

VIRGINIA:

IN THE COURT OF APPEALS OF VIRGINIA

APPALACHIAN VOICES, CHESAPEAKE)
CLIMATE ACTION NETWORK, SIERRA)
CLUB, and SOUTHERN APPALACHIAN)
MOUNTAIN STEWARDS)

Appellants,)

v.)

Case No. 2199-09-2

STATE AIR POLLUTION CONTROL BOARD)

Appellees,)

and)

VIRGINIA ELECTRIC AND POWER)
COMPANY,)

Permit Applicant/Respondent.)

OPENING BRIEF OF APPELLANTS

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I. QUESTIONS PRESENTED

1. As a matter of law, did the Circuit Court err in concluding that carbon dioxide is not a pollutant “subject to regulation” by the State Air Pollution Control Board under § 165 (42 U.S.C. § 7475) of the federal Clean Air Act?

[Opening Brief of Petitioners to the Circuit Court, Part VIII.E, at 42 – 50,

(Record Pages 161 – 219)]

2. As a matter of law, did the Circuit Court err in failing to evaluate whether the State Air Pollution Control Board could substitute regulation and control of one Clean Air Act pollutant, PM₁₀, for regulation and control of another, distinct Clean Air Act pollutant, PM_{2.5}?

[Opening Brief of Petitioners to the Circuit Court, Part VIII.B, at 29 – 33,

(Record Pages 161 – 219)]

II. NATURE OF THE CASE AND MATERIAL PROCEEDINGS BELOW

Appellants are a coalition of non-profit conservation organizations: Appalachian Voices, the Chesapeake Climate Action Network, the Southern Appalachian Mountain Stewards, and the Virginia Chapter of the Sierra Club (collectively, the “Conservation Groups”). The Conservation Groups, representing approximately 20,000 Virginia members, challenge a Clean Air Act (the “Act” or “CAA”) permit issued pursuant to the Prevention of Significant Deterioration (“PSD”) program. The PSD permit was issued by the Air Board to the Virginia Electric and Power Company (“Dominion” or the “Company”) for a coal-fired power plant, the Virginia City Hybrid Energy Center in Wise County, Virginia (the “Coal Plant”).

In July 2006, Dominion filed its application for the PSD permit to build and operate the Coal Plant.¹ The Virginia Department of Environmental Quality (“DEQ”), which serves as the professional staff to the Air Board, published the first draft PSD permit in January 2008, along with a supporting engineering analysis. J.A. at 68. During the public comment period that followed, the Conservation Groups raised several concerns, including that the draft permit had unlawfully used coarser particulate matter (“PM₁₀”) as a “surrogate” for fine particulate matter (“PM_{2.5}”), which the U.S. Environmental Protection Agency (“EPA”) had defined as a wholly distinct pollutant. The Conservation Groups also challenged the PSD permit on the grounds that the Air

¹ In addition to the PSD permit, Dominion was also required to obtain a Maximum Achievable Control Technology (“MACT”) permit for control of hazardous air pollutants, such as mercury. The Conservation Groups also challenged the MACT permit below, and were successful in part on that challenge. *See* J.A. at 32-33. The Circuit Court remanded the MACT permit back to the Air Board, which amended the permit to the satisfaction of all parties. *See* Rex Springston, “New Permit for Coal-Fired Power Plant Pleases Both Sides,” *Richmond Times-Dispatch* (Sept. 3, 2009) (attached as Exhibit A).

Board had failed to establish any emission limitation for carbon dioxide (“CO₂”).

The Air Board issued the final PSD permit to Dominion on June 30, 2008. J.A. at 261. The Conservation Groups filed a Petition for Appeal with the Circuit Court for the City of Richmond on August 22, 2008. J.A. at 1. In briefing before the Circuit Court, the Conservation Groups explained that the PM_{2.5} limit was unlawful because the Air Board had relied blindly on antiquated guidance relating to the use of PM₁₀ as a surrogate for PM_{2.5} (the PM₁₀ surrogacy policy). Blind reliance on that guidance is improper. To use PM₁₀ as a surrogate, the Air Board should have applied the requisite analysis to determine whether surrogacy is appropriate in this particular case to meet the requirements of the Clean Air Act. The Conservation Groups argued that had the Air Board undergone the surrogacy analysis, including application of a three-part judicial test established to determine when surrogacy is reasonable, it would have determined that PM₁₀ should not be used as a surrogate for PM_{2.5}. In response, the Air Board claimed that the PM₁₀ surrogacy policy is appropriate here and that the judicial test advocated by the Conservation Groups did not apply in the PSD context. *See* Response Brief of the Air Board, Va. Cir. Court, at 31 (filed June 23, 2009) (excerpts attached as Exhibit B); Brief of Dominion, Va. Cir. Court, at 34 (filed June 23, 2009) (excerpts attached as Exhibit C). The Circuit Court adopted the Air Board’s and Dominion’s reasoning by reference. J.A. at 31.

On their carbon dioxide claim, the Conservation Groups explained that the Air Board’s inclusion of Dominion’s voluntary program to offset some CO₂ emissions amounted to “regulation” of carbon dioxide under the Act. This crucial fact distinguished

the PSD permit from other similar permits around the country, where there had been no attempt to regulate CO₂ at all. The Conservation Groups argued that once the Air Board decided to regulate, the Clean Air Act dictated the manner in which it must regulate. They argued that the Act allowed for only one means of regulating pollutants in the PSD context: through completion of a “best available control technology” (“BACT”) analysis under CAA § 165, 42 U.S.C. § 7475. The Circuit Court rejected this analysis, ruling that a BACT analysis could only be required if EPA had previously established a nationally applicable emission limitation under the Act. J.A. at 32.

The Circuit Court issued its Final Order on September 2, 2009. J.A. at 35. The Conservation Groups filed their Notice of Appeal to this Court on September 30, 2009. The Coal Plant is now currently under construction with an expected completion date of mid-2012. Once it is finished, the Coal Plant likely will be in operation for the next fifty to sixty years. Thus, this case is not about whether the Coal Plant will be built; rather it is about the type and stringency of pollution controls that must be included in the Coal Plant’s design before construction is completed. The Clean Air Act’s BACT requirements involve rigorous, detailed analyses to determine how best to limit pollution from major, industrial sources. *See* J.A. at 42-50. The results of these analyses often dictate specifics about the design and layout of the regulated facility. It would be extremely difficult to apply BACT, a pre-construction requirement, after the fact and then retrofit additional, necessary controls. The Conservation Groups, therefore, seek to ensure that legally mandated limits are in place *before* the Coal Plant begins its half-century of operation.

III. STATEMENT OF FACTS

PM_{2.5} is particulate matter, or soot, that measures 2.5 microns or less in diameter. Because of its small size and resultant ability to penetrate deep within human lung tissue, PM_{2.5} has been linked to decreased lung function, heart attacks, and premature death. Coal-fired power plants cause PM_{2.5} pollution through both direct emissions of PM_{2.5} and through emissions of precursors, such as sulfur dioxide, which combine in the atmosphere to create PM_{2.5}. The DEQ staff's January 2008 engineering analysis recommended a pollution limit for PM_{2.5} of 329.24 tons per year and a limit of 3292.36 tons per year for sulfur dioxide. J.A. at 82. This PM_{2.5} limit was *not* established to directly regulate PM_{2.5}. Instead, DEQ evaluated pollution of a different pollutant, PM₁₀, and then cut-and-pasted this limitation into the PM_{2.5} section of the permit. In this way, PM₁₀ is controlled and serves as a "surrogate" for PM_{2.5}.

In response to comments from the Conservation Groups and others, the Air Board reduced the limit for sulfur dioxide by 82% (to 603.6 tons per year). J.A. at 272. Despite the fact that reducing sulfur dioxide emissions also reduces formation of PM_{2.5}, however, the Air Board never reduced the limit for PM_{2.5}. It remained unchanged from the initial recommendation from January 2008. J.A. at 272. The Air Board also refused to directly analyze PM_{2.5} emissions or establish a distinct limit for PM_{2.5}. It continued to rely on PM₁₀ as a surrogate.

Carbon dioxide is a heat-trapping pollutant linked to global warming. The EPA has determined that carbon dioxide pollution endangers the public health and welfare, emphasizing CO₂'s link to "changes in air quality, increases in temperatures, changes in

extreme weather events, increases in food- and water-borne pathogens, and changes in aeroallergens.” *See* EPA, Final Rule, “Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,” 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009). Concerned about these impacts, the Conservation Groups argued below that CO₂ is an air pollutant “subject to regulation” under the Clean Air Act, and that therefore the Air Board must conduct a BACT analysis under § 165 of the Clean Air Act, 42 U.S.C. § 7475. A proper BACT analysis would then establish enforceable emission limitations for CO₂.

In response, Dominion claimed that it did not believe CO₂ was subject to regulation under the Act, but offered that the Company was undertaking “three steps to mitigate greenhouse gas emissions associated with this project”: conversion of an older coal-fired power plant to cleaner-burning natural gas; co-firing the new Coal Plant with up to 20 percent biomass, and gaining “hands-on experience with technologies related to carbon capture and storage.” J.A. at 171. With regard to this third step, Dominion explained that “post-combustion capture [of CO₂], a method proposed for the ... Dominion Facility in Wise County, offers excellent promise. ... Economic and technical criteria ... for this particular method are encouraging, and the commercialization validation is within reach, by 2012,” the date the Company expects to complete construction of the Coal Plant. J.A. at 180. Dominion also provided the Air Board with a description of its cooperation with the Virginia Center for Coal and Energy Research at Virginia Tech on carbon storage and a diagram explaining how carbon capture and sequestration technology could be integrated into the Coal Plant’s design. J.A. at 64-65.

In response to these facts, the vice chair of the Air Board, Dr. Vivian Thomson, authored a memorandum outlining her view on regulating carbon dioxide emissions. J.A. at 227. She explained:

In Massachusetts v. Environmental Protection Agency (127 S.Ct. 1438, 2007) [549 U.S. 497 (2007)], the US Supreme Court decided that EPA has authority to regulate greenhouse gases under the Clean Air Act ... EPA has not yet responded to the Court's charge and thus there is no federal regulatory framework for emissions of greenhouse gases from stationary or mobile sources. But even lacking that framework, *there is authority in the Clean Air Act to regulate greenhouse gases from stationary sources.*²

J.A. at 229 (emphasis added). Dr. Thomson further explained her reasoning: "Since greenhouse gases [including carbon dioxide] have been found to be air pollutants under the Clean Air Act, they are therefore subject to regulation for PSD sources." *Id.* She then drafted a potential permit requirement for "carbon dioxide emission offsets" for possible inclusion in the final PSD permit. J.A. at 231.

Neither the requirement drafted by Dr. Thomson, however, nor any BACT emission limit for carbon dioxide, were ever included in the final permit. Instead, the Air Board accepted Dominion's offer of "voluntary carbon dioxide reductions." J.A. at 304. In a memorandum written the same day that the final permit was issued, Dr. Thomson explained her rationale on this issue:

The permit applicant in this particular case has indicated a willingness to offset its increased emissions through two voluntary strategies. ... [W]e are attaching these reductions as a condition to the permit. The action we are taking is limited to this applicant to take care of what would otherwise be substantial, uncontrolled emissions of a Clean Air Act pollutant. The action adopted is consistent with what the applicant has said it can and will do.

² "Stationary sources" of pollution include coal-fired power plants, industrial facilities, and other similarly large installations.

J.A. at 305. The voluntary measures relate to burning of biomass in the power plant (paragraph 26 of the permit) and the conversion of an older coal-fired facility, the Bremono Power Station, from coal to cleaner-burning natural gas (paragraph 30 of the permit).

J.A. at 270-72. These permit provisions, however, fail to establish a BACT emission limit for carbon dioxide and fail to require Dominion to capture carbon dioxide emissions and store them underground (the Virginia Center for Coal and Energy Research proposal).

IV. STANDARD OF REVIEW

The standard of review for administrative appeals is governed by Va. Code § 2.2-4027, which provides:

The burden shall be upon the party complaining of agency action to designate and demonstrate an error of law subject to review by the court. Such issues of law include: ... compliance with statutory authority, jurisdiction limitations, or right as provided in the basic laws as to subject matter, the stated objectives for which regulations may be made, and the factual showing respecting violations or entitlement in connection with case decisions ... and ... the substantiality of the evidentiary support for findings of fact. ...

Because both issues appealed raise pure questions of law, the decisions below are reviewed *de novo*. *Hancock-Underwood v. Knight*, 277 Va. 127, 131, 670 S.E.2d 720, 722 (2009) (“all questions of law” are reviewed *de novo*); *Virginia Dept. of Health v. NRV Real Estate, LLC*, 278 Va. 181, 185, 677 S.E.2d 276, 278 (2009) (“Although decisions by administrative agencies are given deference when they fall within an area of the agency’s specialized competence, issues of statutory interpretation fall outside those areas and are not entitled to deference on judicial review.”); *Browning-Ferris Indus. v.*

Residents Involved in Saving the Env't, 254 Va. 278, 284, 492 S.E.2d 431, 434 (1997) (“The reviewing court may set the agency action aside, even if it is supported by substantial evidence, if the court’s review discloses that the agency failed to comply with a substantive statutory directive.”).

V. ARGUMENT

A. **Background on the Clean Air Act as it Pertains to Both Questions Presented.**

Congress enacted the Clean Air Act to “protect and enhance the quality of the nation’s air resources so as to promote the public health and welfare and the productive capacity of its population.” CAA § 101(b), 42 U.S.C. § 7401(b). Pursuant to the Act’s PSD program, Dominion is required to obtain a pre-construction permit prior to building or operating the Coal Plant. *See* CAA § 165, 42 U.S.C. § 7475.

Although the PSD program is federal law, the Air Board has the authority to issue PSD permits because of a “State Implementation Plan” or “SIP.” CAA § 110, 42 U.S.C. § 7410. The U.S. EPA has approved Virginia’s SIP, giving the Commonwealth primary authority to administer the PSD program in Virginia. Thus, while this appeal comes originally from a state administrative agency, it is federal law that controls resolution of the outstanding legal questions. Accordingly, the EPA’s interpretations of federal law, as contained in decisions from its Environmental Appeals Board (“EAB”), provide critical guidance.³

³The EAB is the final EPA decision-maker on administrative appeals under all major environmental statutes that EPA administers. It has exclusive jurisdiction within EPA to review PSD permit decisions, *see* 40 C.F.R. § 124.2(a), and it pronounces EPA’s judgment with regard to the agency’s own legal authority. Members of the EAB are not political appointees, but instead are career-serving judicial officials within EPA with specialized expertise on the Clean Air Act and other federal environmental statutes.

A key aspect of the PSD program is the requirement that the Air Board confirm that “the proposed facility is subject to the best available control technology [BACT] for each pollutant subject to regulation” under the Clean Air Act. *See* CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4). BACT is defined in the Act as:

an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis . . . determines is achievable for such facility through application of production processes and available methods, systems, and techniques

The Air Board’s regulations similarly define BACT as “an emissions limitation . . . based on the maximum degree of reduction for each regulated NSR⁴ pollutant that would be emitted from any proposed major stationary source . . . that the [Air Board] . . . determines is achievable. . . .” 9 VAC 5-80-1615. “[R]egulated NSR pollutant[s]” include “any pollutant that . . . is subject to regulation under the federal Clean Air Act” *Id.* What constitutes BACT must be decided on a “case-by-case basis.” *Id.*

The process for determining BACT has been summarized by the EAB, which has observed, “The analytical rigor demanded by Congress has found widely adopted expression in a guidance manual issued . . . in 1990,” known as the NSR Manual. *See In re: Northern Michigan University Ripley Heating Plant*, 14 E.A.D. ____, 2009 EPA App. LEXIS 5, Slip. Op., at 12-13 (Feb. 18, 2009) (hereinafter “*Ripley*”). The NSR Manual delineates a five-step, “top-down,” method that requires regulators to “assemble all available control technologies, rank them in order of control effectiveness, and select the best.” *Id.* The five steps that are the hallmark of the BACT analysis are: (1) identify all

⁴ NSR is an acronym for New Source Review, the umbrella program under which PSD falls.

control technologies; (2) eliminate technically infeasible options; (3) rank remaining control technologies by control effectiveness; (4) evaluate most effective controls and document results; and (5) select the most effective option as BACT. *See* J.A. at 47.

The EAB has emphasized the importance of the Guidance Manual's five-step process, explaining, "If reviewing authorities let slip their rigorous look at 'all' appropriate technologies ... the result may be somewhat protective ... but it will not be BACT." *Ripley*, 2009 EPA App. LEXIS 5, Slip. Op., at 16. In this appeal, the five-step BACT process was not properly followed for one pollutant, PM_{2.5}, and was not followed at all for another, CO₂. These failures will mean unlawfully high emissions of harmful soot pollution and unlimited, uncontrolled emissions of a major contributor to global warming.

B. The Air Board Unlawfully Failed to Conduct a BACT Analysis for Carbon Dioxide, a Clean Air Act Pollutant.

The Coal Plant in this case will be a major source of heat-trapping carbon dioxide emissions, emitting approximately 5.3 million tons of CO₂ during each year of its fifty to sixty years of operational life. J.A. at 233. Because CO₂ is a pollutant subject to regulation under the Act, the Air Board was *compelled* to complete a BACT analysis to establish enforceable emission limits for CO₂. The Circuit Court's failure to mandate this analysis was clear, legal error.

The kind of carbon dioxide control requirements that the Conservation Groups seek in this case have been adopted elsewhere around the country. *See* EPA, Final Rule, "Approval and Promulgation of Air Quality Implementation Plans; Delaware; Control of

Stationary Generator Emissions,” 73 Fed. Reg. 23101-03 (Apr. 29, 2008) (approving CO₂ control requirements proposed by Delaware regulators that include a 1900 lbs/MWh CO₂ emissions limit for new units installed on or after January 1, 2008 and 1,650 lb/MWh limit for new units installed on or after January 1, 2012). Additionally, at least one PSD permit has been rejected for failure to regulate CO₂. See Press Release, Kansas Department of Health and Environment, “KDHE Denies Sunflower Electric Air Quality Permit,” (Oct. 18, 2007) (attached as Exhibit D). EPA has advised Kansas that a revised proposal for this rejected power plant should now evaluate CO₂ control technology. See Letter from William W. Rice, Acting Regional EPA Administrator, to Roderick L. Bremby, Secretary, Kansas Department of Health and Environment (July 1, 2009) (“Rice Letter”) (attached as Exhibit E); *but see Longleaf Energy Assoc. v. Friends of the Chattahoochee, Inc.*, 681 S.E.2d 203 (Ga. App. 2009) (reaching opposite conclusion from Delaware and Kansas on regulation of CO₂).

Most importantly, the Air Board did, in fact, subject CO₂ to regulation for this Coal Plant by establishing CO₂ offset provisions in the PSD permit. J.A. at 270-72. These offset provisions alone trigger BACT because once the Air Board makes a decision to regulate a pollutant, the Act dictates the manner in which it must regulate. The PSD permit must be remanded to the Air Board to complete the necessary BACT analysis.

1. Carbon Dioxide is a Clean Air Act “Pollutant.”

The Supreme Court of the United States has held unequivocally that carbon dioxide is a “pollutant” as that term is used in the Act. See *Massachusetts v. EPA*, 549 U.S. 497, 528-29 (2007). In *Massachusetts*, the Court ruled that “greenhouse gases

[including carbon dioxide] fit well within the Clean Air Act’s capacious definition of ‘air pollutant.’” *Id.* at 532. As the U.S. EPA explained, “the U.S. Supreme Court held that GHGs [greenhouse gases] are air pollutants covered by the CAA. Therefore, the Court further held that GHG emissions are subject to CAA section 202(a) ...” *See* EPA, Proposed Rule, “Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule,” 74 Fed. Reg. 55292, 55299 (Oct. 27, 2009) (hereinafter the “Tailoring Rule”).

The EPA has now issued a final determination, pursuant to § 202(a) of the Clean Air Act, that carbon dioxide and other greenhouse gases endanger the public health and welfare, concluding that “the evidence concerning adverse air quality impacts provides strong and clear support for an endangerment finding.” *See* EPA, Final Rule, “Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,” 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009). The EPA, however, now proposes States are not mandated to regulate greenhouse gases under the PSD program because “GHG emissions have not, thus far, been subject to [federal] regulation requiring control under the CAA.” Tailoring Rule, 74 Fed. Reg. at 55299.

EPA’s position is based on a memorandum by former EPA Administrator, Stephen L. Johnson. *See* “EPA’s Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program,” (Dec. 18, 2008) (“Johnson Memo”). EPA has insisted that the Johnson Memo remains in effect, although the Agency has now granted a petition from the Sierra Club to reconsider it. *See* EPA, Proposed Rule, “Prevention of Significant Deterioration (PSD):

Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD Permit Program,” 74 Fed. Reg. 51535 (Oct. 7, 2009). EPA’s position, in sum, has been that States can choose to regulate greenhouse gas pollutants under PSD if they so choose, but they are not required to do so until a new, nationally applicable rule controlling those GHG pollutants is promulgated.⁵ EPA’s viewpoint on this issue is not yet final, however. As the Johnson Memo is currently under reconsideration, the question remains subject to revision by the Agency.

2. EPA’s Monitoring, Reporting, and Recordkeeping Regulations Make Carbon Dioxide “Subject to Regulation,” Triggering BACT.

The Conservation Groups maintain that EPA’s decision to resist nationwide regulation of carbon dioxide and other greenhouses gases — which has not been endorsed by any EAB tribunal — is unlawful. EPA’s and the Air Board’s own regulations define “regulated NSR pollutant,” in relevant part, to mean:

- (a) Any pollutant for which a national ambient air quality standard [NAAQS] has been promulgated ...
- (b) Any pollutant that is subject to any standard promulgated under section 111 [42 U.S.C. § 7411] of the federal Clean Air Act [NSPS]; ... [or]
- (d) *Any pollutant that otherwise is subject to regulation under the federal Clean Air Act...*

9 V.A.C. § 5-80-1615; 40 C.F.R. § 51.166(b)(49) (emphasis added). If carbon dioxide is regulated *anywhere* in the Clean Air Act, it fits within this final category. Carbon

⁵ EPA expects to finalize such a rule regulating greenhouse gases – a rule that would have of nationwide applicability – in March 2010. *See* Tailoring Rule, 74 Fed. Reg. at 55300; EPA and National Highway Traffic Safety Administration, Proposed Rule, “Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards,” 74 Fed. Reg. 49454 (Sept. 28, 2009).

dioxide has been “regulated” under the Clean Air Act since at least 1993, pursuant to national monitoring, reporting, and recordkeeping regulations for CO₂.

Congress first enacted the PSD program (and the BACT requirements) as part of the 1977 Clean Air Act Amendments. One year later, EPA finalized its first regulations governing the PSD permitting process. In the preamble to those regulations, EPA stated:

Some questions have been raised regarding what “subject to regulation under this Act” means relative to BACT determinations. “[S]ubject to regulation under this Act” means any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type.

See 43 Fed. Reg. 16388, 16397 (June 19, 1978) (*hereinafter* the “1978 Federal Register Notice”).

Subchapter C contains all of EPA’s air program regulations, including its PSD regulations. Within Subchapter C are provisions regulating carbon dioxide. *See* 40 C.F.R. § 75.1(a) (“The purpose of this part is to establish requirements for the monitoring, recordkeeping, and reporting of ... carbon dioxide (CO₂) emissions.”).⁶ These regulations mandate that the owners or operators of regulated facilities, such as the Coal Plant, “*shall* determine CO₂ emissions” by following specific, highly technical requirements. *See* 40 C.F.R. § 75.10(a)(3)(emphasis added). Finally, these regulations confirm that “A violation of any applicable regulation in this part ... is a violation of the Act.” 40 C.F.R. § 75.5(a).

⁶These regulations were promulgated by EPA pursuant to Section 821(a) of the Act, which provides:

Monitoring. – [EPA] ... shall promulgate regulations within 18 months after the enactment of the Clean Air Act Amendments of 1990 to require that all affected sources subject to Title [IV] of the Clean Air Act shall also monitor carbon dioxide emissions The regulations shall require that such data be reported to the Administrator. ...

See 42 U.S.C. § 7651k note; Pub. L. 101-549; 104 Stat. 2699.

In short, Subchapter C of Title 40 of the Code of Federal Regulations — the very section of the Code that EPA determined was covered by the phrase “subject to regulation” in the PSD context — is replete with “regulations” relating to carbon dioxide pollution. These monitoring, reporting, and recordkeeping regulations clearly amount to some form of “regulation” under the CAA.

3. Decisions of EPA’s Environmental Appeals Board Compel a Finding that the Air Board’s Determination in this Case was Unlawful.

Not surprisingly, given this regulatory history, the EPA Environmental Appeals Board has found that the “1978 Federal Register Notice augers in favor of a finding that” CO₂ is subject to regulation under the Act. *In re: Deseret Power Elec. Coop.*, 14 E.A.D. _____, 2008 EPA App. LEXIS 47, Slip Op. at 41 (Nov. 13, 2008) (hereinafter “*Deseret*”). *See also Ripley*, 2009 EPA App. LEXIS 5, Slip Op. at 31 (Feb. 18, 2009) (instructing the state agency on remand to be “guided by our findings in *Deseret*, to undertake the same consideration whether the CAA’s ‘pollutant subject to regulation’ language requires application of a BACT limit to CO₂ emissions”).

The EAB in *Deseret* (and again in *Ripley*) invalidated a PSD permit and sent it back to regulators with very specific instructions: determine “whether or not to impose a CO₂ BACT limit in light of the Agency’s discretion to interpret, consistent with the CAA, what constitutes a ‘pollutant subject to regulation under this Act.’” *Deseret*, 2008 EPA App. LEXIS 47, Slip Op. at 63. Although the ruling does leaves the final decision on the CO₂ determination to regulators, it is critical to recognize that the regulators in *Deseret* had argued that they had already made this determination. They had claimed that

“subject to regulation” for purposes of BACT “requires actual control of emissions of that pollutant.” *Id.* at 53. In other words, they claimed that BACT could not be triggered unless regulations had previously established binding emissions limitations for CO₂. *Deseret* rejects this argument. *Id.*

Critically, it is on this discredited rationale that the Air Board and the Circuit Court both improperly relied. The Air Board, on the advice of DEQ, concluded that its “review is confined to ... meeting the clean air quality standards and meeting the technology standards.” J.A. at 325 (statement of DEQ Director David K. Paylor). The phrase “air quality standards” references the National Ambient Air Quality Standards, or NAAQS. The phrase “technology standards” references the New Source Performance Standards, or NSPS. Yet “subject to regulation” clearly encompasses more than pollutants regulated under the NAAQS or NSPS. As quoted above, the Air Board’s own definition of “regulated NSR pollutant” includes pollutants regulated under the NAAQS, the NSPS, *and* “[a]ny pollutant that otherwise is subject to regulation ...” 9 V.A.C. § 5-80-1615; 40 C.F.R. § 51.166(b)(49); *infra* at 14.

This final, catch-all provision is *not* restricted to pollutants “otherwise subject to an emission standard.” It instead employs broader language, capturing all pollutants “otherwise ... subject to regulation.” The logical conclusion is that this catch-all category is broader than the previous three and is intended to capture forms of regulation *other* than emission standards. To conclude otherwise, would render the phrase meaningless, violating the cardinal principle of statutory construction that every word in a statute must be given meaning. *See, e.g., New York v. EPA*, 413 F.3d 3, 39 (D.C. Cir.

2005) (statutes must be construed so that “if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant”) (internal quotation marks and citations omitted). Therefore, CO₂ monitoring, reporting, and recordkeeping requirements render CO₂ “subject to regulation” and thus a “regulated NSR pollutant.”

4. The Plain Language of the Clean Air Act Itself Requires a Finding that Carbon Dioxide is “Subject to Regulation.”

If Congress had intended to limit BACT only to pollutants subject to emission controls, it could have done so. Congress, in fact, wrote such a restriction into a different Clean Air Act program, the acid rain trading program. There, the statute confines regulation to those pollution sources or units that are “subject to emission reduction requirements or limitations under this subchapter.” *See* CAA § 402(2), 42 U.S.C. § 7651a(2). By narrowing the scope of BACT only to those pollutants subject to emission controls, the Air Board and the Circuit Court have written into the PSD program a limitation that simply does not exist in the text of the PSD statute. The language “subject to regulation” in § 165(a)(4) of the Act is broader in scope than the phrase “subject to emission reduction requirements or limitations” in § 402(2). This broader language — binding on the Coal Plant in this case — must be given effect.

Relatedly, the Circuit Court erred in believing that BACT could not be determined because it would be impossible to conduct a BACT analysis “to determine compliance with an unknown limitation.”⁷ J.A. at 32. Here, the Circuit Court mistakenly

⁷ The Circuit Court’s perception that it would be impossible to determine CO₂ emission standards for the Coal Plant ignores that the Air Board’s regulations already require installation of “carbon dioxide monitoring system, consisting of a CO₂ pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO₂ concentration is derived) and an automated data acquisition

assumed that BACT is used for determining compliance with the NAAQS or NSPS. But this is not the case. The NAAQS (CAA § 109, 42 U.S.C. § 7409) and NSPS (CAA § 111, 42 U.S.C. § 7411) are wholly distinct sections of the Act that establish nationwide standards of general applicability. Unlike these broadly applied nationwide standards, the pre-construction BACT requirements are conducted “on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs.” CAA § 169(3), 42 U.S.C. § 7479(3). Congress set a low threshold for requiring a BACT analysis “to protect public health and welfare from any actual *or potential* adverse effect which in the Administrator’s judgment may reasonably be anticipate[d] to occur from air pollution ... *notwithstanding attainment and maintenance of all national ambient air quality standards.*” CAA § 160(1), 42 U.S.C. § 7470(1) (emphasis added). By attempting to peg BACT to national emission standards, the Circuit Court wrote the “case-by-case” requirement out of the statute. The Air Board must determine the “maximum degree of reduction” of CO₂ emissions that is uniquely achievable for this particular power plant. *See* CAA § 169(3), 42 U.S.C. § 7479(3). The failure to require this analysis is reversible error.

5. The Air Board’s Regulation of Carbon Dioxide with Carbon Offset Provisions Cannot Supplant a Proper BACT Analysis.

The EAB, in *Deseret*, resisted direct imposition of a BACT requirement out of a concern that “this is an issue of national scope that has implications far beyond this individual permitting proceeding.” *Deseret*, 2008 EPA App. LEXIS 47, Slip Op. at 63-

and handling system and providing a permanent, continuous record of CO₂ emissions, in percent CO₂.” 9 V.A.C. §§ 5-140-1020, 2020, & 3020.

64. Both Dominion and the Air Board relied on this public policy factor in their arguments below. What Appellees failed to appreciate, however, is that there are unique factors in this case that distinguish it from issues of nationwide regulation. Specifically, the Air Board has already decided to regulate CO₂ through imposition of carbon offset provisions in Paragraphs 26 and 30 of the PSD permit. *See* J.A. at 270-72. Because it has already decided to regulate carbon dioxide for this particular facility, the Air Board is now compelled to go forward and complete a BACT analysis.

The record in this case is overflowing with evidence that carbon dioxide regulation was central to the Air Board's decision-making process. Dominion, in response to specific requests from the Air Board, claimed that the Coal Plant would be "built so that it is compatible with carbon capture technology whenever such technology becomes commercially available in the future, and our site in Wise County has been designed to accommodate future installation of such equipment." J.A. at 173. Dominion elaborated, "The Plant is highly compatible, perhaps uniquely so, with the potential storage of carbon in unmineable coal seams." J.A. at 175. In fact, the Company provided the Air Board with detailed information describing the "future duct work, pipe racks, CO₂ compressors, CO₂ scrubbers, heat exchangers, and transfer storage vessels" that would be needed to capture and sequester carbon dioxide pollution. J.A. at 175. Dominion noted that it "is gaining hands-on experience with carbon capture" at another power plant in Massachusetts, J.A. at 176, and that it is investing heavily in carbon capture and sequestration research being conducted by the Virginia Center for Coal and Energy Research at Virginia Tech, J.A. at 175.

Furthermore, Dominion provided the Air Board with diagrams outlining different carbon capture technologies and how these technologies would be installed at the Coal Plant. J.A. at 65, 181-83. It then summarized its position:

In conclusion, post-combustion capture, a method proposed for the ... Dominion Facility in Wise County, offers excellent promise. As indicated above, a number of post-combustion technologies are under development. Post-combustion capture using chilled ammonia as the solvent, has now moved to the demonstration stage, and is an excellent candidate for carbon capture. Economic and technical criteria ... for this particular method are encouraging, and the commercialization validation is within reach, by 2012 [the projected start date for the Coal Plant].

J.A. at 180.⁸

The Air Board's response to this information was to move forward with regulation of carbon dioxide. In memoranda to DEQ staff, Vice Chair of the Board, Vivian Thomson, stated, "[the Coal Plant's] large greenhouse gas emissions (5.37 million tons/year of carbon dioxide, plus emissions of N₂O) are of concern." J.A. at 163. "Could the Board require offsets for criteria pollutant or greenhouse gas emissions in the ... permit? ... If so, how could these offsets be physically accomplished?" J.A. at 169. In an email to a fellow Air Board member, Dr. Thomson explained, "My view is, Governor Kaine says that he wants a 30 percent reduction [in greenhouse gas emissions]. So, we should require a 30 percent reduction from Dominion, to match the commitment made by the Governor."⁹ J.A. at 225. Dr. Thomson then drafted a "rationale and justification for

⁸ The Wise County Board of Supervisors was so impressed by Dominion's effort on carbon capture that it passed a resolution stating, "Be it further resolved that the Virginia City Hybrid Energy Center be used as a World Model of how CCC [carbon-capture capable] power plants can be developed in the 21st century to make significant impacts upon the reduction of GHG emissions...." J.A. at 163.

⁹ The "30 percent reduction" is contained in the Virginia Energy Plan, which establishes the goal of reducing greenhouse gas emissions by thirty percent by 2025. *See* Va. Department of Mines, Minerals and

including CO₂ offsets in the permit” and “draft permit language” to accomplish this result. J.A. at 226.

Dr. Thomson’s “rationale and justification” contain a vital concession: “Since greenhouse gases have been found to be air pollutants under the Clean Air Act, *they are therefore subject to regulation for PSD sources.*” J.A. at 229 (emphasis added). This is the language of the Vice Chair of the State Air Pollution Control Board, and it articulates the exact same understanding asserted by the Conservation Groups in this appeal.

Rather than regulating CO₂ through application of BACT, however, the Air Board “instead embraced and adopted in the permit Dominion’s voluntary greenhouse gas strategies.” J.A. at 304. The Air Board accepted two of Dominion’s voluntary efforts on carbon dioxide: (1) an agreement to burn at least five percent wood waste [biomass] ... increasing to ten percent over time”; and (2) a commitment to “switch the Bremono Bluff facility in Fluvanna County from coal to natural gas.” *Id.* The Air Board made both of these strategies enforceable by regulating them *in the PSD permit*, in Paragraphs 26 (biomass requirement) and 30 (Bremono fuel switch). J.A. at 270-72.

According to Dominion, “Utilizing biomass will mitigate carbon emissions from the station by a percentage equivalent to its share of the fuel.” J.A. at 171. Paragraph 26 of the PSD permit requires that biomass make up “no less than 10 percent per year” of the Coal Plant’s fuel source, J.A. at 270, meaning that it would offset “530,000 tons/year” of CO₂, J.A. at 304. Also according to Dominion, the Bremono Power Station conversion

Energy, “The Virginia Energy Plan,” (2007), publicly available at <http://www.dmme.virginia.gov/vaenergyplan.shtml>.

will mean a “Net Change” in the “Permit Limit” for the Coal Plant from 5,300,000 tons per year of carbon dioxide to 4,202,127 tons per year. J.A. at 186.

These provisions are undeniably “regulation” of carbon dioxide emissions at the Coal Plant. *And once the Air Board decides to regulate, the Clean Air Act mandates the form of regulation.* The Air Board was required to complete a BACT analysis, including a comprehensive, five-step, top-down review of control technologies, and establish “an emission limit [expressed in tons per year] ... that is appropriate for the selected control method.” *See Ripley*, 2009 EPA App. LEXIS 5, Slip Op. at 15. BACT is a term of art with a specific set of requirements and a rigorous method of analysis that must be followed. *See* J.A. at 47. In fact, the EAB in *Ripley* cautions regulators against doing precisely what the Air Board has done here:

If reviewing authorities let slip their rigorous look at “all” appropriate technologies, *if the target ever eases* from the “maximum degree of reduction” available *to something less or more convenient*, the result may be somewhat protective, may be superior to some pollution control elsewhere, *but it will not be BACT.*

Id. at 16 (emphasis added).

Given the Air Board’s decision to regulate CO₂, it was required to determine whether the carbon capture and sequestration project detailed by Dominion represents BACT for this facility. *See* J.A. at 170-83 (providing extensive information on how carbon capture could be accomplished at the Coal Plant). Currently, there is no commitment from Dominion on whether it will go forward with its carbon capture and storage proposal. The Circuit Court committed reversible error in failing to require the Air Board to consider whether this carbon capture project, or some other control

technology, should be required in the PSD permit as BACT for CO₂.

C. The Air Board Unlawfully Substituted Control of One Pollutant, PM₁₀, for Control of Another, PM_{2.5}, Without Demonstrating that it Was Reasonable to Do So.

The Conservation Groups' PM_{2.5} claim presents a narrow question of law: whether the Circuit Court erred by approving the Air Board's use of one air pollutant regulated under the CAA, PM₁₀, as a surrogate for direct regulation and control of another CAA regulated air pollutant, PM_{2.5}, without demonstrating that it was reasonable to do so. In accepting without reservation "the reasons stated in the briefs and oral arguments of Respondents," J.A. at 31, the Circuit Court adopted the Air Board's argument that "[t]he law applicable at the time of the Board's decision authorized using PM₁₀ as a surrogate for PM_{2.5}." *See* Response Brief of the Air Board, Va. Cir. Court, at 28; Response Brief of Dominion, Va. Cir. Court, at 34.¹⁰ This was improper. The law at the time the Air Board rendered its decision required a demonstration, prior to permit issuance, that the Coal Plant's PM_{2.5} pollution would not exceed EPA-established health protection standards for ambient concentrations of PM_{2.5},¹¹ and that Dominion would install and operate the best available pollution controls to limit, to the maximum extent achievable, the Coal Plant's PM_{2.5} emissions.

There is no question that neither Dominion nor the Air Board made this

¹⁰ As the Circuit Court did not provide further reasoning for its holding regarding the use of PM₁₀ as a surrogate for PM_{2.5} other than to adopt the Air Board's and Dominion's arguments, the Conservation Groups cite to the relevant portions of the briefs filed by the Air Board and Dominion to the Circuit Court to provide the basis for trial court's decision on this issue.

¹¹ CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3) (requiring that before obtaining a PSD permit, the permit-applicant demonstrate that the plant's pollution will not "cause, or contribute to, air pollution in excess . . . of any . . . [increment] or national ambient air quality standard [(NAAQS)] in any air quality control region").

demonstration. Rather, they believed that they were not required to determine BACT directly for PM_{2.5}, but instead could meet BACT for PM₁₀ and then assume that this would suffice for PM_{2.5} as well. This blind reliance on PM₁₀ controls was based on outdated EPA guidance documents that are unpersuasive and lack the force of law. *See Skidmore v. Swift*, 323 U.S. 134, 140 (1944) (agency guidance documents are entitled to respect only to the extent that they have “the power to persuade”); *Nat’l Ass’n of Home Builders v. U.S. Army Corps of Engineers*, 417 F.3d 1272 (D.C. Cir. 2005).

Nothing in the text of the CAA provides any exception to the requirement that every permit applicant must conduct a BACT analysis and demonstrate that each, individual air pollutant regulated under the Act will meet BACT emission control limits. Nevertheless, temporary EPA guidance issued in 1997 and subsequent jurisprudence developed a limited exception to this statutory rule, where a permit applicant could demonstrate that it is necessary and reasonable to substitute control of one regulated pollutant as a “surrogate” for another. *See* Memorandum from John S. Seitz, Director, EPA Office of Air Quality Planning & Standards, Interim Implementation of New Source Review Requirements for PM_{2.5} (Oct. 23, 1997) (“Seitz Memorandum”) (EPA memorandum setting forth temporary guidance regarding use of PM₁₀ as a surrogate for PM_{2.5}) (attached as Exhibit F); Memorandum from Stephen D. Page, Director, Implementation of New Source Review Requirements in PM_{2.5} Nonattainment Areas (April 5, 2005) (“Page Memorandum”) (reaffirming the Seitz Memorandum), J.A. at 51-55; *National Lime Association v. EPA*, 233 F.3d 625, 637-39 (D.C. Cir. 2000) (establishing the three-part test for determining whether it is reasonable to use one

pollutant to demonstrate CAA requirements for control of another pollutant); *In re: Louisville Gas & Elec. Co., Trimble County, Ky.*, Petition No. IV-2008-3 (August 12, 2009) at 43 (hereinafter “*Trimble*”) (attached as Exhibit G) (confirming that *National Lime* applies to PSD pollutants); and *In re: Cash Creek Gen., LLC, Henderson, Ky.*, Petition Nos. IV-2008-1 & IV-2008-2 (December 15, 2009) at 13-14 (hereinafter “*Cash Creek*”) (attached as Exhibit H) (same).

In this case, however, it is undisputed that neither Dominion nor the Air Board even attempted to comply with the three-part test for use of a surrogate pollutant, which the D.C. Circuit established in *National Lime* and EPA has acknowledged governs case-by-case determinations for using PM₁₀ as a surrogate for PM_{2.5}. Because PM₁₀ and PM_{2.5} are different pollutants, and because PM_{2.5} pollution acutely attacks lung and heart function, the failure to make a *National Lime* determination on the reasonableness of using PM₁₀ as a surrogate for PM_{2.5} represents a severe threat to public health. As a result, and for the reasons discussed below, the Circuit Court erred in upholding the Air Board’s decision on PM_{2.5}.

1. According to the Plain Language of the Clean Air Act, PM_{2.5} Is a Distinct Pollutant That Is Subject to BACT Requirements.

To promote the Clean Air Act’s fundamental purpose of protecting health and welfare, Congress required that all new major sources of air pollution obtain, prior to commencing construction, a PSD permit which demonstrates that “the proposed facility is subject to the best available control technology [BACT] for each pollutant subject to regulation under [the CAA] emitted from, or which results from, such facility.” CAA §

165(a)(4), 42 U.S.C. § 7475(a)(4). As explained above, Congress defined BACT to mean the level of emission control that reflects “the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis ... determines is achievable for such facility” CAA § 169(3), 42 U.S.C. § 7479(3); *see also* 9 V.A.C. § 5-80-1615 (defining BACT in substantively similar terms). The Act itself provides no statutory exception or exemption from the pre-construction BACT requirements for each distinct regulated pollutant.

There is no question that PM_{2.5} is a distinct air pollutant that is subject to regulation and BACT requirements under the CAA. *See* 9 V.A.C. § 5-80-1615; 40 C.F.R. § 51.166(b)(49) (defining “regulated NSR pollutant” to include, among other things, any pollutant for which a NAAQS has been promulgated); *see also* 62 Fed. Reg. 38,652 (July 18, 1997) (establishing NAAQS for PM_{2.5}). Although EPA has regulated PM₁₀ since 1987, it was ten years later that EPA first established independent health-based standards for PM_{2.5}. Because of its extremely small size, PM_{2.5} can penetrate deep into the lungs, enter the blood stream, and cross the blood-brain barrier. As a result, PM_{2.5} pollution causes more frequent and severe adverse health effects than PM₁₀. *See* EPA, “National Ambient Air Quality Standards for Particulate Matter,” 62 Fed. Reg. 38652, 38665 (July 18, 1997) (noting that there are stronger links to the mortality and morbidity effects of particulate matter from exposure to PM_{2.5} than PM₁₀). EPA has recognized a significant correlation between elevated PM_{2.5} levels and premature mortality. *See* EPA, “Implementation of the New Source Review (NSR) Program for

Particulate Matter Less Than 2.5 Micrometers (PM_{2.5}),” 73 Fed. Reg. 28321, 28324 (May 16, 2008). Older adults, people with heart and lung disease, and children are particularly sensitive to PM_{2.5} exposure. *Id.*

Similarly, there is no question that the Coal Plant will be a major source of PM_{2.5} pollution, emitting 329.24 tons per year, or more than thirty times the significance threshold for direct PM_{2.5} emissions.¹² Thus, according to the plain language of the CAA, Dominion could not obtain the required pre-construction PSD permit for the Coal Plant unless and until it demonstrated that the facility would, among other things, meet BACT requirements and emissions limitations specifically for PM_{2.5}.

2. *The Circuit Court Erred by Relying on EPA’s Temporary PM₁₀ Surrogacy Policy, Which Cannot Override the Act’s Statutory Mandates.*

Congress did not provide any exception to the individualized BACT requirements for each regulated pollutant in the text of the Act. The only putative basis for using PM₁₀ as a substitute for direct regulation and control of PM_{2.5} derives from a 1997 EPA guidance document that never had the force of law and does not provide a reasonable basis for deviating from the express requirements of the CAA. *See Henrikson v. Guzik*, 249 F.3d 395, 398 (5th Cir. 2001) (holding agency guidance memoranda are not regulations and, therefore, do not have the force of law) (quoting *Skidmore v. Swift*, 323 U.S. 134, 140 (1944)).¹³

¹² Significance thresholds establish when a pollutant must be regulated under BACT. The significance thresholds for PM_{2.5} are 10 tons per year of “direct” or primary PM_{2.5} emissions, and 40 tons per year for sulfur dioxide and nitrogen oxide, which are precursors for the formation of secondary PM_{2.5} in the atmosphere. *See* 40 C.F.R. § 51.166(b)(23)(i), (ii).

¹³ Indeed, EPA acknowledged that the PM₁₀ Surrogacy Policy never had the force of law. *See* J.A. at 54; Seitz Memorandum at 2 (same).

The EPA designated PM_{2.5} as an independently regulated air pollutant under the Clean Air Act in 1997. However, the EPA determined at that time that there were “significant technical difficulties ... with respect to PM_{2.5} monitoring, emission estimation, and modeling,” which made setting direct BACT standards for PM_{2.5} control infeasible thirteen years ago. *See* Seitz Memorandum, at 1. To respond to the technological gaps that existed in 1997, EPA devised non-binding, interim guidance known as the “PM₁₀ Surrogacy Policy,” which provided that sources could use implementation of a PM₁₀ program as a surrogate for meeting pre-construction permitting and BACT requirements for PM_{2.5} until the technological issues that hampered direct measurement and control of PM_{2.5} emissions were resolved. In April 2005, the EPA reaffirmed that, due to lingering technological deficiencies, the PM₁₀ Surrogacy Policy would still be a viable approach to meeting pre-construction permitting and BACT requirements for PM_{2.5}. *See* J.A. at 51-54; *see also* EPA, “Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards,” 70 Fed. Reg. 65984, 66043 (Nov. 1, 2005).

The technical impediments undergirding the PM₁₀ Surrogacy Policy do not exist now and did not exist when the Air Board issued the PSD permit for Dominion’s Coal Plant on June 30, 2008. In the years since the Seitz Memorandum was authored, PM_{2.5} monitoring stations have been established, reliable field-tested methods have been formulated to measure PM_{2.5}, and adequate modeling techniques have been developed. *See, e.g.* EPA, “Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other

Revisions,” 70 Fed. Reg. 68218, 68253 (Nov. 9, 2005). In May 2008, when EPA promulgated final regulations for PM_{2.5}, the Agency confirmed that the difficulties that were the sole justification for the PM₁₀ Surrogacy Policy had been resolved. *See* 73 Fed. Reg. 28321, 28340 (May 16, 2008) (providing, “With this final action [establishing PSD regulations for PM_{2.5} and eliminating the PM₁₀ Surrogacy Policy] and technical developments in the interim, these difficulties have largely been resolved.”).

EPA did propose a three-year transition period, during which States must switch from relying on the PM₁₀ Surrogacy Policy to implementing PSD programs for PM_{2.5}. However, EPA has recently granted a petition for reconsideration of the transition period, reiterating that the technical hurdles have now been cleared. *See* EPA, Final Rule and Notice of Grant of Reconsideration and Administrative Stay of Regulation, 74 Fed. Reg. 26098 (June 1, 2009); Letter from EPA Administrator Jackson to Paul Cort Granting Petition for Reconsideration (April 24, 2009). EPA has also recently advised Kansas authorities that they should “include an evaluation of PM_{2.5} emissions instead of relying on PM₁₀ emissions as a surrogate.” *See* Rice Letter, at 2 (attached as Exhibit E).

In short, the Air Board’s use of PM₁₀ as a surrogate in this case is based solely on its conclusion that nonbinding EPA guidance documents that allowed sources to use PM₁₀ as a surrogate on an interim basis, due to challenges in measuring and capturing PM_{2.5} pollution, had the force of law *after those challenges had been resolved*. This is wrong as a matter of law.

3. *The Air Board's Reliance on PM₁₀ as a Surrogate for PM_{2.5} Fails to Satisfy the National Lime Test.*

EPA has now made clear that permitting agencies could never blindly invoke the PM₁₀ Surrogacy Policy as a justification for failing to conduct a BACT analysis directly for PM_{2.5}. See *Trimble*, at 43; *Cash Creek*, at 13-14. Instead, even those agencies attempting to rely on the Surrogacy Policy are required to demonstrate on a case-by-case basis that it is reasonable to do so. *National Lime*, 233 F.3d at 637-39. Under the *National Lime* test, in order for PM₁₀ stand in as a surrogate for PM_{2.5}, the Air Board was required to first conduct an analysis to demonstrate that: (1) PM_{2.5} is “invariably present in [the surrogate];” (2) the control technology for the surrogate “indiscriminately captures” PM_{2.5} “along with [t]he surrogate;” and (3) the surrogate “control is the only means by which facilities ‘achieve’ reductions” in PM_{2.5} pollution. *Sierra Club v. EPA*, 353 F.3d 976, 984 (D.C. 2004) (quoting *National Lime*, 233 F.3d at 639). Here, there is no question that the Air Board did not attempt to make the required demonstrations. Response Brief of the Air Board, Va. Cir. Court, at 28 (simply noting that the Air Board “has adopted EPA’s policy to use PM₁₀ as a surrogate for PM_{2.5}”).

Instead, the Air Board argued, and the Circuit Court concluded, that “[t]here has been no requirement to apply the *National Lime* ... three-part surrogate test in the PSD program ... nor should there be.” Response Brief of the Air Board, Va. Cir. Court, at 31. Contrary to the Circuit Court’s holding, however, the EPA has confirmed that this three-part test does provide the appropriate legal standard for determining when, on a case-by-case basis, PM₁₀ may be used as a surrogate for PM_{2.5}. Citing *National Lime* and its

progeny, EPA explained:

[T]he overarching legal principle from these decisions is that a surrogate may be used only after it has been shown to be reasonable Further, we believe that this case law governs the use of EPA's PM₁₀ Surrogate Policy, and thus the legal principle from the case law applies where a permit applicant or state permitting authority seeks to rely on the PM₁₀ surrogate policy in lieu of a PM_{2.5} analysis to obtain a PSD permit.

Trimble, at 43; *see also Cash Creek*, at 13. Blind application of the PM₁₀ Surrogacy Policy, as the Air Board did here, is precisely what the EPA rejected in *Trimble*.

Had the Air Board had conducted a proper surrogacy analysis, it likely would have concluded that PM₁₀ is not a reasonable surrogate for PM_{2.5}. PM₁₀ and PM_{2.5} are distinct air pollutants. *See e.g.*, EPA, Final Rule, "Clean Air Fine Particle Implementation Rule" 72 Fed. Reg. 20586, 20599 (April 25, 2007) ("PM_{2.5} also differs from PM₁₀ in terms of atmospheric dispersion characteristics, chemical composition, and contribution from regional transport."). PM₁₀ and PM_{2.5} pose different kinds and levels of risk to human health. 62 Fed. Reg. at 38665; 73 Fed. Reg. at 28324. And perhaps most importantly, PM₁₀ and PM_{2.5} are not effectively treated with the same pollution controls. 72 Fed. Reg. at 20589 (compliance with PM_{2.5} standards "will generally require States to evaluate different sources for controls, to consider controls of one or more precursors in addition to direct PM emissions, and to adopt different control strategies").

Far more important than predicting what the Air Board might have concluded, however, is the fact that the Air Board did not conclude anything. It never applied the *National Lime* test before making its PM₁₀ surrogacy decision. It never determined that its use of PM₁₀ as a surrogate for PM_{2.5} was reasonable. This is reversible error.

VI. CONCLUSION

The requirement to perform the BACT analyses for the Coal Plant prior to its construction, as opposed to its subsequent operation, stems from practical reality: BACT and the resulting emission limits can determine important elements of facility design and construction. *See National Parks Conservation Association v. Tennessee Valley Authority*, 480 F.3d 410, 412 (6th Cir. 2007) (“Because a key purpose of PSD is ‘to assure that any decision to permit increased air pollution ... is made only after careful evaluation of all the consequences of such a decision,’ ... polluters ‘are required to ... obtain a permit before constructing or modifying facilities.’”). Waiting until after the facility is in operation would short-circuit BACT:

It would be both bad law and bad public policy to intentionally require or even allow construction before determining whether the modification was permissible under the Clean Air Act. For these reasons ... the law does not permit an after-the-fact analysis of the effect of a plant modification, which otherwise was required by law to obtain a pre-construction permit.

United States v. Ohio Edison Co., 276 F. Supp.2d 829, 864-65 (S.D. Ohio 2003).

The time to address these failures in the PSD permit is now, before construction of the Coal Plant is completed. A major industrial facility such as a coal-fired power plant will run continuously, twenty-four hours a day, for the next fifty or sixty years. Once operating, a coal plant is extremely difficult to retrofit with additional, necessary controls. As the U.S. Court of Appeals for the D.C. Circuit recognized in one of the seminal cases of modern environmental law, “Either the licensee will have to undergo a major expense in making alterations in a completed facility or the environmental harm will have to be tolerated. It is all too probable that the latter result would come to pass.”

Calvert Cliffs Coordinating Committee v. U.S. Atomic Energy Commission, 449 F.2d 1109, 1128 (D.C. Cir. 1971) (appeal under the National Environmental Policy Act).

This is precisely the situation that the Conservation Groups face here. According to ample evidence in the record and Dominion's own statements, capture and storage for carbon dioxide and lower emission limits for PM_{2.5} (soot) can be accomplished at the Coal Plant. The residents of Wise County, many of whom are members of the Conservation Groups, will have to live with this Coal Plant in their community for the next half-century. They simply ask that legally mandated pollution controls be included in the design, construction, and operation of the facility.

VII. RELIEF SOUGHT

Conservation Groups respectfully request that this Court invalidate the fatally flawed PSD permit and remand the matter to the Air Board for further consideration. On remand, the Conservation Groups seek a BACT analysis for carbon dioxide, an analysis to determine whether PM₁₀ may lawfully be used as a surrogate for PM_{2.5}, and, if necessary, a direct BACT analysis of PM_{2.5}. Further, Conservation Groups seek such other relief as may appear to be just and proper.

Respectfully submitted,

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DATED: January 11, 2010

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CERTIFICATE OF COMPLIANCE WITH RULE 5A:19(f)

Pursuant to Rule 5A:19(f), Appellants Appalachian Voices, Chesapeake Climate Action Network, the Sierra Club, and Southern Appalachian Mountain Stewards, by counsel, affirm that seven copies of this brief have been filed with the Court and that one copy of the same has been mailed or delivered to opposing counsel at the addresses below, on or before the date of filing:

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