



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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ENVIR. APPEALS BOARD

OFFICE OF
GENERAL COUNSEL

September 24, 2007

Ms. Eureka Durr
Clerk of the Board
U.S. Environmental Protection Agency
1341 G Street NW, Suite 600
Washington, DC 20005

Re: Christian County Generation, LLC, PSD Appeal No. 07-01

Dear Ms. Durr:

Enclosed for filing with the Environmental Appeals Board in the above-referenced matter is an original and five copies of the Brief of EPA Office of Air and Radiation. Copies of this document have been served on all parties in accordance with the enclosed Certificate of Service.

Thank you for your assistance in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kristi M. Smith".

Kristi M. Smith
U.S. EPA, Air and Radiation Law Office
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Enclosures

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BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. ENVIR. APPEALS BOARD

In re:

Christian County Generation, LLC

PSD Appeal No. 07-01

BRIEF OF THE EPA OFFICE OF AIR AND RADIATION

The Office of Air and Radiation (OAR) of the Environmental Protection Agency (EPA) submits this brief in accordance with the Environmental Appeals Board's (EAB or Board) July 20, 2007 Order in the above-captioned matter. OAR's position is that the Illinois Environmental Protection Agency's (IEPA) treatment of carbon dioxide (CO₂) emissions from the Christian County Generation power plant in issuing the Prevention of Significant Deterioration (PSD) permit was consistent with the Clean Air Act (CAA or Act), corresponding implementing regulations, and EPA policy.

I. Introduction and Background

This case involves an appeal of a PSD permit issued by the IEPA to Christian County Generation, LLC (Christian County) to construct a coal-fired integrated gasification combined cycle (IGCC) power plant and associated emission units, known as the Taylorville Energy Center, in Christian County, Illinois. In its July 20, 2007 Order, the Board requested that OAR and the Office of General Counsel file a brief addressing issues raised by Petitioner's arguments regarding consideration of CO₂ emissions in the

Best Available Control Technology (BACT) analysis for the proposed facility. Specifically, the Board asked OAR to address the Petitioner's arguments that the Christian County PSD permit should be remanded because: (1) the permit lacks a CO₂ emissions limit based on BACT, and (2) IEPA failed to consider the collateral environmental impacts of CO₂ in its BACT analysis.

As a preliminary matter, OAR agrees with IEPA and the permittee that Petitioner has not preserved these issues for review for the reasons set forth in the briefs already submitted by these parties. Accordingly, consistent with the Board's precedent cited in the arguments of IEPA (Response to Pet. at 11-15, 33-36) and Christian County (Mot. to participate at 4-9, 16-19), review of this case should be denied without reaching the merits of the issues raised by Petitioner. Nonetheless, per the EAB's Order, OAR will address Petitioner's arguments below in order to assist the Board in the event that it reaches the merits of the case.

In undertaking any substantive analysis of Petitioner's arguments, the Board should also be aware that EPA Region 8 recently addressed these same issues in the course of issuing a PSD permit for the Deseret Bonanza electric generating unit, to be constructed in eastern Utah. In that action, consistent with the arguments below, the Region concluded that it lacked the legal authority to establish emissions limitations for CO₂ and that the record did not show that consideration of the global impacts of CO₂ and other greenhouse gas (GHG) emissions would have changed the outcome of the collateral environmental impacts component of the BACT analysis for regulated pollutants. *See* Response to Public Comments on Draft Air Pollution Control Prevention of Significant Deterioration (PSD) Permit to Construct, Permit No. PSD-OU-0002-04.00 (August 30,

2007; Deseret Bonanza Response to Comments), at 5-6, *available at*
<http://www.epa.gov/region8/air/permitting/deseret.html>.

II. IEPA Lacks the Authority to Include a CO₂ Emissions Limit in the Christian County PSD Permit.

The absence of a CO₂ emissions limitation in the Christian County PSD permit does not establish grounds for remand. The EPA Administrator long ago established that the Agency, and delegated permitting authorities such as IEPA, “lack[] the authority to impose [PSD permit] limitations or other restrictions directly on the emission of unregulated pollutants.” *North County Resource Recovery Assoc.*, 2 E.A.D. 229, 230 (Adm’r 1986). In fact, the Board has already applied this long standing principle and determined that CO₂ emissions are not regulated pollutants for PSD permitting purposes. *Inter-power of New York*, 5 E.A.D. 130, 151 (EAB 1994) (finding EPA was not required to examine technologies aimed at controlling CO₂ because it was an unregulated pollutant); *see also Kawaihae Cogeneration Project*, 7 E.A.D. 107, 132 (EAB 1997) (upholding a PSD permit in which the permitting authority found that CO₂ was not “a regulated air pollutant for permitting purposes”). While the Supreme Court decision in *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007), held that CO₂ and other GHGs are “air pollutants” under the CAA, that decision did not make CO₂ a regulated NSR pollutant and, thus, does not alter the requirements of the current PSD permitting program.

A. PSD Permitting Requirements Apply Only to Those Air Pollutants Actually Regulated under the CAA.

The Clean Air Act requires PSD permits to contain emissions limitations for “each pollutant subject to regulation” under the Act. CAA §§ 165(a)(4), 169(3). In carrying out the PSD permitting program, EPA promulgated a regulation implementing

this statutory instruction. *See* 40 C.F.R. § 52.21(b)(12). OAR has historically interpreted the term “subject to regulation under the Act” to describe pollutants that are presently subject to a statutory or regulatory provision that requires “actual control of emissions” of those pollutants. Memorandum from Lydia N. Wegman, OAQPS Deputy Director, entitled *Definition of Regulated Air Pollutant for Purposes of Title V* (April 26, 1993; Wegman Memo.) at 5 (explaining which pollutants are “subject to regulation under the Act” for title V permitting purposes and noting that the interpretation was similar to the approach taken in PSD permitting).¹ The EAB has also adopted this approach. *See Kawaihae Cogeneration Project*, 7 E.A.D. at 132 (upholding a PSD permitting decision that CO₂ was not “a regulated air pollutant for permitting purposes” because there were “no regulations or standards prohibiting, limiting or controlling the emissions of greenhouse gases from stationary sources”); *Knauf Fiber Glass*, 8 E.A.D. 121, 163-64 (EAB 1999) (finding “additional [PSD] permit conditions relating to emissions of respirable glass fibers” were not required because these fibers were “unregulated pollutants” not specifically addressed by CAA emission control requirements and only needed to be addressed to the extent they were components of PM₁₀, a regulated pollutant).

The Agency’s interpretation of the term “subject to regulation under the Act” for PSD permitting purposes to include only those air pollutants for which actual emission

¹ OAR recognizes that the Wegman Memorandum defines a CAA “air pollutant” more narrowly than the definition recently afforded by the Supreme Court. *Compare* Wegman Memo. at 4, *with Massachusetts v. EPA*, 127 S. Ct. 1438, 1460 (2007). However, OAR is not using the Wegman Memorandum for its definition of “air pollutant” but rather for its explanation of which air pollutants are considered “subject to regulation under the Act” for permitting purposes, an issue that was not addressed in the *Massachusetts* decision.

control requirements exist is also evident from earlier rulemakings for the PSD program in which the Agency identified the specific pollutants subject to regulation. *See* 43 Fed. Reg. 26388, 26397 (June 19, 1978) (describing pollutants subject to BACT requirements as those pollutants actually regulated under various CAA provisions); 61 Fed. Reg. 38250, 38309-10 (July 23, 1996) (listing pollutants subject to PSD review and including only those pollutants actually regulated under existing emission control provisions of the CAA).

In 2002, EPA codified this approach for determining which air pollutants were covered by PSD requirements. EPA clarified that BACT emission limits are required “for each regulated NSR pollutant that [a major source] would have the potential to emit in significant amounts” while also defining the term “regulated NSR pollutant.” 40 C.F.R. § 52.21(j)(2); 40 C.F.R. § 52.21(b)(50).² In these regulations, EPA defined a regulated NSR pollutant to include those pollutants for which emission control measures are required under three principal program areas – pollutants for which national ambient air quality standards (NAAQS) have been promulgated (and their precursors), pollutants subject to a section 111 New Source Performance Standard (NSPS), and class I or II substances under title VI of the Act³ – as well as any pollutant “that otherwise is subject to regulation under the Act.” 40 C.F.R. § 52.21(b)(50)(i)-(iv). In promulgating the 2002 rule, EPA provided a list of the specific pollutants “currently regulated under the Act [and] subject to Federal PSD review and permitting requirements” in accordance with the rule – a list that did not include CO₂, even though EPA guidance existed at that time that considered CO₂ to be an air pollutant. 67 Fed. Reg. 80186, 80240 (Dec. 21, 2002).

² The codification of this approach in the PSD regulations was not challenged in court.

³ Class I or II substances are specific categories of ozone depleting emissions.

Consistent with the categories of pollutants contained in the first three sections of the “regulated NSR pollutant” definition and EPA’s historic interpretation of PSD permitting requirements, EPA continues to interpret the catch-all phrase “otherwise is subject to regulation under the Act” to refer only to air pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant.

B. CO₂ Is Not Currently a Regulated NSR Pollutant.

Because EPA has not established a NAAQS or NSPS for CO₂, classified CO₂ as a title VI substance, or otherwise regulated CO₂ under any other provision of the Act, CO₂ is not currently a “regulated NSR pollutant” as defined by EPA regulations and, therefore, is not subject to PSD permit limits. Although the Supreme Court’s decision in *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007), held that CO₂ and other GHGs are “air pollutants” under the CAA, the Court’s decision does not require permitting authorities (including IEPA) to set CO₂ emission limits in PSD permits in the absence of some other regulatory action. Notably, the Court did not hold that EPA was required to regulate CO₂ and other GHG emissions under CAA section 202 (the mobile source provision at issue in the *Massachusetts* case), or any other section. Rather, the Court concluded that these emissions are “air pollutants” under the Act, *id.* at 1460, and therefore found that EPA *could* regulate them under Section 202, subject to certain Agency endangerment determinations pertaining to mobile sources, *id.* at 1462-63.⁴ Thus, contrary to

⁴ In light of the Court’s opinion, EPA is currently taking the steps necessary to make an endangerment determination for mobile sources, *see* President’s May 14, 2007 Executive Order (*available at* <http://www.whitehouse.gov/news/releases/2007/05/20070514-1.html>), and is also developing an overall strategy for addressing the emissions of CO₂ and other GHGs under the CAA, *see* Deseret Bonanza Response to Comments at 5.

Petitioner's arguments, the *Massachusetts* decision did not make CO₂ "subject to regulation" for PSD permitting purposes and did not change longstanding EPA policy and EAB precedent regarding the interpretation of that phrase.

The CAA acid rain program provision cited by Petitioner does not establish emissions control requirements on CO₂ and thus does not make CO₂ "subject to regulation under the Act" for PSD permitting purposes. Pet. at 7-8. Section 821 of the Act only requires that certain sources monitor and report CO₂ emissions and that EPA make such emissions data publicly available. 42 U.S.C. § 7651k note (found at Pub.L. 101-549, 104 Stat. 2699). This provision does not impose any limitations on CO₂ emissions or require sources to install CO₂ emissions controls. As discussed above, under the Agency's historic interpretation, actual emission controls are necessary before a pollutant can be considered "subject to regulation" for PSD permitting purposes.

Moreover, OAR guidance has previously explained that CO₂ is not considered to be a pollutant subject to regulation for CAA permitting purposes because the § 821 requirements "involve actions such as reporting and study" of CO₂ but not actual CO₂ emissions control. Wegman Memo. at 5.⁵ Petitioner fails to cite any contrary authority or EPA interpretation that supports the proposition that requirements to monitor and report emissions are equivalent to requirements to control emissions under the Act.

Similarly misplaced is Petitioner's reliance on the general nuisance provision of the Illinois State Implementation Plan (SIP) to argue that CO₂ is "subject to regulation" for the purpose of this PSD permitting action. IEPA addressed this issue extensively in

⁵ While the *Massachusetts v. EPA* decision adopted a broader definition of "air pollutant" than used in the Wegman Memorandum, see note 1 *supra*, use of a broader definition of "air pollutant" does not affect the Memorandum's explanation of which pollutants are considered "subject to regulation under the Act" for permitting purposes.

both its response to public comments, *see* Pet.'s Ex. 3 at 9-10, and its brief in this case, *see* IEPA Response to Pet. at 27-31. From this analysis, it is clear that the State has never and does not now interpret the "Prohibition of Air Pollution" provision in its SIP to regulate CO₂ emissions. In addition, the rulemaking Petitioner cites to show that EPA approved this provision of the Illinois SIP does not provide any indication that EPA read that provision to apply broadly to regulate CO₂ emissions. *See generally* 37 Fed. Reg. 10862, 10842-847 and 10862-863 (May 31, 1972).

Unable to rely on section 821 of the CAA and the Illinois SIP's general nuisance provision to establish that CO₂ is currently a pollutant subject to regulation under the CAA, Petitioner's only remaining argument is that CO₂ is a regulated NSR pollutant because the phrase "subject to regulation under the Act" must be interpreted to include any air emissions that are "*capable* of being regulated", regardless of whether or not they are currently regulated. Pet. at 10 (emphasis added). However, this is an unworkable interpretation of the Act that is not consistent with EPA's historic view and promulgated regulations. Under Petitioner's reading, *any* emissions that *could* be considered an air pollutant, and thus could *potentially* be subject to regulation under the CAA, would meet the definition of "regulated NSR pollutant" to which PSD permitting requirements apply. As the EAB has already stated, "[n]ot all air pollutants are covered by the federal PSD review requirements." *Knauf Fiber Glass*, 8 E.A.D. at 162. Petitioner's argument not only ignores the specific language of the applicable PSD regulations, it also completely usurps EPA's discretion to interpret and implement the PSD program under the CAA. *See Environmental Defense v. Duke Energy Corp.*, 127 S. Ct. 1423 (2007) (finding that

EPA has discretion to define relevant statutory terms in the context of implementing the overall PSD program).

Petitioner's wide reading of "subject to regulation" to include each and every air pollutant that may be regulated under the CAA in the indefinite future, and not just those EPA has chosen to regulate through public notice and comment rulemaking, does not reflect the regulatory language EPA adopted in 2002. EPA specifically chose to list three specific programs in which air pollutants are regulated, and then to also include other air pollutants subject to regulation under the Act, excepting hazardous air pollutants (HAPs). 40 C.F.R. § 52.21(b)(50)(i)-(iv). If, as Petitioner argues, such regulations must be read to cover any and all air pollutants other than HAPs, EPA could have easily written the regulated NSR pollutant definition to adopt such an approach -- but EPA did not write the regulations in such a manner. Instead, EPA adopted a definition that reflected years of agency practice of considering an air pollutant to be "subject to regulation" under the Act only when it was covered by other statutory or regulatory programs that impose emission control requirements.

In order to carry out their administrative functions, federal agencies are often afforded broad discretion in interpreting and implementing statutory requirements. This is particularly true when the Agency is choosing its regulatory priorities. *See Massachusetts v. EPA*, 127 S. Ct. at 1459 (noting that the Court has repeatedly found that "an agency has broad discretion to choose how best to marshal its limited resources and personnel to carry out its delegated responsibilities"); *Sierra Club v. Thomas*, 828 F.2d 783, 798 (D.C. Cir. 1987) (finding that given Congress' broad mandate to EPA under the CAA, "the Agency cannot avoid setting priorities" in carrying out its regulatory duties).

Such discretion is especially important when regulating and administering a complex permitting program, such as the Act's PSD program. In order to carry out its mandate under the CAA, EPA completed numerous public rulemakings to determine exactly how to carry out the goals of the PSD program, including determining which pollutants should be addressed in PSD permits and the exact nature in which they should be included. The relevant definitions in those regulations were not challenged in court, and Petitioner's attempt to effectively do so here by ignoring the plain reading of the regulations is a challenge that is both untimely and in the wrong venue. CAA § 307(b)(1).

Finally, Petitioner's reading that EPA must establish PSD emission limits for all pollutants merely capable of regulation would completely eviscerate EPA's discretion to interpret the PSD program and would result in an administratively unworkable program. It would cripple the PSD permitting process, because there would be almost no bounds to the substances for which permitting authorities would be required to set PSD limits, especially in light of the Supreme Court's reading of what constitutes an "air pollutant" under the Act. *See Massachusetts v. EPA*, 127 S. Ct. at 1460 (finding that the Act's "sweeping definition" of air pollutant "embraces all airborne compounds of whatever stripe").

EPA is currently exploring options for addressing GHG emissions in response to the Supreme Court decision, but the Agency has not yet issued regulations requiring control of CO₂ emissions under the Act generally or the PSD program specifically. Accordingly, for all of the reasons stated above, Petitioner has failed to demonstrate error in IEPA's decision not to include a CO₂ BACT emissions limit in the Christian County

PSD permit, because IEPA lacked the authority to do so under the current PSD permitting provisions of the Act.

III. IEPA Did Not Err In Its Consideration of the Environmental Impacts of CO₂ Emissions in the BACT Analysis for the Christian County PSD Permit.

Petitioner has likewise failed to demonstrate any error in IEPA's BACT analysis for those pollutants that are currently regulated under the PSD program. The Clean Air Act provides that when determining the specific BACT emission limits for regulated NSR pollutants that will be emitted by a proposed facility, permitting authorities should perform a case-by-case analysis "taking into account energy, environmental, and economic impacts" of the technologies under consideration. CAA § 169(3); *see also* 40 C.F.R. § 52.21(b)(12). The permitting record in this case demonstrates that IEPA's assessment of collateral environmental impacts was consistent with the requirements of the Act.

A. Permitting Authorities Can Address Environmental Impacts in the Collateral Impacts Analysis of the BACT Determination.

To ensure a BACT analysis that meets the statutory criteria, EPA has established a five-step, top-down process for determining emission limits for each NSR-regulated pollutant considered in a PSD permitting decision: (1) identify all potentially applicable control options; (2) eliminate technically infeasible control options; (3) rank remaining technologies by control effectiveness; (4) eliminate control options from the top down based on energy, environmental, and economic impacts; and (5) select the most effective control option not eliminated as BACT. *See Prairie State Generating Co.*, 13 E.A.D. ____, PSD Appeal No. 05-05, slip op. at 14-18 (EAB Aug. 24, 2006) (summarizing and describing steps in the top-down BACT analysis). *Accord Three Mountain Power*,

L.L.C., 10 E.A.D. 39, 42-43 n.3 (EAB 2001); *Knauf Fiber Glass*, 8 E.A.D. at 129-31; *Hawaii Electric Light Co.*, 8 E.A.D. 66, 84 (EAB 1998). Thus, EPA considers the collateral energy, environmental, and economic impacts of each BACT option at Step 4 of this analysis.

The CAA does not specify how permitting authorities should weigh these collateral impacts when determining the BACT emission limits for a particular source. The Agency's longstanding interpretation is that "the primary purpose of the collateral impacts clause is to temper the stringency of the technology requirements whenever one or more of the specified collateral impacts – energy, environmental, and economic – renders use of the most effective technique inappropriate." *Columbia Gulf Transmission Co.*, 2 E.A.D. 824, 826 (Adm'r 1989). Accordingly, the environmental impacts analysis "is generally couched in terms of discussing which available technology, among several [considered for a source], produces less adverse collateral effects, and, if it does, whether that justifies its utilization even if the technology is otherwise less stringent" in controlling the regulated pollutant. *Old Dominion Electric Cooperative*, 3 E.A.D. 779, 792 (Adm'r 1992).

B. IEPA Did Not Err in Its BACT Environmental Impacts Analysis for the Christian County PSD Permit.

There is no cause to remand the Christian County PSD permit on the basis the BACT collateral environmental impacts analysis, because IEPA considered the CO₂ emissions of various technologies in issuing the Christian County PSD permit. The record in this case clearly shows that IEPA considered the CO₂ emissions of the technology selected as BACT and specifically noted that construction and operation of a carbon capture ready IGCC facility offered "possibilities for greatly improved

environmental performance, compared to existing boiler technology.” Pet.’s Ex. 3 at 8; *see also id.* at 5, 7, and 9. At numerous points in the record, IEPA explained how the proposed carbon capture ready IGCC facility was “far better prepared” to control CO₂ emissions than “existing coal-fired power plants using boiler technology.” Pet.’s Ex. 3 at 7; *see also id.* at 5, 8, and 9 (comparing IGCC technology to other available coal-fired technologies). To the extent the Act is interpreted to call for an assessment of the impact of CO₂ emissions,⁶ IEPA’s analysis in this case would be sufficient to satisfy the Act’s requirements to consider the environmental impacts of available technologies.

The Petitioner’s argument – which repeats the comments previously submitted to IEPA – does not demonstrate clear error in IEPA’s BACT analysis for the Christian County facility. Petitioner has not identified which of the specific control technologies considered by IEPA would have resulted in increased efficiency and reduced environmental impacts from the facility. Thus, Petitioner has not shown that

⁶ Even if the EAB were to find that IEPA’s consideration of CO₂ emissions in the BACT collateral impacts analysis was flawed in some way, it should not invalidate the permit. Not only has the Board previously determined that permitting authorities are not required to consider the emission of CO₂ and other GHGs in the BACT environmental impacts analysis, *see Inter-power of New York*, 5 E.A.D. at 151 and *Kawaihae Cogeneration Project*, 7 E.A.D. at 132, but EPA has historically interpreted the phrase “environmental impacts” in the BACT analysis to focus on local environmental impacts that are directly attributable to the proposed facility. *See Columbia Gulf*, 2 E.A.D. at 829-30 (finding that the environmental impacts analysis “focuses on *local* impacts that constrain the source from using the most effective technology”) (emphasis added). Accordingly, the collateral impacts analysis of BACT is not the appropriate mechanism for addressing the potential *global* impacts of CO₂ emissions. This interpretation is supported by the “case-by-case” language of the BACT definition, the relevant legislative history, and prior EAB decisions. Consistent with these authorities and Agency policy, EPA has not previously considered the environmental impact of CO₂ emissions in setting the BACT levels for PSD permits, and it was not necessary for IEPA to do so in issuing the Christian County PSD permit. *See also* Deseret Bonanza Response to Comments at 8-9 (declining to address the environmental impacts of CO₂ and other GHG emissions based, in part, on the local focus of the collateral impacts analysis).