IN THE SUPREME COURT OF THE STATE OF GEORGIA

FRIENDS OF THE CHATTAHOOCHEE, INC., and SIERRA CLUB, Petitioners/Appellees, LONGLEAF ENERGY ASSOCIATES, LLC, and DR. CAROL COUCH, DIRECTOR, ENVIRONMENTAL PROTECTION DIVISION, GEORGIA DEPARTMENT OF NATURAL RESOURCES, Respondents/Appellants.	)	PETITION NO. S09C1879 COURT OF APPEALS CASE NOS. A09A087, A09A0388

AMICUS BRIEF OF NATURAL RESOUCES DEFENSE COUNCIL AND PHYSICIANS FOR SOCIAL RESPONSIBILITY IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI

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INTRODUCTION

This amicus curiae brief is filed by the Natural Resources Defense Council ("NRDC") and Physicians for Social Responsibility ("PSR") in their institutional capacities and on behalf of the membership of these organizations.[1] NRDC, PSR, and their respective members—including members living in Georgia—have a significant interest in the damage to public health and the environment that results from non-compliance with the Clean Air Act ("CAA" or "the Act").

For the reasons outlined herein, we respectfully request that the Court grant certiorari, hear argument, reverse the Court of Appeals on the issues raised, and remand to Georgia's Office of State Administrative Hearings ("OSAH") the pre-construction permit issued to Longleaf Energy Associates, LLC ("Longleaf") for development of a pulverized coal-fired power plant in Early County, Georgia.

As described below, the Georgia Department of Natural Resources' Environmental Protection Division ("EPD" or "the Department") failed to meet at least two key legal obligations when it issued the pre-construction permit for Longleaf's proposed plant. More specifically, EPD failed to evaluate integrated gasification combined cycle or "IGCC" technology as an alternative to reduce

[1] NRDC is a nonprofit organization committed to protection of the environment, human health, and natural resources. NRDC has 602,276 members nationwide, including 5,554 members in Georgia. PSR is a nonprofit organization, comprised of some 32,400 members (including 338 members in Georgia), that provides a medical and public health voice for policies to prevent the use or spread of nuclear weapons and to slow, stop, and reverse global warming and toxic degradation.

emissions at the Longleaf plant and also failed to set an emissions limit for CO_2. EPD's failure to abide by the requirements of the CAA and the decision of the Court of Appeals reversing the Superior Court and upholding EPD's errors have profound negative implications for public health and the environment in Georgia.

BACKGROUND

On May 14, 2007, EPD issued to Longleaf a final CAA Prevention of Significant Deterioration ("PSD") permit for construction of a coal-fired power plant in Early County, Georgia (Air Quality Permit No. 4911-099-0030-P-01-0) (the "Permit"). Longleaf has proposed to build a 1,200 MW pulverized coal-fired power plant that would emit as much as 9 million tons of carbon dioxide (CO_2) every year, along with more than 5,000 tons of sulfur dioxide (SO_2), more than 3,000 tons of nitrogen oxides (NO_x), more than 1,500 tons of particulate matter ("PM"), almost 200 tons of ozone-forming volatile organic compounds ("VOCs"), and more than 200 pounds of mercury. The final permit issued to Longleaf includes emissions limits for certain pollutants, including SO_2, NO_x, and PM, but does not include any emissions limit for CO_2.[2]

On June 13, 2007, Friends of the Chattahoochee and Sierra Club ("Petitioners") filed a petition for an administrative hearing with the director of EPD that OSAH received on June 20, 2007. An evidentiary hearing was

[2] *See* OSAH Final Decision (Jan. 11, 2008) at 7.

conducted by an OSAH administrative law judge ("ALJ"). The ALJ issued a number of rulings during the course of the administrative proceeding. These included an opinion and order on December 18, 2007, which granted summary determination in favor of EPD and Longleaf ("Respondents") on a number of issues, and a Final OSAH decision on January 11, 2008, affirming the permit. *See* Memorandum Opinion and Order on Motions for Summary Determination, Docket No. OSAH-BNR-AQ-0732139-60-Howells, at 2 (OSAH, Dec. 18, 2007).

Petitioners filed an appeal of OSAH's final decision with the Superior Court of Fulton County on February 11, 2008. The Superior Court subsequently issued a judgment invalidating the permit for various violations of the CAA. *Friends of the Chatahoochee v. Envtl. Prot. Div.*, No. 2008CV146398 (Super. Ct. June 30, 2008) (hereinafter "Super. Ct. Decision").

Respondents appealed the Superior Court judgment in the Court of Appeals. The Court of Appeals reversed most of the holdings of the Superior Court, but also ordered the case remanded to OSAH because the ALJ failed to apply the correct *de novo* standard of review of EPD's permit approval. *Longleaf Energy Assoc. v. Friends of the Chattahoochee*, 2009 WL 1929192 (Ga. Ct. App. July 7, 2009) (hereinafter "Ct. App. Decision").

Petitioners have filed a Petition for Writ of Certiorari with this Court. NRDC and PSR respectfully offer this amicus curiae brief in support of Petitioners

to emphasize the critical importance of the errors committed by the ALJ and the Court of Appeals, and the implications of these errors for the health and welfare of Georgians. We hope this brief will assist the Court in resolving this matter.

DISCUSSION

The permit that EPD issued to Longleaf is required under the CAA's program to "prevent significant deterioration of air quality." 42 U.S.C. § 7470 *et. seq*. Under the PSD program,[3] a pre-construction permit is required for any power plant that will emit 100 tons per year or more of any regulated pollutant – a threshold that Longleaf's proposed facility significantly exceeds.[4] In order to receive a PSD permit, a permit applicant must meet several criteria. One especially critical requirement is that the applicant must demonstrate that pollutants "subject to regulation" will be controlled through the use of "best available control technology" ("BACT"). *Id*. at § 7475(a)(4). The Act defines BACT as follows:

> The term "best available control technology" means 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, taking into account energy, environmental, and economic impacts and other costs, determines is

[3] Georgia has adopted a state PSD program that EPA has approved into Georgia's State Implementation Plan ("SIP"); therefore, any challenge of a PSD permit in Georgia proceeds through a state administrative proceeding with appeal to an appropriate state court.

[4] *See* 42 U.S.C. § 7479(1) (defining "major emitting facility").

> achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant. . . .

Id. at § 7479(3).

As set forth in greater detail below, Longleaf has failed to satisfy the BACT criteria for obtaining a PSD permit because EPD's BACT analysis neglected to evaluate integrated gasification combined cycle or "IGCC" technology as an available control technology and failed to establish an emissions limit for CO_2, a pollutant "subject to regulation" under the Act. These failures will have serious implications for the public health and welfare of citizens of Georgia, the nation, and the global community. The Superior Court recognized the legal flaws in EPD's analysis, and the Court of Appeals wrongly reversed.

We outline below the legal shortcomings of Longleaf's Permit and the decision of the Court of Appeals as well as the significance of those shortcomings.

I. LONGLEAF AND EPD UNLAWFULLY FAILED TO CONSIDER IGCC DURING BACT ANALYSIS.

During their BACT analysis, Longleaf and EPD failed to evaluate integrated gasification combined cycle ("IGCC") technology for the plant. IGCC is an innovative combustion control technology that gasifies rather than pulverizes coal and would enable Longleaf to achieve significantly lower emissions than what is

required by the Permit issued by EPD.[5] This failure has serious implications for public health and welfare.

A. IGCC technology drastically reduces harmful emissions; considering it in the BACT analysis would provide significant public health benefits.

EPD's failure to adequately consider IGCC was legally impermissible, as discussed below, but it also threatens the health and welfare of Georgia's citizens. As described in the record, it is clear that IGCC is capable of achieving a level of emissions performance for virtually every regulated PSD pollutant that is dramatically better than the performance of a pulverized coal boiler. Use of IGCC also produces a multitude of collateral environmental benefits: it reduces the emission of hazardous air pollutants like mercury; produces less solid waste; uses less water; and provides the ability to capture CO_2 emissions for permanent storage (using existing technology) to help address global warming.[6]

The health-related benefits of IGCC are not insignificant. For example, IGCC technology reduces ozone, a dangerous air pollutant formed through chemical reactions from precursor pollutants such as NO_x and VOCs. Ozone

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[5] *See* Super. Ct. Decision at 13; *see also In re: Christian County Generation LLC*, PSD Appeal 07-01, 13 E.A.D.--, slip op. at 18-19 (E.A.B. Jan. 28, 2008); U.S. EPA, Emissions Monitoring and Control Technology Resources Fact Sheet, available at: http://www.epa.gov/airmarkt/resource/emissions-factsheet.html.

[6] EPA has recognized these collateral benefits. *See* Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies (July 2006), at ES-8, available at: http://www.epa.gov/air/caaac/coaltech/2007_01_epaigcc.pdf.

causes various adverse health effects "that range from decreased lung function and increased respiratory symptoms to serious indicators of respiratory morbidity including emergency department visits and hospital admissions for respiratory causes, and possibly cardiovascular-related morbidity as well as total nonaccidental and cardiorespiratory mortality." U.S. EPA, National Ambient Air Quality Standards for Ozone; Final Rule, 73 Fed. Reg. 16436, 16439 (March 27, 2008). Unfortunately, ozone levels in many urban areas, including Atlanta, already exceed health standards for ozone pollution and Atlanta has been found to be one of the worst places in nation for asthma.[7]

Ozone precursors—the emission of which is otherwise reduced by IGCC—also contribute to the formation of particulate matter or "PM".[8] Inhalation of PM causes or aggravates numerous cardiopulmonary diseases and conditions including asthma, bronchitis, and chronic obstructive pulmonary disease, and can result in decreased lung function in children, heart attacks, inflammation of lung tissue, lung cancer, and premature deaths. According to U.S. EPA:

> In the last review, evidence from health studies indicated that exposure to PM (using various indicators) was associated with premature mortality and indices of morbidity including respiratory hospital admissions and emergency room visits, school absences,

[7] *See* 2008 Asthma Capitals, available at: http://www.asthmacapitals.com/.
[8] *See* Georgia Department of Natural Resources, 8-Hour Ozone and PM2.5 Modeling to Support the Georgia SIP, Extended Abstract #509 (among other things, discussing PM and ozone precursors in Georgia), available at: www.gaepd.org/air/airpermit/downloads/aqrules/caircamr/downloads/Boylan.pdf.

> work loss days, restricted activity days, effects on lung function and symptoms, morphological changes, and altered host defense mechanisms.

U.S. EPA, National Ambient Air Quality Standards for Particulate Matter; Proposed Rule, 71 Fed. Reg. 2620, 2627 (Jan. 17, 2006).[9] Significantly, certain population groups are more vulnerable to these health effects, including people with existing heart and lung diseases,[10] diabetics, and older adults and children. Other factors increase a person's susceptibility as well, such as low socio-economic status and residing near roadways.[11]

Additionally, with IGCC technology it is possible to reduce emission of harmful mercury pollution by upwards of 95 percent.[12] Mercury is a potent neurotoxin that affects brain development and is especially dangerous to children, infants, nursing mothers, and developing fetuses. After mercury is released to the air, it is deposited in bodies of water, where it then converts to methylmercury (an organic form) and accumulates in fish. Fetal exposure to mercury via maternal consumption of contaminated fish can cause mental retardation, brain damage, cerebral palsy, and other impairments. Mercury exposure during early childhood

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[9] Publically available at: http://www.epa.gov/fedrgstr/EPA-AIR/2006/January/Day-17/a177.pdf.
[10] 71 Fed. Reg. at 2637.
[11] 71 Fed. Reg. at 2636.
[12] *See* http://www.epa.gov/air/caaac/coaltech/2007_01_epaigcc.pdf; and http://www.netl.doe.gov/energy-analyses/pubs/deskreference/B_IG_051507.pdf.

can reduce IQ and result in learning disabilities and attention deficit disorders.[13] One 2007 study that was cited in U.S. EPA proceedings concluded that "all efforts need to be made to reduce and eliminate sources of [mercury] exposure."[14]

Despite these health implications, EPD did not require consideration of IGCC for the Longleaf plant, even though use of this technology provides an opportunity to significantly reduce ozone, PM, and mercury emissions.

B. <u>The CAA requires consideration of IGCC technology</u>.

The law is clear that IGCC must be evaluated as an available control technology through the BACT process. A proper BACT analysis must focus on identifying the maximum emission reductions achievable at the proposed source. As the U.S. Environmental Appeals Board ("EAB") recently explained,

> 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.

In re: Northern Michigan University Ripley Heating Plant, PSD Appeal 08-02, 14 E.A.D.--, slip op. at 16 (E.A.B. Feb. 18, 2009). There is no dispute in the record that IGCC was not evaluated in the BACT process for the Longleaf plant. The

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[13] *See* U.S. EPA's mercury compounds hazard summary, available at http://www.epa.gov/ttn/atw/hlthef/mercury.html.

[14] Mergler et. al, Methylmercury Exposure and Health Effects in Humans: A Worldwide Concern, 36 Ambio 1 (Feb. 2007) (cited in U.S. EPA's Proceedings of the 2007 National Forum on Contaminants in Fish, available at: http://www.epa.gov/waterscience/fish/forum/2007/pdf/section2d.pdf).

Superior Court ruled that the Permit was unlawful for this reason, Super. Ct. Decision at 13-15; the Court of Appeals reversed, basing its decision on a misreading of selective authority that is not binding on this Court, *see* Ct. App. Decision at 13-18.

The fundamental first step in a BACT analysis is to identify all available options for reducing emissions from a proposed source. The CAA specifies that options must include "production processes or available methods, systems, and techniques, including fuel cleaning . . . or innovative fuel combustion techniques." 42 U.S.C. § 7479(3) (emphasis added). As such, BACT requires an evaluation not only of add-on pollution controls (such as scrubbers), but also "inherently low-polluting process/practice that prevents emissions from being generated in the first place." *In re Knauf Fiber Glass GmbH*, 8 E.A.D. 121, 129 (E.A.B. 1999) (internal quotation omitted). Although the EAB has not squarely addressed the issue, it has implicitly suggested that IGCC must be evaluated as BACT. *In re: Christian County Generation LLC*, PSD Appeal 07-01, 13 E.A.D.--, slip op. at 18 (E.A.B. Jan. 28, 2008) (noting that IGCC "offers many environmental benefits compared to conventional emissions control technology" and "will likely result in reduction of other pollutant emissions as [IGCC] is considered in future BACT determinations").

Per the plain language of the CAA, IGCC must be evaluated as part of the BACT process because it constitutes an "innovative fuel combustion technique." As the Superior Court explained:

> the coal would be burned in a boiler; the heat from the boiler would generate steam; and that steam would drive a turbine, which, in turn, would drive a generator to generate electricity. The IGCC technology (integrated gasification combined cycle) is a different way of using coal to generate heat to drive the turbines. 40 C.F.R. 60.41Da. IGCC works by converting the coal to a gas – called "gasification" – and then burning the gas to drive turbines both directly from the hot gas and from steam, which again is created by the heat of combustion. And once again, the turbines drive the generator to create electricity.

Super. Ct. Decision at 13. In other words, IGCC is simply an innovative way to use a particular fuel—namely, coal—to produce electricity. That such gasification qualifies as an "innovative fuel combustion technique" is further demonstrated by the fact that the sponsor of the 1977 amendment adding that phrase to the Act's definition of BACT noted that:

> I believe it is likely that the concept of BACT is intended to include such technologies as low Btu gasification and fluidized bed combustion. But, this intention is not explicitly spelled out, and I am concerned that without clarification, the possibility of misinterpretation would remain. It is the purpose of this amendment to leave no doubt that in determining best available control technology, all actions taken by the fuel user are to be taken into account--be they the purchasing or production of fuels which may have been cleaned or up-graded through chemical treatment, gasification, or liquefaction; use of combustion systems such as fluidized bed combustion which specifically reduce emissions and/or the post-combustion treatment of emissions with cleanup equipment like stack scrubbers. The purpose, as I say, is just to be more explicit, to make sure there is no chance of misinterpretation.

123 Cong. Rec. S9434-35 (June 10, 1977) (debate on P.L. 95-95) (statement of Senator Huddleston); *see also* Super. Ct. Decision at 14-15. Nothing in the Clean Air Act, its implementing regulations, or the Georgia SIP contradicts this plain legislative intent to require the evaluation of IGCC technology as part of a BACT analysis.

IGCC must also be evaluated as part of the BACT process because it qualifies as "fuel cleaning." *See* 42 U.S.C. § 7479(3) (BACT options must include "production processes or available methods, systems, and techniques, including fuel cleaning . . .") (emphasis added). In its 2005 New Source Performance Standards rulemaking, U.S. EPA noted that SO_2 emissions can be reduced by pre-treating coal in one of two ways: "physical coal cleaning and gasification." U.S. EPA, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, 70 Fed. Reg. 9706, 9711 (Feb. 28, 2005). As U.S. EPA explained,

> Coal gasification breaks coal apart into its chemical constituents (typically a mixture of carbon monoxide, hydrogen, and other gaseous compounds) prior to combustion. The product gas is then cleaned of contaminants prior to combustion. Gasification reduces SO2 emissions by over 99 percent.

Id. As an approach to fuel cleaning, IGCC fits within the definition of control measures that must be evaluated during the BACT process. 42 U.S.C. § 7479(3).

Failure to evaluate IGCC constitutes legal error that renders the BACT analysis and the Permit invalid.

The contention of EPD and Longleaf that IGCC need not be considered because an IGCC coal plant is a fundamentally different facility than the proposed pulverized coal plant—rejected by the Superior Court but accepted by the Court of Appeals—finds no support in the Act. The CAA's PSD requirements, including BACT, apply to any "major emitting facility," 42 U.S.C. § 7475(a)(1). The Act identifies specific categories of such facilities or sources, including "fossil-fuel fired steam electric plants." 42 U.S.C. § 7479(1). The Act does not establish separate facility or source categories for an IGCC and a pulverized coal plant; instead a coal-fired plant qualifies as a "fossil-fuel fired steam electric plant" whether it uses pulverized coal or IGCC technology. *See id.* Similarly, federal regulations define a "coal-fired electric utility steam generating unit" to include both those that burn coal directly, and those that burn "a synthetic gas derived from coal." 40 C.F.R. § 60.41Da. These definitions have been specifically incorporated into Georgia's air regulations. Ga. Comp. R. & Regs. r. 391-3-1.02(8).

The Court of Appeals decision makes much of a recent change in 40 C.F.R. § 60.41Da, noting that a definition of "IGCC electric utility steam generating unit" cited by the Superior Court has been recently changed. *See* COA Decision at 17-18. It is true that the definition of "IGCC electric utility steam generating unit" in

40 C.F.R. § 60.41Da has been modified "to clarify … the fact that not all combined cycle facilities that burn solid derived fuels are subject to the subpart." 74 Fed. Reg. 5072, 5073 (Jan. 28, 2009).[15] However, the federal and state regulatory definition of "coal-fired electric utility steam generating unit" remains unchanged, *see id*. at 5079, and that definition still clearly encompasses coal-fired power plants employing IGCC technology. 40 C.F.R. § 60.41Da ("Coal-fired electric utility steam generating unit means an electric utility steam generating unit that burns coal, coal refuse, or a synthetic gas derived from coal either exclusively, in any combination together, or in any combination with other fuels in any amount.") (emphasis added). As such, there is no statutory or regulatory basis for deeming IGCC technology a different facility than pulverized coal technology.

EPD's and Longleaf's failure to consider IGCC during BACT analysis is unlawful and jeopardizes and the health and welfare of Georgia's citizens. We respectfully request that the Court grant the Petition for Writ of Certiorari to address this shortcoming.

[15] The subpart is solely applicable to facilities that burn "fossil fuels". 40 C.F.R. § 60.40Da(a)(1). Previously, the IGCC definition exclusively referred to the gasification of "coal". *Id*. at § 60.41Da(a)(1) (2008). The definition was updated to acknowledge that IGCC technology may be used with feedstocks other than coal (including biomass) and to clarify that a facility using IGCC with a non-fossil fuel would not be regulated pursuant to the subpart. 74 Fed. Reg. at 5073.

II. EPD UNLAWFULLY FAILED TO SET CO_2 EMISSION LIMITS IN THE PERMIT.

In light of recent legal developments, and the current consensus within the scientific community about the causes and consequences of global warming, greenhouse gases ("GHGs")—and CO_2 in particular—must be addressed in the PSD permitting process. Failure to seek ways to reduce GHG emissions will result in significant and wide-ranging adverse health and welfare impacts to the citizens of Georgia and the nation.

A. Regulation of CO_2 is necessary to avoid serious adverse health and welfare consequences.

The evidence is overwhelming that global climate change threatens the health and wellbeing of people in the U.S. and around the world, and that immediate and decisive action is necessary. In light of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change ("IPCC"),[16] the Supreme Court's decision in *Massachusetts v. EPA*,[17] numerous other sources of data and other recent events, the legal, scientific, and policy landscape has so

[16] The IPCC was established by the World Meteorological Organization and the UN Environment Programme in 1988. The IPCC's mission is to comprehensively and objectively assess the scientific, technical and socio-economic information relevant to human-induced climate change, its potential impacts, and options for adaptation and mitigation. *See* http://www.ipcc.ch/organization/organization.htm. The IPCC completed its First Assessment Report in 1990, its Second Assessment Report in 1995, and its Third Assessment Report in 2001. *Id*. IPCC reports are available at: http://www.ipcc.ch/.

[17] 127 S. Ct. 1438 (2007).

radically changed, and the concerns regarding global warming have become so urgent and compelling, that EPD simply cannot casually sweep aside suggestions that it should address CO_2 in the context of PSD permitting. [18]

In the discussion that follows, we summarize the important health-related climate issues that are critical to any determination regarding the appropriateness of requiring CO_2 BACT limits in PSD permits.[19] In our view, concerns regarding the potentially severe human health implications of global warming, both in the U.S. and abroad, many of which are already beginning to be felt with painful and tragic results, justify taking every reasonably available action to immediately reduce CO_2 and other GHG emissions.

Indeed, every major development in our understanding of the causes and consequences of global warming supports and reinforces U.S. EPA's determination in the landfill gas rule (discussed below) that GHG emissions provide an ample basis to justify CAA regulation. In fact, over just the past two years it has become

[18] Other relevant events include EPA's announcement that it will undertake rulemaking to reduce emissions of greenhouse gases from motor vehicles, various EPA statements in other proceedings, statements promoting EPA's "voluntary" pollution reduction programs, and the President's May 14, 2007 Executive Order (*see* http://www.whitehouse.gov/news/releases/2007/05/20070514-1.html).

[19] The information discussed in this brief is not comprehensive, but reflects the issues and concerns identified by the IPCC, the EPA and others, and is illustrative of the health-related issues that compel aggressive action to reduce GHG emissions. Notably, the Supreme Court analysis in *Massachusetts v. EPA*, also identifies many serious harms caused by global warming. 127 S. Ct. at 1455 ("The harms associated with climate change are serious and well recognized.").

clear that concerns regarding global warming are both significant and immediate, and there is broad recognition of the need to take concrete and meaningful action right away.

In 2007, the IPCC issued its Fourth Assessment Report, reflecting the latest and best scientific understanding of the phenomenon of global warming. In that report, the IPCC's Working Group I, which was responsible for assessing the scientific aspects of the climate system and climate change, concluded:

- The global atmospheric concentration of CO_2 increased from a pre-industrial value of about 280 parts per million ("ppm") to 379 ppm in 2005;
- The atmospheric concentration of CO_2 in 2005 by far exceeded the natural range over the last 650,000 years;
- The primary source of the increased atmospheric concentration of CO_2 since the pre-industrial period results from fossil fuel use;
- Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level;
- There is greater than a 90% likelihood that most of the observed increases in global average temperatures since the mid-20th century stem from increases in anthropogenic greenhouse gas emissions;

- Numerous long-term changes have been observed at continental, regional, and ocean basin scales. These include changes in arctic temperatures and ice, widespread changes in precipitation amounts, changes in ocean salinity and wind patterns, and extreme weather conditions such as droughts, heavy precipitation, heat waves, intense tropical cyclones; and
- There is greater than a 90% likelihood that hot extremes, heat waves and heavy precipitation events will continue to become more frequent.[20]

Also in 2007, IPCC Working Group II—responsible for assessing the vulnerability of socio-economic and natural systems to climate change, the consequences of climate change, and the options for adapting to it—released a summary of its findings.[21] These included, among other things:

- By mid-century, annual average river runoff and water availability are projected to decrease by 10-30% over certain dry regions, some of which are already water stressed areas;
- In the course of the 21st century, water supplies stored in glaciers and snow cover are projected to decline, reducing water availability in regions where more than one-sixth of the world population currently lives;

[20] *See* the IPCC Working Group I Summary for Policymakers, available at http://www.ipcc.ch/.
[21] *See* http://www.ipcc.ch/working_groups/working_groups.htm. The Working Group II Summary for Policymakers is available at: http://www.ipcc.ch/.

- Warming in the mountains of western North America is projected to cause decreased snowpack, more winter flooding, and reduced summer flows, exacerbating competition for over-allocated water resources;
- The number of drought-affected areas will likely increase, and heavy precipitation will augment flood risk. This increased frequency of droughts and floods is projected to affect local crop production, especially in subsistence sectors at low latitudes;
- Poor communities can be especially vulnerable because they are less able to adapt and are more dependent on climate-sensitive resources such as local food and water;
- Pest, disease and fire disturbances are projected to have increasing impacts on North American forests, with an extended period of high fire risk and large increases in areas burned;
- In North America, major challenges are projected for crops that are near the warm end of their suitable range or depend on highly utilized water resources; and
- Projected climate change-related exposures are likely to affect the health status of *millions of people*, particularly those who are less able to adapt. [22]

[22] In 2002, the World Health Organization estimated that climate change caused more than 150,000 deaths annually across the globe, with this mortality burden overwhelmingly concentrated on children in poorer countries. World Health

While developing nations will be disproportionately burdened by the adverse health effects of global warming,[23] the American public will also face increasing health risks from several sources, including more frequent and severe heat waves, increasingly intense floods, coastal erosion, droughts, hurricanes, wild fires, and rising incidents of pest and waterborne disease.[24] In the Southeast and Gulf Coast in particular, U.S. EPA has identified several risks:

- Increased coastal erosion, including loss of barrier islands and wetlands;
- Risk of coastal floodplains flooding due to sea level rise, storm surge, and extreme precipitation events;
- Changing forest character as a result of disturbances, such as increased fire and insect outbreaks; and
- Higher summer heat. [25]

Similar to the disparity in health impacts at the global level, the effects here in the U.S. will likely be most severe among those who are poor, those who suffer

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Organization, World Health Report: Reducing Risks, Promoting Healthy Life (2002), available at: http://www.who.int/whr/2002/en/. A recent article in Pediatrics (the official journal of the American Academy of Pediatrics) confirms the tremendous impact that global warming is having (and will have) on children. *See* Shea *et. al*, Global Climate Change and Children's Health, Pediatrics (Oct. 29, 2007), available at: http://pediatrics.aappublications.org/cgi/reprint/120/5/e1359.

[23] *See* http://www.epa.gov/climatechange/effects/international.html.

[24] *See* http://www.epa.gov/climatechange/effects/usregions.html.

[25] *See* http://www.epa.gov/climatechange/effects/usregions.html.

from pre-existing diseases, and those who lack access to adequate health care and other support services.[26]

These serious threats posed by climate change present states like Georgia with an opportunity to protect its citizens by addressing CO_2 emissions at their largest individual source: coal-fired power plants. The IPCC predicts that to avoid the worst impacts of climate change, global emissions must peak within ten years and be reduced to 50 percent below 2000 levels by mid-century.[27] To reach that goal, the U.S. must reduce its emissions to approximately 80 percent below 2000 levels by 2050. Nonetheless, there are some 121 coal-fired plants either announced or under development.[28] Assuming 50 years of operation, the lifetime CO_2 emissions from these plants will amount to around *22,750,000,000 tons* of CO_2.[29]

In light of these staggering numbers, permitting the construction of a new coal-fired power plant without <u>any</u> consideration of the plant's CO_2 emissions is

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[26] *See* U.S. EPA's Report, The Potential Effects of Global Climate Change on the United States (Dec. 1989), Chapter 12, available at: http://www.epa.gov/climatechange/effects/downloads/potential_effects.pdf.

[27] *See* IPCC, Contribution of Working Group III to the Fourth Assessment Report, Summary for Policymakers, (2007), available at: http://www.ipcc.ch/.

[28] *See* National Energy Technology Laboratory, Tracking New Coal-Fired Power Plants (February 18, 2008), available at: http://www.netl.doe.gov/coal/refshelf/ncp.pdf.

[29] A coal-fired plant produces approximately 3.5 million tons of CO_2 /yr for every 500 MW: (65,000MW/500MW) x 3,500,000 tons of CO_2/yr x 50 yrs = 22,750,000,000 tons.

fundamentally at odds with addressing climate change. In order to reduce U.S. emissions to an acceptable level, we must take steps now to address emissions from our largest emitters.

B. The Clean Air Act Requires BACT Emissions Limits for CO_2.

EPD improperly failed to evaluate or establish a limit on CO_2 emissions from the Lonfleaf plant and the Court of Appeals mistakenly upheld this failure.

1. Federal and state BACT requirements extend to any pollutant that is "subject to regulation" under the Act.

A careful review of the CAA and its implementing regulations demonstrates that the EPD's position that it is not required to regulate CO_2 is "untenable" because, as the Superior Court held, "there is no question that CO_2 is 'subject to regulation under the Act.'" Super. Ct. Decision at 7. The PSD permitting provisions require a BACT analysis and limit "for each pollutant subject to regulation" under the Act. 42 U.S.C. § 7475(a)(4). "Regulated NSR pollutant" is defined as a pollutant that falls within one of four categories: (1) pollutants for which a national ambient air quality standard has been promulgated, (2) pollutants for which there are new source performance standards under Section 111 of the Act, (3) Class I or II pollutants regulated under Title VI of the Act (relating to acid rain deposition), and (4) "any pollutant that otherwise is subject to regulation under the Clean Air Act," except hazardous air pollutants regulated under Section 112. 40 C.F.R. § 51.166(b)(49); *see also* Ga. Comp. R. & Regs. r. 391-3-1.02(7)(a)(2).

Therefore, EPD is required to impose a BACT limit on any pollutant that fits within categories one through three of the definition of "regulated NSR pollutant" or that is "otherwise subject to regulation" under the Act.

2. CO_2 is "subject to regulation" under the Act.

CO_2 is an air pollutant "subject to regulation" under the Act and, therefore, must be controlled by a BACT limit. First, as the U.S. Supreme Court recently found, it is "unambiguous" that CO_2 falls within the Act's "sweeping definition" of air pollutant, which includes "any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters into the ambient air." *Massachusetts v. EPA*, 127 S. Ct. 1438, 1460 (2007); 42 U.S.C. § 7602(g). Georgia law sets forth a similarly expansive definition of "air pollutant" or "air contaminant" that includes "solid or liquid particulate matter, dust, fumes, gas, mist, smoke, or vapor, or any matter or substance either physical, chemical, biological, or radioactive … or any combination of any of the above." Ga Comp. R. & Regs. r. 391-3-1.01(c), (d). CO_2, which is a colorless gas, plainly qualifies within that definition.

Second, CO_2 is not only "subject to regulation" under the Act, but it is actually regulated. For example, Section 821 of the CAA Amendments of 1990 directed U.S. EPA to "promulgate regulations" requiring certain sources, including

coal-fired electric generating stations, to monitor CO_2 emissions and report monitoring data to U.S. EPA. 42 U.S.C. § 7651k note.

In 1993, U.S. EPA promulgated regulations to implement Section 821, which generally require monitoring of CO_2 emissions through installation, certification, operation and maintenance of a continuous emission monitoring system or an alternative method, 40 C.F.R. §§ 75.1(b), 75.10(a)(3); preparation and maintenance of a monitoring plan, 40 C.F.R. § 75.33; maintenance of certain records, 40 C.F.R. § 75.57; and reporting of certain information to U.S. EPA, including electronic quarterly reports of CO_2 emissions data, 40 C.F.R. §§ 75.60 – 64. Operation of a covered source in absence of compliance with these provisions is prohibited, 40 C.F.R. § 75.5, and the knowing submission of false monitoring reports is subject to criminal sanction, 42 U.S.C. § 7413(c)(2). Pursuant to these regulations, Longleaf's permit requires the plant to develop and maintain a monitoring system "for measuring oxygen or carbon dioxide." Permit at 5.2g. Therefore, CO_2 is plainly "subject to regulation" under the Act because it is actually regulated pursuant to Section 821 of the 1990 CAA amendments. Super. Ct. Decision at 7.

That CO_2 is "subject to regulation under the Act" is also demonstrated by U.S. EPA's recent approval of the incorporation of Delaware regulations limiting CO_2 emission into that state's SIP. 73 Fed. Reg. 23,101 (Apr. 29, 2008); 40 C.F.R.

§ 52.420(c). Those regulations establish CO_2 emission limits and operating requirements, CO_2 recordkeeping and reporting requirements, and CO_2 emission certification, compliance, and enforcement obligations for new and existing stationary generators. *See* Del. Reg. No. 1144 - Control of Stationary Generators Emissions.[30] By approving inclusion of these provisions into Delaware's SIP, the U.S. EPA has confirmed that CO_2 is "subject to regulation" under the Act, as SIPs are developed pursuant to Sections 110 and 113 of the Act, 42 U.S.C. §§ 7410, 7413, and become federally enforceable parts of federal law upon approval by the U.S. EPA. *El Comite Para El Bienestar de Earlimart v. Warmerdam*, 539 F.3d 1062, 1066 (9th Cir. 2008); *Espinosa v. Roswell Tower, Inc.*, 32 F.3d 491, 492 (10th Cir. 1994); *Her Majesty the Queen in Right of the Province of Ontario v. City of Detroit*, 874 F.2d 332, 335 (6th Cir. 1989).

In reversing the Superior Court the Court of Appeals opined that "because there is no CAA regulation actually controlling or limiting CO_2 emissions, CO_2 does not fall within the 'otherwise subject to regulation under the [CAA]' definition of a 'regulated NSR pollutant." Ct. App. Decision at 11. The Court of Appeals is mistaken because, as explained above, CO_2 is "actually regulated" under the Act by Section 821 of the CAA Amendments and pursuant to the approval of the Delaware SIP provisions regulating CO_2. It is significant to note

[30] Available at: http://regulations.delaware.gov/AdminCode/.

that Congress used the same word—regulation—in Section 821 as it did in Section 165. Typically, "identical words used in different parts of the same statute are . . . presumed to have the same meaning." *Merrill Lynch v. Dabit*, 547 U.S. 71, 86 (2006). Therefore, by requiring "regulation" of CO_2 in Section 821, Congress clearly made CO_2 "subject to regulation" for purposes of Section 165.

The Court of Appeals seems to suggest that only a specific type of regulation—namely, a "regulation that actually controls or limits … emissions," Ct. App. Decision at 12—is sufficient to make CO_2 "subject to regulation" under the Act. Nothing in the statutory language "subject to regulation," however, provides that only certain types of regulation triggers the BACT requirements, and to hold to the contrary would add words to the statute that are not there. *See U.S. v. Alpers*, 338 U.S. 680, 681-82 (1950) ("The language of the statute may not be distorted under the guise of construction, or so limited by construction as to defeat the manifest intent of Congress.").

In any event, the position of the Court of Appeals is based on the faulty contention that a pollutant must be actually regulated in order to be "subject to regulation" under the Act. The Act applies BACT requirements not only to pollutants for which regulatory standards have been developed, but also to pollutants for which the U.S. EPA and states possess as yet unexercised authority to regulate. For example, in evaluating whether an employee is "subject to such

deduction" in pay for purposes of the Fair Labor Standards Act, the U.S. Supreme Court has rejected the contention that such phrase requires a showing that the employee's pay was actually deducted. *Auer v. Robbins*, 519 U.S. 452, 460-61 (1997); *see also Kennedy v. Commonwealth Edison*, 410 F.3d 365, 371 (7th Cir. 2005); *Klein v. Rush-Presbyterian – St. Luke's Medical Center*, 990 F.2d 279, 286 (7th Cir. 1993). Similarly, the phrase "subject to regulation" used in Section 165 of the Clean Air Act requires only that a pollutant is "capable of being regulated" by the U.S. EPA or the states. Given that CO_2 has been found to be an air pollutant that may be regulated by the U.S. EPA, it is clear that CO_2 is "subject to regulation" for purpose of Section 165 of the Clean Air Act.

The more limited interpretation offered by EPD and the Court of Appeals reads the words "subject to" out of the Act in contravention of basic rules of statutory interpretation that direct that "a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant." *Duncan v. Walker*, 533 U.S. 167, 174 (2001) (internal quotation marks and citations omitted); *see also Colautti v. Franklin*, 439 U.S. 379, 392 (1979) (it is an "elementary canon of construction that a statute should be interpreted so as not to render one part inoperative,"). Had Congress wished to limit the applicability of BACT to pollutants that are "actually regulated," it could have done so. It did not. *See* Super. Ct. Decision. at 7-8.

3. Additional authority supports CO_2 BACT limits for proposed coal-fired power plants.

Recently, the U.S. Environmental Appeals Board ("EAB") has remanded permits issued by U.S. EPA Region 8 and Michigan Department of Environmental Quality for further evaluation of whether CO_2 BACT limits should be required, while declining to hold that CO_2 is exempt from PSD permitting requirements. *See generally In re Deseret Power Electric Coop.*, PSD Appeal No. 07-03, 14 E.A.B.-- (Nov. 13, 2008); *see also In re Northern Michigan University Ripley Heating Plant*, PSD Appeal No. 08-02, 14 E.A.B.-- slip op. at 31-32 (EAB Feb. 18, 2009).[31] In so doing, the EAB specifically rejected the arguments offered by those agencies for not regulating CO_2. EPD offers similarly invalid excuses here.

In an unsuccessful effort to head off any regulation of CO_2 emissions from coal-fired power plants, former U.S. EPA Administrator Stephen Johnson issued a memo late last year that purports to conclude that CO_2 is not a "regulated new source review pollutant" for purposes of the Clean Air Act. (Memorandum, Stephen L. Johnson, U.S. EPA Administrator, to Regional Administrators, "Re:

[31] In a recent order addressing petitions requesting that EPA object to a permit awarded for the construction of a new 750 MW pulverized coal-fired boiler by Louisville Gas and Electric Company in Trimble County, Kentucky, the agency "decline[d] at this time to undertake a discretionary reopening of the LG&E permit to include [CO_2] limits." *In the Matter of Louisville Gas & Eletric Co.*, Petition No. IV-2008-3, Order Responding to Requests for Objection to Permit at 15, n.14 (August 12, 2009). The order does not directly address whether CO_2 emissions are subject to PSD BACT requirements.

EPA's Interpretation of Regulations that Determine Pollutants Covered By Federal Prevention of Significant Deterioration (PSD) Permit Program," December 18, 2008. ("Johnson Memo")). That conclusion is substantively invalid as it directly conflicts with the plain meaning of the Clean Air Act. Therefore, it is not surprising that U.S. EPA Administrator Lisa Jackson recently granted a motion for reconsideration of the Johnson Memo, in order to allow for public review and comment. *See* Letter from U.S. EPA Administrator Lisa Jackson to David Bookbinder (Feb. 17, 2009).[32] In doing so, the Administrator noted that the Johnson Memo is not binding on states implementing their own SIPs, and that state permitting agencies "should not assume that the [Johnson Memo] is the final word on the appropriate interpretation of the Clean Air Act." (*Id.*).

* * *

Given the gravity of the health and welfare impacts discussed above, it is a state's duty to take the steps necessary to ensure that emissions of CO_2 are reduced to the greatest degree achievable. Because CO_2 is "subject to regulation" under the Act, EPD's failure to include limits for CO_2 in the Permit is unlawful. Accordingly, we respectfully request that the Court grant the Petition for Writ of Certiorari to address this shortcoming.

[32] The letter is available at: www.epa.gov/NSR/guidance.html.

CONCLUSION

The Clean Air Act's BACT requirements mandate that EPD consider all available technologies that would reduce emissions at the Longleaf plant while still achieving the plant's basic business purpose of producing electricity for commercial sale from coal. Accordingly, the law requires that EPD evaluate IGCC technology. Additionally, EPD must set emissions limits for CO_2 in Longleaf's permit because CO_2 is already subject to regulation under the Act and federal and state regulations. Longleaf's Permit unlawfully fails to satisfy the foregoing legal requirements and consequently jeopardizes the health and welfare of the citizens of Georgia. We respectfully request that the Court grant certiorari, hear argument, reverse the Court of Appeals on the issues raised, and remand to OSAH to correct the deficiencies in the Permit.

Respectfully submitted this 26th day of August, 2009,

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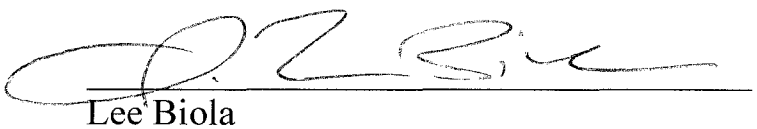
This 26th day of August, 2009.



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