. 95, Stat. 685) ..................................21
EPA Deferral Rule (76 Fed. Reg. 43 July 20, 2011) ......................................21

Secondary Sources


Decatur Fact Sheet” Carbon Dioxide Capture and Storage Project, Carbon Capture & Sequestration Tech. (Feb. 5, 2015) ..............................36, 37


Global CSS Institute, The Global Status (Sept. 2014) ...............................36, 37, 39

House Energy and Commerce Subcommittee on Oversight and Investigations, Testimony of Julio Friedmann (Feb. 11, 2014) .........................38

Institute of Energy Research, Electric Generating Costs” A Primer (Aug. 22, 2012) ..................................................................................38
IPCC Special Report: Carbon Dioxide Capture and Storage, Summary for Policymakers (Sept. 22, 2005) ..........................................................36

James S. Rhodes and David W. Keith, Engineering Economic Analysis of Biomass IGCC with Carbon Capture and Storage, 29 BIOMASS AND BIOENERGY 440 (2005) ...........................................................37


Memorandum from Janet G. McCabe, Acting Assistant Administrator, Office of Air and Radiation, Next Steps and Preliminary Views on the Application of the Clean Air Permitting Programs to Greenhouse Gases (Jul. 24, 2014) ................21

New Source Review Workshop Manual ........................................................25, 26, 31

JURISDICTIONAL STATEMENT

The order of the Environmental Appeals Board (Knod) denying review was decided June 1, 2015 pursuant to 40 C.F.R. pt. 124 (2015). Sylvanergy, L.L.C. filed a timely petition seeking judicial review of the final decision of Shaney Granger, Regional Administrator of the United States Environmental Protection Agency and was granted on September 1, 2015. Jurisdiction for this Court rests in section 307(b) of the Clean Air Act, 42 U.S.C. § 7607(b)(1) (2012).
STATEMENT OF THE CASE

A. Forestdale Biomass Facility

Sylvanergy, L.L.C. (“Sylvanergy”) seeks to construct a 500 million Btu/hour biomass-fired electricity generation and wood pellet fuel production facility located approximately 2 km from the center of Forestdale, New Union (the “Facility”). (R. at 5). The Facility would consist of an advanced stoker designed wood-fired boiler and two ultra-low sulfur diesel (“ULSD”) start-up burners, each with a maximum heat input rate of 60 MMbtu/hour. (R. at 5). The Facility would have an electrical generation capacity of 40 MW. (R. at 5). Sylvanergy proposes to incorporate conventional pollution control equipment in the form of a multiclone, electrostatic precipitator, and multi-pollutant catalytic reactor. (R. at 5).

The Forestdale site plan approval process imposed a limitation of seventy five percent (75%) capacity on the Facility to mitigate the impact of log trucks bringing raw logs to the Facility for processing into pellet fuel. (R. at 5). Based on a 75% capacity factor, the Facility would emit the following amount of air pollutants (in tons per year): PM 2.5: 47; SO2: 32; NOx: 80; CO: 190; VOC: 30.1 (R. at 5). The Facility would also emit 350,000 tons per year of greenhouse gas (“GHG”) emissions in carbon dioxide equivalents (CO2E). (R. at 5).

B. PSD Permits

Under PSD review, a party wishing to construct a “major emitting facility” in an attainment area must obtain a preconstruction approval in the form of a PSD permit. (R. at 5). To obtain a PSD permit, the facility must achieve emissions that reflect the Best Available Control

1 In comparison, at a ninety six percent (96%) capacity, the Facility would emit the following amount of air pollutants (in tons per year): PM 2.5: 63; SO2: 45; NOx: 110; CO: 255; VOC: 40. (R. at 5).
Technology (“BACT”) for regulated pollutants emitted from their facilities at significant rates. (R. at 5). The New Union Air Resources Board (“NUARB”) is authorized to issue PSD permits under Section 165 of the Act pursuant to a delegation memorandum between the Environmental Protection Agency (“EPA”), Region XIII, and the state of New Union. (R. at 5). The state of New Union is an attainment area under the Act. (R. at 5).

C. Sylvanergy Denied NAD

On January 15, 2013 Sylvanergy petitioned NUARB for a Non-Applicability Determination (“NAD”) for the determination that it was not required to obtain a PSD permit because the Facility does not have the potential to emit pollutants in excess of relevant thresholds under the Act, does not qualify as a “fossil-fuel fired steam electric plant” subject to the 100-ton-per-year “major emitting facility” threshold applicable to such plants, and because it does not have the potential to emit more than the otherwise-applicable threshold of 250 tons-per-year of regulated pollutants. (R. at 5-6).

NUARB denied the NAD, reasoning that because the Facility would use ULSD start-up burners, and was a fossil-fuel fired facility despite its primary reliance on wood biomass for energy production. (R. at 6). NUARB also reasoned that the Forestdale site plan limitation does not constitute a “federally enforceable” limitation in order to reduce the Facility’s potential to emit below the thresholds. (R. at 6). Sylvanergy filed a PSD preconstruction permit application under protest. (R. at 6). NUARB published a draft permit for public comment on September 12, 2013 and issued the PSD permit on June 12, 2014. (R. at 6). Over Sylvanergy’s objection NUARB conducted a BACT review for greenhouse gas (“GHG”) emissions from the proposed Facility, using the 96% capacity factor prior to the limitation. (R. at 6).
D. Procedural Background

On July 10, 2014 Sylvanergy filed a timely petition for review of the PSD permit pursuant to 40 C.F.R. part 124 (2015), and requested that the permit be remanded to NUARB for further consideration. On June 1, 2015 the Environmental Appeals Board (the “Board”) denied Sylvanergy’s petition for review. (R. at 4). Relying on Center for Biological Diversity v. EPA, the Board found that Sylvanergy did not state grounds for review based on the claimed exemption of biogenic GHG emissions from PSD review. (R. at 8).

Subsequently, Sylvanergy filed a timely petition pursuant to the Act seeking judicial review of the final decision of Shaney Granger, Regional Administrator of the EPA granting the PSD preconstruction permit for the construction of the Facility. (R. at 1, 7). Sylvanergy challenges the denial of the NAD and the imposition of the Sustainable Forest Plan (“SFP”) on its permit. (R. at 1). Sylvanergy challenges NUARB’s determinations that the Facility was subject to PSD review for GHGs, and that a SFP constituted BACT for GHG emissions from the facility. (R. at 2). Sylvanergy also challenges the earlier decision by NUARB denying its request for a NAD and determining the facility is a “major emitting facility” subject to PSD review pursuant to section 165. (R. at 2).
SUMMARY OF THE ARGUMENT

This court should determine that the Board’s ruling is invalid because it was made on unreasonable grounds, and failed to consider the particular circumstances present. Sylvanergy filed a timely petition seeking judicial review, and commented on the draft permit in a manner sufficient to preserve its arguments for appeal. NUARB’s decision denying the NAD was a final action of the administrator. Additionally, NUARB arbitrarily and capriciously imposed the SFP as BACT when it neglected to account for economic factors, inappropriately interpreted and relied upon a state executive order to lend authority to its decision, and implemented a “beyond-the-fence” mitigation measure upon Sylvanergy, exposing it to unprecedented liability. The Board’s decision was in clear error because it relied on the 96% capacity factor as opposed to the limitation factor of 75%. Sylvanergy exhausted its administrative remedies.

The Facility would consist of an advanced stoker design wood-fired boiler together with two ULSD start-up burners. There is no dispute that the wood-fired boiler does not burn fossil fuel and therefore does not fit within the definition of “fossil-fuel fired.” Therefore, the Facility is not a “fossil-fuel fired” unit and not subject to the 100 ton-per-year threshold under section 169(1) of the Act. The Board erroneously concluded that because the Facility included ULSD start-up burners, it was a fossil-fuel fired facility despite the Facility’s primary reliance on wood biomass for energy production.

The Facility does not have the potential to emit 250 tons-per-year of CO because it will operate within the constraints of the operational limitations contained in the state emission permits. The Facility will be operated normally at 6,500 hours per year at a capacity factor of 75%. Within the constraint of 75% capacity factor, the Facility will emit only 190 tons-per-year of CO. It was clear error for the Board to conduct BACT review for GHG emissions using the
96% capacity factor, as Sylvanergy already agreed to operate, per the Forestdale Limitation at 75% capacity.

Sylvanergy petitioned for an NAD because the Facility does not have the potential to emit pollutants in excess of the relevant thresholds under the Act, does not qualify as a “fossil-fuel fired steam electric plant” subject to the 100 ton-per-year “major emitting facility” limit applicable to such plants, and because it does not have the potential to emit more than otherwise-applicable threshold of 250 tons-per-year of regulated pollutants. The Facility would not be subject to PSD review based on emissions of its other pollutants, and it does not fall under PSD review for GHG emissions. In its currently anticipated capacity, Sylvanergy’s proposed Facility satisfies BACT requirements due to the carbon sequestration process associated with biofuel production which offsets CO₂ releases upon its combustion.

Additionally, NUARB properly rejected SOC’s WGPCCS proposal as impermissible interpretation of BACT, as it redefines the electricity source of the Facility’s proposal and ignores the cost considerations inherent in the Act. Implementing SOC’s WGPCCS proposal would constitute an impermissible and unprecedented interpretation of BACT, as it redefines the electricity source of the Facility’s proposal—a wood-burning biofuel facility—as a wood gasification and CCS project, ignoring the cost considerations and emphasis on technology feasibility inherent in the Act.
ARGUMENT

I. THIS COURT HAS JURISDICTION TO REVIEW NUARB’S DENIAL OF SYLVANERGY’S REQUEST FOR A NAD BECAUSE NUARB’S DECISION IS FINAL AND SYLVANERGY EXHAUSTED ITS ADMINISTRATIVE REMEDIES. THE BOARD’S DECISION WAS IN CLEAR ERROR, AND WAS ARBITRARY AND CAPRICIOUS.

Judicial review of all Clean Air Act (hereinafter the “Act”) rules are governed by section 42 U.S.C. § 7607(b)(1) and section 42 U.S.C. § 7607(d)(7). Petitions for review must be timely. 42 U.S.C. § 7607(b)(1). Review is limited to items in the administrative record, and only objections that were raised with reasonable specificity during the public comment period may be raised during review. 42 U.S.C. § 7607(d)(7). Jurisdiction for all such challenges is vested in the United States Courts of Appeal. 42 U.S.C. § 7607(b)(1). The “appropriate” court of appeal may review a petition if the rule being challenged is one of the specific types listed in section 307(b)(1); or the rule is based on a determination of local or regional scope and effect. A “[party] can appeal NUARB’s decision denying a NAD only if that decision is a ‘final action of the administrator.’” Puerto Rican Cement Co. v. EPA, 889 F.2d 292, 294 (1st Cir. 1989). To prevail on a finality claim, the plaintiff must establish “(1) that agency must take further action to obtain an enforceable order, or (2) the plaintiff company can take further administrative steps.” Id.

This court should determine that the Board’s ruling is invalid because it was made on unreasonable grounds, and failed to consider the particular circumstances present. Sylvanergy filed a timely petition pursuant to 42 U.S.C. § 7607(b)(1) seeking judicial review, and commented on the draft permit in a manner sufficient to preserve its arguments for appeal pursuant to 42 U.S.C. § 7607(d)(7). EPA’s decision denying the NAD was a final action of the administrator.
Additionally, NUARB arbitrarily and capriciously imposed the SFP as BACT when it neglected to account for economic factors, inappropriately interpreted and relied upon a State executive order to lend authority to its decision, and implemented a “beyond-the-fence” mitigation measure upon Sylvanergy, exposing it to unprecedented liability. The Board’s decision was in clear error because it relied on the 96% capacity factor as opposed to the limitation factor of 75%.

A. THE ACTION IS FINAL BECAUSE IT IS RIPE FOR REVIEW AND BECAUSE REVIEW WILL NOT DEPRIVE NUARB OF THE OPPORTUNITY TO AMEND ITS DECISION. SYLVANERGY HAS FELT NUARB’S DECISION IN A CONCRETE WAY.

The “finality” of an action turns on “ripeness,” and ripeness turns on “the fitness of the issues for judicial decision and the hardship to the parties of withholding court consideration.” Puerto Rican Cement Co., 889 F.2d at 295. The United States Supreme Court has held that the “basic intricacies [of the ripeness doctrine] is to prevent the courts, through avoidance of premature adjudication, from entangling themselves in abstract disagreements over administrative policies, and also to protect the agencies from judicial interference until an administrative decision has been formalized and its effects felt in a concrete way by the challenging parties.” Abbott Labs. v. Gardner, 387 U.S. 136 (1967).

In Puerto Rican Cement Company, the company wished to build a new cement kiln, replacing older kilns that it already operated. Id. at 293. The cement plant was subject to PSD permits contained in Title I of the Act which states that “no major emitting facility . . . may be constructed in any area without . . . the issuance of a permit.” Id. at 294. Because the process of obtaining a PSD permit is costly and time-consuming, the company asked EPA to determine whether its plant fell within the scope of the PSD permit law. Id. EPA denied the NAD and the company appealed. Id. The Court of Appeals for the First Circuit held that “EPA’s position on
NUARB’s action denying Sylvanergy’s NAD is ripe for review because review will not deprive NUARB of the opportunity to refine, revise or clarify its denial of NAD. Moreover, withholding review will work considerable hardship on Sylvanergy. First, Sylvanergy wants to build a facility; applied for a NAD; and was denied. Although it is possible for NUARB to amend its NAD decision, it has not done so, and in fact, it may never do so. NUARB reviewed the merits of Sylvanergy’s NAD petition and made a decision to deny the NAD. Review by this court will not deprive NUARB the opportunity to amend its decision.

Second, NUARB’s action is a final administrative action. There is no other action required from NUARB in order for Sylvanergy to feel the effect of its decision in a concrete way. Indeed, it already has; Sylvanergy applied for a PSD permit after NUARB denied its NAD and NUARB granted Sylvanergy a permit with less than ideal conditions. Although Sylvanergy has already engaged in the long and costly PSD review, it did so out of protest. Withholding review will force Sylvanergy to comply with NUARB’s decision that Sylvanergy believes is wrong. When an agency makes a decision and the expected conformity to that decision causes injury, the claim is ripe for review.
B. SYLVANERGY EXHAUSTED ITS ADMINISTRATIVE REMEDIES BECAUSE IT PETITIONED NUARB FOR THE NAD, APPEALED NUARB’S DECISION TO THE BOARD, AND APPLIED FOR A PSD PERMIT UNDER PROTEST.

The “finality” of an action turns on whether the plaintiff has exhausted all administrative remedies, or where exhausting all remedies would be futile. *Puerto Rican Cement Co.*, 889 F.2d at 295. In *Puerto Rican Cement Company* the court held that EPA’s determination was sufficiently final to warrant review under 42 U.S.C. § 7607(b)(1) because exhausting administrative remedies “would have been futile.” *Id.* The court held that the company did not exhaust its administrative remedies because it could have followed PSD review procedures to challenge the EPA’s decision that the facility was subject to PSD provisions contained in Part C of Title I of the Act, doing so would have been futile. *Id.*

NUARB’s action is final because Sylvanergy exhausted all of its administrative remedies. Sylvanergy applied for a NAD, appealed the denial of the NAD to the Board, and applied for a PSD permit. Sylvanergy exhausted its administrative remedies. Any other action would have been futile.

II. THE NUARB DID NOT PROPERLY DETERMINE THAT THE FACILITY IS A “MAJOR EMITTING FACILITY” SUBJECT TO PSD REVIEW BECAUSE THE FACILITY IS NOT A “FOSSIL-FUEL FIRED” FACILITY WITHIN THE MEANING OF 42 U.S.C. § 7479(1) AND RELIES ON WOOD BIOMASS FOR ENERGY PRODUCTION.

A major emitting facility is a “stationary source of air pollutants which emit, or have the potential to emit,100 tons-per-year or more of any air pollutant from a stationary source…” [including] fossil-fuel fired steam electric plants…coal cleaning plants, kraft pulp mills…[etc.].” 42 U.S.C. § 7479(1). Fossil-fuel fired steam generating units use a furnace or boiler in the process of burning fossil fuel, such as natural gas, coal, and any dry form of solid, liquid, or gaseous fuel, for the purposes of producing heat transfer. 40 C.F.R. 60.41.
Fossil-fuel fired plants are not major emitting facilities unless they emit, or have the potential to emit 100 tons-per-year or more of any pollutant, but also satisfy the applicable minimum size limitation. *Ala. Power Co. v. Costle*, 606 F.2d 1068 (D.C. Cir. 1979). In *Alabama Power Company*, EPA promulgated regulations embracing the prevention of significant deterioration of air quality in the nation’s “clean air areas.” *Id.* at 1074. The company sought review, challenging the validity of the regulations, and the court held that EPA was correct when it interpreted that “any other source” with the potential to emit 250 tons-per-year or more of any air pollutant does not include any special size limitations. *Id.* at 1078. Moreover, the court held that “[t]he first sentence of the statutory definition of major emitting facility contains special minimum size limitations for four categories of stationary sources.” *Id.* One of the four categories is fossil-fuel fired steam electric plants of more than 250 million Btu per hour. *Id.* The court held that a source in any of the four categories is not a “major” facility unless it emits, or has the potential to emit 100 tons-per-year or more of any pollutant but also satisfies the applicable minimum size limitation. *Id.*

The Facility would consist of an advanced stoker design wood-fired boiler together with two ULSD start-up burners. There is no dispute that the wood-fired boiler does not burn fossil fuel and therefore does not fit within the definition of “fossil-fuel fired.” 40 C.F.R. 60.41. The Facility is not a “fossil-fuel fired” unit within the meaning of 42 U.S.C. § 7479(1), and therefore not subject to the 100 ton-per-year threshold under section 169(1) of the Act. 40 C.F.R. § 60.40(a) states that facilities affected by the Act include fossil-fuel fired steam generating units of more than 73 megawatts heat input rate of more than 250 million Btu. Although Sylvanergy’s ULSD is a fossil-fuel fired unit, it does not generate more than 73 megawatts or more than 250 million Btu. The Board erroneously concluded that because the Facility included ULSD start-up
burners, it was a fossil-fuel fired facility despite the Facility’s primary reliance on wood biomass for energy production.

A. SYLVANERGY DOES NOT HAVE THE “POTENTIAL TO EMIT” MORE THAN 250 TONS PER YEAR OF CO BECAUSE THE FORESTDALE PLAN LIMITS THE FACILITY TO 75% CAPACITY FACTOR.

“Potential to emit” means the maximum emissions that can be generated while operating a facility within the constraints of operational limitations contained in state permits. *United States v. Louisiana-Pacific Corp.*, 682 F. Supp. 1141, 1144 (D. Colo. 1988). State limitations are “federally enforceable.” *Id.* In *Louisiana-Pacific Corporation*, the federal government filed a civil enforcement action against the corporation for violating the Act. *Id.* The district court held that the corporation’s plants did not have the potential to emit more than 250 tons-per-year of an air pollutant. *Id.* at 1157. The court interpreted “potential to emit” to mean “[a]ny . . . operational limitation on the capacity of the source to emit a pollutant, including . . . restrictions on hours of operation . . . shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.” *Id.* The court made separate holdings regarding its interpretation.

First, the court held that the “maximum capacity” of a source to emit a pollutant under its “physical and operation design” means maximum emissions a source can generate when being operated within the constraints of its design. *Id.* The court noted that “test data must meet two requirements before it may properly be used in the calculation of a source’s potential to emit... First, the unit being tested must be operated during the test in the manner in which it is designed to be operated… Second, within that constraint, the unit must be operated at maximum capacity, or full throttle, throughout the test.” *Id.* The “potential to emit,” then, “does not refer to the maximum emissions that can be generated by a source hypothesizing the worst conceivable
operation, but the concept contemplates the maximum emissions that can be generated while operating the source as it is intended to be operated and as it is normally operated.” *Id.* at 1158 (emphasis added). Therefore, “it serves no legitimate purpose to test the emission from a source when that source is being operated in a way it would never be operated in actual practice.” *Id.* (emphasis added).

Second, the court held that the operational limitations contained in the state permits were “federally enforceable.” *Id.* at 1159. In *Louisiana-Pacific Corporation*, the corporation asserted that the operational limitations contained in the state emission permits must be considered in calculating the potential of its facility to emit air pollutants. *Id.* In response, the court stated that “any operational limitation to which a source is subject, including restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, should be taken into account in determining the source’s potential to emit.” *Id.* (emphasis added) (quotations omitted). This means that state-adopted emission limitations, even if more stringent than necessary to meet NAAQS, have the force and effect of federal law and may be enforced by the EPA in federal courts. *Id.* Therefore, the court concluded that the operational limitations contained in the state emission permits must be considered in calculating the potential of corporation’s plants to emit air pollutants. *Id.*

Finally, the court held that where a number of restrictions exist, the most restrictive of the several provisions is the one that should be employed and that the source that knowingly and routinely violates the conditions of a permit should not get the benefit of those conditions in the computation of the source’s potential to emit. *Id.* at 1161.

The Facility does not have the potential to emit 250 tons-per-year of CO because it will operate within the constraints of the operational limitations contained in the state emission
permits. The Facility will operate at 75% capacity factor, which will produce 190 tons-per-year of CO. The Facility will be operated normally at 6,500 hours per year at a capacity factor of 75%. Within the constraint of 75% capacity factor, the Facility will emit only 190 tons-per-year of CO when operated at maximum capacity, i.e., “full throttle.”

It serves no legitimate purpose to test the Facility when it is being operated in a way it would never be operated in actual practice. Moreover, the restriction on operating hours contained in the Forestdale site plan approval constitutes a “federally enforceable” limitation in order to reduce the facility’s potential to emit below the thresholds. The court in *Louisiana-Pacific Corporation* reasoned that because the phrase “federally enforceable” is broadly defined to include any requirement or limitation contained in state emissions permits, the state permit in that case was federal enforceable. Therefore the operational limitations contained in the Forestdale Plan must be considered in calculating the potential of the Facility to emit air pollutants because the limitation is federally enforceable. NUARB committed clear error in reasoning that the limitation on operating hours did not constitute a federally enforceable limitation.

### III. THE FACILITY IS NOT SUBJECT TO PSD REVIEW AS AN EMITTER OF GHG BECAUSE THE FACILITY DOES NOT HAVE THE POTENTIAL TO EMIT POLLUTANTS IN EXCESS OF RELEVANT THRESHOLDS UNDER THE ACT.

The Act provides for PSD review of new sources of air pollution in areas considered to be in attainment of NAAQS established for criteria pollutants. *See Clean Air Act Amendments of 1977*, Pub L. No. 95-95, 91 Stat. 685. The entire State of New Union is an attainment area under the Act. (R. at 5). The July 2011 “Deferral Rule” deferred the application of PSD permitting requirements to carbon dioxide emissions from bioenergy and other biogenic stationary sources

In denying Sylvanergy’s petition for review, the Board noted that the exemption would have “expired by its own terms,” and was “rejected by the District of Columbia Circuit in *Center for Biological Diversity v. EPA.*” (R. at 8). See *Ctr. for Biological Diversity v. EPA*, 722 F.3d 401, 409-12 (D.C. Cir. 2013). But in *Center for Biological Diversity v. EPA* the court vacated the rule merely on procedural grounds, and “[left] for another day the question whether the agency has authority under the [Act] to permanently exempt biogenic carbon dioxide sources from the PSD permitting program.” *Ctr. for Biological Diversity*, 722 F.3d at 412. Moreover, following its ruling the court of appeals granted a stay of appeal to the petitioners pending judgment by the United States Supreme Court in *Utility Air Regulatory Group v. EPA*.

In *Utility Air Regulatory Group v. EPA*, the Supreme Court considered limitations on the scope of EPA’s authority in requiring sources to apply BACT for GHGs under the PSD program. *Util. Air Regulatory Group v. EPA*, 134 S.Ct. 2427, 2442 (2014). The Court held that EPA may not treat GHGs as an air pollutant for the purposes of determining whether a source is a major source required to obtain a PSD permit. The Court also held that where PSD permits were otherwise required, based on emissions of other pollutants, EPA may require limitations on GHG emissions based on application of BACT. *Util. Air Regulatory Group*, 134 S.Ct. at 2448-49.

Sylvanergy petitioned for an NAD because the Facility does not have the potential to emit pollutants in excess of the relevant thresholds under the Act, does not qualify as a “fossil-fuel fired steam electric plant” subject to the 100 ton-per-year “major emitting facility” limit applicable to such plants, and because it does not have the potential to emit more than otherwise-applicable threshold of 250 tons-per-year of regulated pollutants. The existing site plan approval
already limits the Facility’s total capacity to 75%, and results in the following amounts of annual air pollutants: PM 2.5: 47; SO2: 32; NOx: 80; CO: 190; VOC: 30; and 350,000 tons of CO2E. This limited 75% capacity factor was built into the Facility’s site plan to mitigate the impact of log trucks bringing raw logs to the facility for processing into pellet fuel, and already accounts for additional GHGs caused by emissions associated with transporting biofuel. The Facility would not be subject to PSD review based on emissions of its other pollutants, and according to Utility Air Regulatory Group, it does not fall under PSD review for GHG emissions.

Furthermore, since the decision in Utility Air Regulatory Group, EPA has noted their current view that the Supreme Court “effectively narrow[ed] the scope of the biogenic CO₂ permitting issues that remain for the EPA to address.” Memorandum from Janet G. McCabe, Acting Assistant Administrator, Office of Air and Radiation, Next Steps and Preliminary Vies on the Application of Clean Air Act Permitting Programs to Greenhouse Gases (Jul. 24, 2014). EPA has issued several guidance documents indicating that the agency “plans to propose revisions to the PSD rules to include an exemption from the BACT requirement for GHGs from waste-derived feedstocks and from non-waste biogenic feedstocks derived from sustainable forest or agricultural practices.” Memorandum from Janet G. McCabe, Acting Assistant Administrator, Office of Air and Radiation, Addressing Biogenic Carbon Dioxide Emissions from Stationary Sources (Nov. 19, 2014). Sylvanergy submits that the emission of CO₂ associated with the combustion of biofuels is, by default, fully offset by the naturally occurring carbon sequestration effects of biofuel production.

Sylvanergy will operate at 75% capacity factor which will produce 190 tons-per-year of CO. It was clear error for the Board to conduct BACT review for GHG emissions using the 96% capacity factor, as Sylvanergy already agreed to operate, per the Forestdale Limitation at 75%
capacity. Furthermore, the Board erroneously concluded that because the Facility included ULSD start-up burners, it was a fossil-fuel fired facility despite the Facility’s primary reliance on wood biomass for energy production.

It was Congress’s intent, under the amended Act “to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources.” CAA § 160(3), 42 U.S.C. § 7470(3) (2012). It is inconsistent with Congress’s intent for this court to uphold the Board’s decision when the law is unsettled, and EPA has yet to act in response.

IV. IN THE EVENT THE FACILITY REQUIRED A BACT ANALYSIS, THE FACILITY’S PROPOSAL SHOULD BE DEEMED TO HAVE SATISFIED BACT WITHOUT IMPLEMENTING NUARB’S SFP OR SOC’S WGPCCS.

In its currently anticipated capacity, the Facility satisfies BACT requirements due to the carbon sequestration process associated with biofuel production which offsets CO₂ released upon its combustion. NUARB arbitrarily and capriciously imposed the SFP as BACT when neglected to account for economic factors, inappropriately interpreted and relied upon a State executive order to lend authority to its decision, and implemented a “beyond-the-fence” mitigation measure upon Sylvanergy, exposing it to unprecedented liability. Additionally, NUARB properly rejected SOC’s WGPCCS proposal as impermissible interpretation of BACT, as it redefines the electricity source of the Facility’s proposal and ignores the cost considerations inherent in the Act.

A. THE NATURAL CARBON SEQUESTRATION PROCESS INHERENT IN BIOFUELS SHOULD BE CONSIDERED BACT PER SE FOR THE FACILITY.

The emission of carbon dioxide (CO₂) associated with the combustion of biofuels is, by default, fully offset by the naturally occurring carbon sequestration effects of biofuel production. (R. at 11). This terrestrial carbon sequestration occurs when CO₂ is absorbed from the atmosphere through photosynthesis, which is then stored in biomass and soils. Carbon
Sequestration to Mitigate Climate Change, U.S. Geological Survey (Dec. 2008).\(^2\) Upon combustion, the biofuel then releases CO\(_2\) in an amount equivalent to that which it sequestered. See Carbon Sequestration and its Relationship to Forest Management and Biomass Harvesting in Vermont, Middlebury College (Dec. 2010);\(^3\) see Melvin G.R. Cannel, *Carbon Sequestration and Biomass Energy Offset: Theoretical, Potential and Achievable Capacities Globally, in Europe and the UK*, 24 BIOMASS AND BIOENERGY 97 (Feb. 2003) (quantifying the amount of carbon that could be sequestered in biomass “carbon sinks” throughout Europe). Because the biogenic production and combustion process yields a zero net increase in atmospheric concentrations of CO\(_2\), biofuel combustion at the Facility should be considered BACT per se, absent any additional control technology. *Id.*

Under step three of the BACT review process outlined in the New Source Review Workshop Manual (NSR)—“rank remaining control technologies by control effectiveness”—the net-zero effect associated with biofuel combustion clearly constitutes the most efficient control technology available. *See* NSR Manual at B.7-8. The NSR states that this stage of a BACT review should include:

1. control effectiveness (percent pollutant removed);
2. expected emission rate (tons per year);
3. expected emission reduction (tons per year);
4. energy impacts (BTU, kWh);
5. environmental impacts (other media and the emissions of toxic and hazardous air emissions);
6. economic impacts (total cost effectiveness, incremental cost effectiveness).

*Id.* A simple progression through these five factors clearly weighs in favor of treating biomass as BACT per se versus imposing a SFP.

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\(^3\) *Available at* [http://www.middlebury.edu/media/view/255078/original/Winter_2010carbon_sequestration.pdf](http://www.middlebury.edu/media/view/255078/original/Winter_2010carbon_sequestration.pdf).
Treating biomass as BACT per se satisfies the first three factors—control effectiveness, expected emission rate, and expected emission reduction—because the percent of CO$_2$ removed from the atmosphere would be substantially similar whether or not Sylvanergy maintains a sustainable off-site forest. Irrespective of where Sylvanergy gets its wood for fuel, the fact remains that each tree sequesters CO$_2$ as it grows and emits an equivalent amount upon combustion. (R. at 11). Whether or not the Facility’s biofuel originates from a sustainable forest has no bearing on the Facility’s net CO$_2$ emissions. See id.

The fourth factor—energy impacts—is inapposite as both the SFP and biomass as BACT per se would yield an equivalent energy output at the Facility; as the site plan approval process granted to Sylvanergy for the Facility entails an operational cap of 6,500 hours per year, limiting the Facility to a capacity factor of 75%. (R. at 5).

In regards to the fifth factor—environmental impacts—Sylvanergy too points to the existing site plan approval which limits the Facility’s total capacity to 75%, resulting in the following amounts of annual air pollutants: PM 2.5: 47; SO2: 32; NOx: 80; CO: 190; VOC: 30; and 350,000 tons of CO2E. See id. This limited 75% capacity factor was built in to the Facility’s site plan so as to mitigate the impact of log trucks bringing raw logs to the facility for processing into pellet fuel. See id. Thus, the Facility’s site plan already accounts for additional GHGs caused by emissions associated with transporting biofuel.

Granger is likely to speculate, under this factor, that a SFP would ensure each tree harvested by Sylvanergy for combustion will be guaranteed replanting so as to guarantee the natural sequestration process inherent in biofuels occurs. (R. at 7). However, the timber industry must self-regulate a degree of economic sustainability, as absent dedicated reforestation practices the industry itself would cease to exist for lack of sellable product. See Frank Merry et. al,
Balancing Conservation and Economic Sustainability: The Future of the Amazon Timber Industry, 44 ENVTL. MGMT. 395 (2009) (explaining that the most profitable logging practices are those that feature conscious application of conservation practices, so as to guarantee consistent carbon stock).

Because biomass is a renewable resource, the distributors with which Sylvanergy would do business have a built-in incentive to repopulate their product, as failure to do so would render their services moot, terminating any profitability once associated with the industry. Sylvanergy does not posit this perspective as mere idealism. Rather, the “sustained yield” concept has driven its fair share of modern conservation legislation, including the Multiple-Use Sustained-Yield Act of 1960, which mandates the management of renewable surface resources in national forests for the sake of future social and economic profitability. 16 U.S.C. § 531(a). Through this concept, the United States has maintained consistent forest-levels for the past century, and today, 751 million acres of forest (approximately one-third of the nation’s total landmass) is forested.

Indicator 1.01: Area and Percent of Forest by Type, U.S. Dep’t. Agric. Consequently, a SFP for the Facility would have little bearing on this BACT factor. See id.

The sixth and final factor in stage three of a BACT analysis—economic impacts—weighs entirely in favor of treating biomass as BACT per se and entirely against imposing a SFP upon Sylvanergy. NUARB’s proposed SFP, in accounting for the Facility’s currently assumed production rate of 10 dry tons of wood per hectare per year, requires Sylvanergy to acquire and maintain 25,000 hectares of dedicated forest land at a total cost of approximately $10 million. (R. at 7).

However, this projected cost is a tenuous, near-sighted estimation of guaranteed costs, and does not account for the many liabilities associated with owning a forest. For example, what if Sylvanergy discovers an endangered species in the forest, either because it resided there originally or migrates into it due to external stimuli? Will Sylvanergy then assume the potentially exorbitant costs associated with Endangered Species Act regulation, such as a moratorium on harvesting timber until a habitat conservation plan is completed, then forever needing to employ measure to avoid a “taking”? See 16 U.S.C. § 1939. Or, what if a natural disaster destroys the forest, leaving Sylvanergy with no means of powering the Facility, causing power outages throughout the area? Perhaps a fallen tree will injure a worker or damage machinery—will a SFP force Sylvanergy to absorb these costs, too?

While NUARB and the EAB may have dismissed such scenarios as outlandish, Sylvanergy has no experience maintaining forests and is correspondingly troubled by the widespread liability such a proposal would expose it to. Conversely, treating biomass as BACT per se would expose Sylvanergy to no additional cost or liability, and could leave forest maintenance to experts in the field. Based on a factor analysis of step three in the NSR’s BACT review process, it is clear that treating biomass as BACT per se qualifies as the most effective control technology.

**B. NUARB'S IMPOSITION OF THE SFP WAS ARBITRARY AND CAPRICIOUS.**

Notwithstanding the reasons why Sylvanergy’s Facility proposal met BACT, NUARB arbitrarily and capriciously imposed the SFP as BACT because it (1) failed to properly account for economic factors; (2) misconstrued and improperly applied the Governor’s Executive Order on carbon neutrality; and (3) imposed an impermissible “beyond-the-fence” mitigation measure.
Motor Vehicle Manufacturers Association v. State Farm Mutual Automobile Insurance

Company (hereinafter “MVMA”) represents the most definitive description of the modern version of the arbitrary and capricious test, holding:

[A]gency [action] would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

463 U.S. 29, 43 (1983). A brief application of the facts at bar to the MVMA standard reveals how uninformed was NUARB’s decision to impose a SFP as BACT for the Facility.

1. Costs
   To begin, NUARB “[e]ntirely failed to consider an important aspect of the problem” in that it neglected the congressional intent inherent within the Act that instructs permitting authorities to “take into account energy, environmental, and economic impacts and other costs,” during a BACT review. 42 U.S.C. § 7479(3) (2012) (emphasis added). NUARB concluded that implementing a SFP would cost Sylvanergy a total of $10 million, a sum which the previous analysis shows is as conservative as it is naïve, but still deemed this option as more efficient than treating biomass as BACT per se, which would impose no additional cost or liability upon Sylvanergy. (R. at 11).

2. Governor’s Executive Order
   Second, NUARB “[o]ffered an explanation for its decision that runs counter to the evidence before the agency.” NUARB frequently pointed to New Union Executive Order 005-12, issued by Governor Halley Comet on recommendation of the Governor’s Task Force on Climate Change and Sustainability, as the authority that required NUARB issue a SFP as BACT for the Facility. Id. Note that it is possible NUARB employed this tactic knowing the EAB “lacks
jurisdiction to review the question of whether the [SFP] was required by the Governor’s Executive Order 12-005[,]” effectively isolating the NUARB’s reasoning from review. (R. at 8) (citing In re Sutter Power Plant, 8 E.A.D. 680, 690 (EAB 1999) (“The Board may not review, in a PSD appeal, the decisions of a state agency made pursuant to non-PSD portions of the Act or to state or local initiatives and not otherwise relating to permit conditions implementing the PSD program.”).

Regardless, a plain-meaning interpretation of the Governor’s Executive Order does not permit the NUARB to read-in sustainability to a BACT review, let alone impose a SFP upon Sylvanergy, as it states, “all State agencies in New Union must, to the maximum extent allowed by law, ensure that any new construction project they undertake or approve will be carbon neutral.”(R. at 7) (emphasis added). Pursuant to the analysis above, biomass is an inherently carbon neutral fuel source, as the natural sequestration process that occurs during growth offsets the corresponding emissions upon combustion.

Nothing about the Governor’s Executive Order even implicitly calls for sustainability, and it was arbitrary and capricious for NUARB to deem a State executive order to pursue carbon neutral construction projects as one that also calls for sustainable forest practices in determining BACT under the Act. If anything, the Governor’s Executive Order suggests NUARB should be incentivizing Sylvanergy for investing in biomass, as it is a carbon neutral fuel source.

In this sense, NUARB “has relied on factors which Congress has not intended it to consider[,]” as reading a sustainability mandate into the Governor’s Executive Order and then deeming that paramount in a federal Act BACT review severely undermines the integrity of the process. In applying the MVMA standard to NUARB’s BACT analysis, it is clear the agency’s decision to impose upon Sylvanergy a SFP for the Facility was arbitrary and capricious,
especially considering the fact that there exists a more efficient control technique: treating biomass as BACT per se.

3. “Beyond-the-fence”

Third, even if NUARB’s SFP proposal qualifies as an effective control technology for the Facility under stage three of the BACT review, this proposal could at most only fulfill the “B,” “C,” and “T” of BACT; NUARB’s SFP cannot qualify as “A” in BACT—“available”—as it is a “beyond-the-fence” mitigation measure unrelated to the control of actual emissions from the facility. (R. at 11).

Because there exists no concrete authority within the Act that authorizes implementation of air pollution control measures outside the control of the facility owner, NUARB’s SFP fails the first step in a BACT review. NSR Manual at B.5.; see 42 U.S.C. § 7479. A plain-meaning reading of the BACT review process suggests that “beyond-the-fence” mitigation or offset measures do not qualify as control technologies, because “[a]vailable control options are those pollution control technologies...with a practical potential for application to the emissions unit....” NSR Manual at B.5. A SFP has zero applicability to the actual “emissions unit”—in this case, the Facility—as Sylvanergy’s maintenance of a sustainable off-site forest would have mitigation measures unrelated to the control of the Facility’s actual emissions. Id.; see (R. at 11).

It should come as no surprise that EAB was “unaware of any previous case where such off-site measures have been required as BACT[,]” as a responsible interpretation of the NSR’s first step in a BACT review invalidates any proposal resembling NUARB’s SFP. (R. at 11); see NSR Manual at B.5. Indeed, EAB was only able to point to EPA’s controversial Carbon Pollution Emission Guidelines for Existing Sources, 79 Fed. Reg. 34,829, 34888-89 (June 18, 2014), which merely contemplates beyond-the-fence measures as acceptable under the Best
System for Emission Reduction (BSER). 42 U.S.C. § 7411(d) (2012); see (R. at 11). But based on this tenuous allusion alone, EAB deemed a potential SFP “as entirely within the control of Sylvanergy[,]” supporting NUARB’s extension of the “fenceline” simply because forestry was available on the market and in vicinity of Forestdale.

This type of regulatory adventurism contradicts the Supreme Court’s recent decision in Utility Air Regulatory Group v. EPA, in which the Court considered limitations on the scope of EPA’s authority in requiring sources to apply BACT for GHGs under the PSD program. 134 S.Ct. 2427 (2014). The Court held that control technology cannot require “fundamental redesign” of facilities, and that they are “required only for pollutants that the source itself emits,” and “should not require every conceivable change that could result in” improvements. Id. at 2448.

Similarly, NUARB’s imposition of a SFP upon the Facility is akin to a “fundamental redesign” of the facility, as this proposed measure is far removed from the emissions of the actual emissions unit. See id. Should this Court rule NUARB’s SFP an available control technology, it will constitute an impermissible redefinition of BACT under the Act, and an unprecedented expansion of duty beyond-the-fence for renewable power plants.

Most importantly, a judicial endorsement of NUARB’s SFP will pose a quagmire for the renewable energy sector: where will the line be drawn for future “beyond-the-fence” mitigation measures? Will PSD permitting agencies be able to require companies purchase and maintain forests in the next county if a suitable forest is not available within the vicinity of the power plant? If so what about in the next state, or even country? After all, NUARB’s SFP proposal is intent on ensuring the natural sequestration process associated with biofuels occur so as to guarantee an offset of emissions upon combustion.
As air is a ubiquitous, amorphous natural resource capable of traveling enormous distances in relatively short expanses of time, approving this “beyond-the-fence” control technique could open the door for future agencies to impose increasingly extreme mitigation measures with no tangible bearing upon the emission unit’s actual emissions. This court has a chance to end this regulatory adventurism before it spirals out of control; the most logical line to draw in plotting out a power plant’s BACT is, naturally, the fenceline of the plant itself.

C. NUARB PROPERLY REJECTED SOC’S WGPCCS PROPOSAL AS BACT FOR THE FACILITY BECAUSE IT WOULD IMPERMISSIBLY REDEFINE THE ELECTRICITY SOURCE AND IMPOSE EXCESSIVE COSTS.

Implementing SOC’s WGPCCS proposal would constitute an impermissible and unprecedented interpretation of BACT, as it redefines the electricity source of the Facility proposal—a wood-burning biofuel facility—as a wood gasification and CCS project, ignoring the cost considerations and emphasis on technology feasibility inherent in the Act.

1. Redefining the Source

First and foremost, outfitting the Facility with a WGPCCS would constitute an impermissible redefinition of the source of electricity generation, as the Facility is a wood-burning biofuel facility. Sylvanergy has, in no measure, ever contemplated the construction of a gas-burning facility via the complex and costly mechanisms of wood gasification or carbon capture and sequestration. Though Sylvanergy adamantly refutes NUARB’s conclusion that the Facility required a PSD and any subsequent BACT analysis, argues with NUARB in rejecting both CCS and WGPCCS control technologies for the Facility.

In accordance with the NSR, NUARB began its “top-down” BACT analysis by identifying all potentially available control technologies, including a carbon capture and storage plant capable of the greatest reduction in GHG emissions. NSR Manual at B.5; see (R. at 6).
NUARB ultimately rejected this option on the grounds that no proven technology exists for removing CO2 from dilute flue gas streams resulting from biomass combustion. (R. at 6). NUARB then considered SOC’s proposed implementation of a WGPCCS, but ultimately rejected this control technology “as an impermissible redefinition of the proposed source.” (R. at 7). Sylvanergy agrees with each finding.

The NSR Manual states that “[h]istorically, EPA has not considered the BACT requirement as a means to redefine the design of the source when considering available control alternatives.” NSR Manual at B.13. Consequently, embracing SOC’s WGPCCS proposal would severely undermine EAB’s precedent of adopting EPA’s policy “against considering facility alterations that change the fundamental nature of the proposed source.” See, e.g., In re Prairie State, 13 E.A.D. at 18, 25; In re Hillman Power Co., 10 E.A.D. 673, 691-92 (EAB 2002); In the Matter of Haw. Commercial & Sugar Co., 4 E.A.D. 95, 99-100 (EAB 1992); In re Old Dominion Elec. Coop., 3 E.A.D. 779, 793-94 (Adm’r 1992); In re Pennsauken County, N.J., Res. Recovery Facility, 2 E.A.D. 667, 673 (Adm’r 1988)).

The EAB properly equated its decision in Prairie State decision to the case at bar. See (R. at 13). In Prairie State, the EAB declined to consider low-sulfur coal fuel as possible BACT for a proposed coal-fired power plant co-located with a high-sulfur coal mine, as the entire point of the Prairie State project was to burn locally available coal from the nearby mine. Prairie State, 13 E.A.D. at 1, 28. EAB concluded that requiring low-sulfur coal from an alternate location would have impermissibly “redefined” the source. Id. EAB decided that “[t]he same is true here: Sylvanergy proposes to generate electricity by burning wood, not by gasifying wood and burning gas[.]” so adopting SOC’s WGCPPS proposal would constitute an impermissible redefinition of the Facility’s source of electricity generation. (R. at 13).
2. Ignoring Economic Factors

Embracing SOC’s proposal on appeal would effectively invalidate NUARB’s “top-down” BACT review process, as outfitting the Facility with a WGPCCS system would constitute a violation of the Act’s definition of BACT. See 42 U.S.C. § 7479(3) (2012); see also 40 C.F.R. § 52.21(b)(12) (2015) (providing a similar regulatory definition of BACT). In its definition of BACT, the Act instructs permitting authorities such as NUARB to “tak[e] into account energy, environmental, and economic impacts and other costs;” before determining if the purported best control technology is indeed available. 42 U.S.C. § 7479(3) (2012) (emphasis added).

A healthy dose of reality runs through this provision—a quality SOC’s WGPCCS proposal thoroughly lacks, as to mandate a fundamental alteration to the Facility in order to coincide with SOC’s proposal would place an economic burden of unquantified cost upon Sylvanergy, not to mention lower the cost-competitiveness of the facility’s kilowatt per hour mark. (R. at 12-13).

Though SOC’s geological studies indicate Forestdale’s proximity to the Union Shale geologic unit, a feature SOC argues is ideal for a CCS facility, SOC fails to acknowledge and appreciate: (1) the substantial costs associated with existing CCS projects, both during research and development stages, most of which are offset by federal subsidy; and (2) that CCS for biomass is, from a research and development standpoint, in its infancy. See (R. at 12-13); Decatur Fact Sheet: Carbon Dioxide Capture and Storage Project, Carbon Capture & Sequestration Tech. (Feb. 5, 2015). 5

In 2009, the Department of Energy awarded $141.5 million in research and developmental grants to a multi-part alliance of corporations, national research consortiums,

5 Available at https://sequestration.mit.edu/tools/projects/decatur.html.
information specialists, and educational institutions, the likes of whom contributed an additional $66.5 million to fund the Decatur Carbon Sequestration Demonstration Facility (DCSDF) in Decatur, Illinois. Decatur Fact Sheet: Carbon Dioxide Capture and Storage Project, Carbon Capture & Sequestration Tech. (Feb. 5, 2015). While true that the Facility, like the DCSDF, runs along a considerable shale seal, SOC fails to note that the DCSDF’s shale seal—the Eau Claire, which runs beneath Mount Simon sandstone—also underlies one of the largest concentrations of coal fired power plants in the world, making the area an ideal location to research and develop carbon capture and storage technology. Id.

Additionally, CCS technology is intended to prevent massive quantities of CO2 from entering the atmosphere, the likes of which are typically associated with large-scale fossil fuel powered generation units, which the Facility is not. See IPCC Special Report: Carbon Dioxide Capture and Storage, Summary for Policymakers (Sept. 22, 2005). At Sylvanergy’s proposed 75% capacity factor, the Facility would only emit approximately 0.350 million tons per annum (MTPA) of carbon dioxide equivalents (CO2E) and generate 40 megawatts (MW) annually. (R. at 5). Comparatively, the existing 22 large-scale CCS projects either in operation or construction are projected to capture a total of 40 Mtpa at an average of 1.8 MTPA of CO2E per project, and are all associated with MW capacities far exceeding that of the Facility. See Global CCS Institute, The Global Status of CCS at 32-33 (Sept. 2014).

It is important to note that only two in-development large-scale CCS projects—the ROAD and White Rose—include biomass in their list of burnable fuels, both of which would co-

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7 Available at http://www.ipcc.ch/pdf/special-reports/srccs/srccs_summaryforpolicymakers.pdf (explaining that the most cost-effective use of CCS technology is installing it to mitigate the emissions from large fossil fuel plants).
fire biomass with coal. *Id.* Conversely, the Facility is a biomass-only EGU; outfitting it with CCS technology would be unprecedented, as every existing or in development CCS project that can fire with biomass uses the source as a secondary fuel source. *Id.* In essence, the high installation and operation costs associated with CCS technology in these large EGUs was deemed economically feasible because it would capture levels of CO2E far dwarfing that of the FACILITY’s capacity to emit. See *id.*

In response to the issue of installation and operation cost, SOC is likely to contend that a partial CCS system would be less expensive than would implementing the full CCS systems seen in existing EGUs. But reducing CCS percentage results in an increase to the cost per ton of CO2 avoided. International Energy Agency, Partial Capture of CO2 at 4 (May 2009).\(^9\) Existing CCS projects illustrate that the cost associated with each captured and stored ton of CO2 remains almost constant between 95% and 80% capture. *Id.* However, the cost-per-ton-avoided gradually increases as capture capacity is reduced from 80% to 50%, and increases more rapidly as capture is reduced from 50% to 25%.” *Id.*

Juxtaposing this inefficiency trend with the conclusion drawn in the Rhodes and Keith study that a WGPCCS plant could potentially achieve a CCS efficiency factor of 55% suggests that implementing SOC’s WGPCCS proposal would effectively divorce the Facility from any manner of economic efficiency. *Id.; See* James S. Rhodes and David W. Keith, *Engineering Economic Analysis of Biomass IGCC with Carbon Capture and Storage*, 29 BIOMASS AND BIOENERGY 440 (2005).\(^10\)

Another cause for concern in SOC’s argument is that it primarily relies upon a single study published in 2005 to justify the engineering feasibility and economics of a WGPCCS

facility—hardly a compelling foundation on which to demand Sylvanergy substantially amend its plan for the Facility. (R. at 12-13). Though SOC also submitted analysis by Dr. Costanza Outt—an environmental economist—who reexamined the Rhodes and Keith study’s cost conclusions, Outt found that Sylvanergy’s cost per kw/h for electricity generation would remain $0.09 per kw/h, which is identical to 2005 predictions. (R. at 13). Even in light of reduced transportation costs of on-site carbon facilities due to site geology associated with a WGPCCS, as well as the existing market for carbon credits available to Sylvanergy on the Outer States Greenhouse Exchange (a regional GHG trading system), a combination of inflation rates and still unproven science make a WGPCCS just as cost-inefficient as it was a decade ago. Id. Additional studies have illustrated the cost-inefficient nature of CCS technology, as the first generation technology will result in “a 70 to 80 percent increase in the cost of electricity[.]” House Energy and Commerce Subcommittee on Oversight and Investigations, Testimony of Julio Friedmann (Feb. 11, 2014).11

Simply put, a $0.09 per kWh price is far too expensive to keep renewable energy even remotely cost-competitive with its fossil fuel counterparts; coal production averaged only 3.23 cents per kWh in 2011, while natural gas production averaged 4.51 cents. Institute of Energy Research, Electric Generating Costs: A Primer (Aug. 22, 2012).12

Most importantly, however, is that the geographical analysis featured in the Rhodes and Keith study was not based on the specific Facility field site. See (R. at 12-13). The Global CCS Institute has stated that “[i]t can take a considerable period of time, possibly up to ten years, to fully appraise a greenfield site ready for a final investment decision[,]”so the Rhodes and Keith

12 Available at http://instituteforenergyresearch.org/analysis/electric-generating-costs-a-primer/.
study cannot be considered anything more than a generalized hypothesis; its lack of authoritative value should disqualify it from factoring into a discussion of the feasibility of a WGPCCS system in the FACILITY’s location. Global CCS Institute, The Global Status of CCS at 32-33 (Sept. 2014).\(^\text{13}\)

In conclusion, SOC is essentially demanding Sylvanergy spend an unquantified, unsubsidized amount to redesign the Facility—a 40 MW biomass-only facility—from the ground up based on limited data with experimental technology in mind. (R. at 5). Forcing Sylvanergy to implement untested and cost-inefficient technology absent subsidized assistance is unreasonable and directly contradicts congressional intent contained in the Act’s BACT provisions. SOC has effectively waged a battle of counter-intuitiveness; in opting to exert substantial time and resource on analyzing the geological, scientific, and economic feasibility of hypothetical CCS technology, the citizen group has neglected to pursue exponentially greater threats to the environment. Furthermore, SOC’s crusade against the Facility will invariably deter other energy companies from building renewable biomass facilities in the future, as to conclude BACT for biomass in New Union is CCS redefines the source in its entirety.

CONCLUSION

This court should determine that the Board’s ruling is invalid because it was made on unreasonable grounds, and failed to consider the particular circumstances present. NUARB’s decision denying the NAD was a final action of the administrator. Additionally, NUARB arbitrarily and capriciously imposed the SFP as BACT when it neglected to account for economic factors, inappropriately interpreted and relied upon a State executive order to lend authority to its decision, and implemented a “beyond-the-fence” mitigation measure upon Sylvanergy, exposing it to unprecedented liability. The Board’s decision was in clear error because it relied on the 96% capacity factor as opposed to the limitation factor of 75%.

Sylvanergy exhausted its administrative remedies. The Board erroneously concluded that because the Facility included ULSD start-up burners, it was a fossil-fuel fired facility despite the Facility’s primary reliance on wood biomass for energy production.

The Facility does not have the potential to emit 250 tons-per-year of CO because it will operate within the constraints of the operational limitations contained in the state emission permits. The Facility will be operated normally at 6,500 hours per year at a capacity factor of 75%. Within the constraint of 75% capacity factor, the Facility will emit only 190 tons-per-year of CO when operated at maximum capacity, i.e., “full throttle.”

In its currently anticipated capacity, Sylvanergy’s proposed Facility satisfies BACT requirements due to the carbon sequestration process associated with biofuel production which offsets CO$_2$ released upon its combustion. Additionally, NUARB properly rejected SOC’s WGPCCS proposal as impermissible interpretation of BACT, as it redefines the electricity source of Sylvanergy’s Facility proposal and ignores the cost considerations inherent in the Act. Implementing SOC’s WGPCCS proposal would constitute an impermissible and unprecedented
interpretation of BACT, as it redefines the electricity source of Sylvanergy’s Facility proposal—a wood-burning biofuel facility—as a wood gasification and CCS project, ignoring the cost considerations and emphasis on technology feasibility inherent in the Act.