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The Clean Air Association of the Northeast States
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Arthur N. Marin, Executive Director

March 23, 2009

Mr. Joe Lapka
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street (Air-3)
San Francisco, CA 94105
Attention: *Desert Rock Permit No. AZP 04-01, NSR 4-1-3*

Re: *Addendum to the Statement of Basis for the Desert Rock Energy Facility PSD Permit*

Dear Mr. Lapka:

The Northeast States for Coordinated Air Use Management (NESCAUM) offer the following comments on the U.S. Environmental Protection Agency's (EPA's) Region 9 *Addendum to the Statement of Basis for the Desert Rock Energy Facility PSD Permit* of January 14, 2009. NESCAUM is the regional association of air pollution control agencies representing Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

There is broad consensus that human-related greenhouse gas (GHG) emissions are contributing to adverse changes in climate and that these impacts will get worse over time without corrective action. The international scientific community, under the auspices of the International Panel on Climate Change (IPCC), has concluded, "*Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases.*"[1] We believe the science reveals that the onset of climate change-related threats is already affecting our member states, this nation, and the world.

The Northeast states are already undertaking concrete steps to regulate and reduce GHG emissions within our region. Seven of the eight NESCAUM states have exercised their option under CAA §177 to adopt the California motor vehicle GHG emission standards. We project the standards will result in an 18 percent reduction in motor vehicle greenhouse gas emissions in 2020 and a 24 percent reduction in 2030 for our region. All eight NESCAUM states also participate in the Regional Greenhouse Gas Initiative (RGGI), a regional cap-and-trade program limiting greenhouse gas emissions from power plants.

[1] IPCC, Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA (2007).

NESCAUM and its member states have previously commented to EPA on regulating greenhouse gases under the Clean Air Act (CAA).[2] In our comments, we put forth our view that the "Standards of Performance" provisions in CAA §111 provide an appropriate framework for regulating GHGs from new and existing stationary sources in the near term.[3]

In addition to our previous comments supporting regulation of GHGs under the Clean Air Act, NESCAUM has also previously commented in other PSD permit applications for new coal-fired power plants that Integrated Gasification Combined Cycle (IGCC) must, on a case-specific basis, "taking into account energy, environmental, and economic impacts and other costs," be considered in a Best Available Control Technology (BACT) analysis. The rationale for this conclusion is summarized below and detailed in two attachments where NESCAUM has submitted this view in similar proceedings in Kentucky and Texas.

The Clean Air Act's legislative history clearly supports the notion that IGCC must be considered in a BACT review. The United States Congress deliberately added to the definition of BACT the phrase "innovative fuel combustion techniques" through an amendment by Senator Huddleston of Kentucky to ensure the consideration of gasification techniques – of which IGCC is one – in BACT determinations. Senator Huddleston pointedly explains his intent to require consideration of gasification combustion technology in the following colloquy with Senator Muskie. The relevant passage of the debate is excerpted below (emphasis added):

> Mr. HUDDLESTON. Mr. President, the proposed provisions for application of best available control technology to all new major emission sources, although having the admirable intent of achieving consistently clean air through the required use of best controls, if not properly interpreted may deter the use of some of the most effective pollution controls. The definition in the committee bill of best available control technology indicates a consideration for various control strategies by including the phrase "through application of production processes and available methods systems, and techniques, including fuel cleaning or treatment." And 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

[2] EPA, Advance Notice of Proposed Rulemaking – Regulating Greenhouse Gases under the Clean Air Act, 73 Fed. Reg. 44354-44520 (July 30, 2008).
[3] NESCAUM comments submitted to Docket ID No. EPA-HQ-OAR-2008-0318 in response to EPA's Advance Notice of Proposed Rulemaking – Regulating Greenhouse Gases under the Clean Air Act, (November 26, 2008).

> there is no chance of misinterpretation. Mr. President, I believe again that this amendment has been checked by the managers of the bill and that they are inclined to support it.[4]

In summary, NESCAUM respectfully submits, in accordance with our comments in previous proceedings, that CAA §111 provides an appropriate near term vehicle for regulating greenhouse gases from stationary sources. Within the specific context of new coal-fired power plants, NESCAUM also reiterates its view that in considering PSD permit applications, IGCC must be considered as a BACT option. This would apply not only to greenhouse gases, but other air pollutants as well.

Thank you for the opportunity to comment. If you or your staff has any questions regarding the issues raised in this letter, please contact Paul Miller at the NESCAUM office at 617-259-2016.

Sincerely,

Arthur N. Marin
Executive Director

Attachments (2): IGCC comments in KY, TX

Cc: NESCAUM Directors
Mary Uhl, Air Quality Bureau Chief, New Mexico Environment Dept.

[4] 95th Congress, 1st Session (Part 1 of 2) June 10, 1977 Clean Air Act Amendments of 1977 A&P 123 Cong. Record S9421 (emphasis added).

BEFORE THE COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

SIERRA CLUB, VALLEY WATCH, INC., LESLIE BARRAS, HILARY LAMBERT, and ROGER BRUCKER, Petitioners, v. ENVIRONMENTAL AND PUBLIC PROTECTION CABINET and THOROUGHBRED GENERATING COMPANY, LLC, Respondents.	)	File Nos. DAQ-26003-037 DAQ-26048-037

BRIEF OF INTERVENOR NESCAUM, SUBMITTED FOR THE LIMITED PURPOSE OF DEMONSTRATING THAT THE CABINET MUST CONDUCT A SITE-SPECIFIC ANALYSIS OF IGCC

Northeast States for Coordinated Air Use Management ("NESCAUM") submits this brief for the limited purpose of demonstrating the following: Integrated gasification combined cycle technology ("IGCC") is a highly effective production process/available method for controlling air contaminants from coal powered units, and the Environmental and Public Protection Cabinet ("the Cabinet") therefore must, on a case-specific basis, "taking into account energy, environmental, and economic impacts and other costs," determine whether IGCC is the "best available control technology" ("BACT") for each of the coal powered units at the Thoroughbred Generating Company's ("Peabody's") proposed Thoroughbred Generating Station ("Thoroughbred"). 401 KAR 51:017 § 1(8).

INTRODUCTION

The Cabinet contravened the Kentucky Administrative Regulations ("the Regulations") when it excluded IGCC from its BACT analysis of Thoroughbred. Accordingly, NESCAUM respectfully requests that the hearing officer (1) vacate Permit Nos. V-02-001 and V-02-001 Revision 1, and (2) direct the Cabinet to apply the factors spelled out in the Regulations to this particular case and thereby determine whether IGCC is BACT for each of Thoroughbred's units.

DISCUSSION

I. THE CABINET'S DECISION CONTRAVENED THE BACT DEFINITION CONTAINED IN THE KENTUCKY ADMINISTRATIVE REGULATIONS.

The applicable version of the Regulations defines BACT as

> an emission limitation . . . based on the maximum degree of reduction for each pollutant subject to regulation . . . which would be emitted from a proposed major stationary source or major modification which the cabinet, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for that source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning treatment or innovation fuel combustion techniques for control of that pollutant.

401 KAR 51:017 § 1(8) (emphasis added). The record in this case contains abundant, uncontroverted evidence that using IGCC technology at Thoroughbred would achieve a greater degree of reduction in the regulated air contaminants than implementing a pulverized coal combustion design at the facility. *See, e.g.*, 11/6/03 Tr. 91:1; 11/10/03 Tr. 74:4. According to the Regulations' plain language, then, the question whether IGCC is BACT for Thoroughbred hinges on whether application of IGCC is "achievable" at the

facility, "taking into account energy, environmental, and economic impacts and other costs." 401 KAR 51:017 § 1(8).

The Cabinet has not made any determination that IGCC is not achievable at Thoroughbred. Its "exclusion of gasification" rests instead on its insistence that Thoroughbred's BACT be determined only "for a pulverized coal combustion process." J 63 at 14. The Cabinet insists, in other words, that in this case the proposed "source," 401 KAR 51:017 § 1(8), is narrowly defined as a pulverized coal combustion unit.

The Cabinet's position does not square with the Regulations' BACT definition. Specifically, reading "source" so narrowly as to refer only to the proposed "combustion process," J 63 at 14, renders void the language expressly requiring that the achievability of different "production processes or available methods, systems, and techniques" be considered. 401 KAR 51:017 § 1(8) (emphasis added).

Indeed, to subcategorize the word "source" in the BACT definition any more finely than "unit for producing electricity from coal" would thwart the U.S. Congress's intent in defining BACT in the federal Clean Air Act. A review of the legislative history of the federal BACT definition shows, first, that Congress intended the word "source" to be broadly interpreted to encompass alternative production processes for the proposed fuel choice and, second, that where coal is the chosen fuel, Congress specifically intended "gasification," *i.e.*, IGCC, to be considered.

During consideration of what became the Clean Air Act Amendments of 1977, Senator Huddleston of Kentucky proposed to amend the BACT definition to add the words, "or innovative combustion techniques" (the amendment was adopted). His reasons, described below, could scarcely be more illuminating:

Mr. HUDDLESTON. MR. President, I send to the desk an unprinted amendment.

The PRESIDING OFFICER. The amendment will be stated.

The legislative clerk read as follows:

The Senator from Kentucky (Mr. HUDDLESTON) proposes an unprinted amendment numbered 387: On page 18, line 15, after "ment" insert "or innovative fuel combustion techniques".

Mr. HUDDLESTON. Mr. President, the proposed provisions for application of best available control technology to all new major emission sources, although having the admirable intent of achieving consistently clean air through the required use of best controls, if not properly interpreted may deter the use of some of the most effective pollution controls.

The definition in the committee bill of best available control technology indicates a consideration for various control strategies by including the phrase "through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment." And 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.

Mr. President, I believe again that this amendment has been checked by the managers of the bill and that they are inclined to support it.

Mr. MUSKIE. Mr. President, I have also discussed this amendment with the distinguished Senator from Kentucky. I think it has been worked out in a form I can accept. I am

> happy to do so. I am willing to yield back the remainder of my time.

123 Cong. Rec. S9434-35 (June 10, 1977) (debate on P.L. 95-95) (emphasis added). Defining "source" as "pulverized coal combustion unit," thereby precluding consideration of IGCC – an alternative process/method for producing electricity from coal – is precisely the kind of "misinterpretation" that Senator Huddleston warned against twenty-seven years ago.

The Regulations' definition of BACT is identical, in all relevant respects, to the federal Clean Air Act provision on which it is based. *See* 42 U.S.C. § 7479(3). Moreover, the provision in the Regulations containing Kentucky's BACT definition was approved only after the Commonwealth certified to the U.S. Environmental Protection Agency ("EPA") that the Regulations' provision was "at least as stringent in all respects" as the parallel Clean Air Act provision. 40 C.F.R. § 51.166(b). The Cabinet lacks the authority, then, to subcategorize the term, "proposed major stationary source" any more finely than "unit for producing electricity from coal." Therefore, the Cabinet's claim that IGCC and pulverized coal combustion are different processes cannot mask the direct conflict between the Regulations' clear dictates and the Cabinet's refusal to evaluate the achievability of IGCC at Thoroughbred.

II. THE CABINET'S DECISION CONTRAVENED THE TOP-DOWN BACT METHOD.

Both Peabody and the Cabinet purported to use the top-down method that EPA employs to implement the BACT definition. J 63 at 18-25. The first step in the top-down method is the identification of all available control options for the emissions units in question. NSR Manual (Oct. 1990) at B.5. "Available control options" are "those air

pollution control technologies or techniques with a practical potential for application to the emissions unit and the regulated pollutant under evaluation." *Id.* EPA has emphasized that "available" is used "in the broadest sense under the first step," and that an "available control option" may be an "'inherently lower-polluting process/practice' that prevents emissions from being generated in the first instance." *In re: Knauf Fiber Glass,* PSD Appeal Nos. 98-3 – 98-20 (EAB Feb. 4, 1999), at 12-13 (quoting NSR Manual at B.13).

The Cabinet does not deny the fact that IGCC is an "available control option," J 63 at 14; its issuance, in 2000, of a permit for two IGCC units in Kentucky precludes any such denial. *See* Permit No. V-00-049 (available at http://www.air.ky.gov/NR/rdonlyres/B613A5B0-689D-4D97-8454-4903A73DE067/0/Final.pdf). Instead, the Cabinet simply has declared that consideration of IGCC is "not required or appropriate." J 63 at 14. For the same reasons stated above, however, the Cabinet lacks the authority to define "the emissions unit . . . under evaluation," NSR Manual at B.5., any more narrowly than "unit for producing electricity from coal": Doing so would void the Regulations' plain language while thwarting Congress's intent that, "that in determining best available control technology, all actions taken by the fuel user are to be taken into account." 123 Cong. Rec. S9434-35 (June 10, 1977) (debate on P.L. 95-95) (emphasis added). Thus, the Cabinet's failure to identify IGCC as an "available control option" for the production of electricity from coal was unlawful. *See* Memorandum from John Calcagni, Director of EPA Air Quality Management Division, to EPA regional air directors (June 13, 1989), at 4 ("Regardless of the specific methodology used for determining BACT, be it 'top-down,' 'bottom-up,' or otherwise, the same core criteria apply to any BACT analysis: the

applicant must consider all available alternatives, and [either select the most stringent of them or] demonstrate why the most stringent should not be adopted.") (emphasis added).

Accordingly, the hearing officer should vacate the permit and direct the Cabinet to undertake a site-specific analysis of the achievability of implementing IGCC at Thoroughbred, "taking into account energy, environmental, and economic impacts and other costs." 401 KAR 51:017 § 1(8); *accord In re: Inter-Power of New York, Inc.*, PSD Appeal Nos. 92-8 and 92-9 (U.S. EAB Mar. 16, 1994), at 144 ("Where a more stringent alternative is not evaluated because the permitting authority erred in not identifying it as an 'available' option, a remand is usually appropriate, because a proper BACT analysis requires consideration of all potentially 'available' control technologies.").

CONCLUSION

For the aforementioned reasons, NESCAUM respectfully requests that that the hearing officer (1) vacate Permit Nos. V-02-001 and V-02-001 Revision 1, and (2) direct the Cabinet to apply the factors spelled out in the Regulations to this particular case and thereby determine whether IGCC is BACT for Thoroughbred.

Dated: December 22, 2004

Respectfully submitted,

_____

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Arthur N. Marin, Executive Director

December 5, 2005

LaDonna Castañuela
Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Via Fax: 512-239-3311

Re: SOAH Docket No. 582-05-5612; TCEQ Docket No. 2005-0781-AIR
Application of Sandy Creek Energy Associates, L.P., for Air Quality Flexible Permit No. 70861 and PSD Permit No. PSD-TX-1039

Dear Ms. Castañuela:

The Northeast States for Coordinated Air Use Management (NESCAUM) respectfully offers the following comments regarding the above referenced matter. NESCAUM is a nonprofit association of the air quality control divisions in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont.

Our comments relate to the following question that has been certified to the Texas Commission on Environmental Quality (TCEQ):

> In an air permit application that includes a Prevention of Significant Deterioration (PSD) review, must an applicant that proposes to construct a pulverized coal boiler power plant include other electric generation technologies, such as Integrated Gasification Combined Cycle (IGCC) technology, in its Best Available Control Technology (BACT) analysis?

Due to the potential precedent that could be established in this process, NESCAUM urges the Commission to answer this question in the affirmative. It is our belief that IGCC is a highly efficient coal-based electrical generation technology that also results in substantial reductions in emissions of air contaminants, and therefore must, on a case-specific basis, "taking into account energy, environmental, and economic impacts and other costs," be considered in a BACT analysis for any new coal-fired power plant. The rationale for this conclusion is summarized

below and detailed in the attached *amici curiae* briefs that we recently submitted in similar proceedings in Wisconsin and Kentucky (attached).

The Clean Air Act's legislative history clearly supports the notion that IGCC must be considered in a BACT review. The United States Congress deliberately added to the definition of BACT the phrase "innovative fuel combustion techniques" through an amendment by Senator Huddleston of Kentucky to ensure the consideration of gasification techniques – of which IGCC is one – in BACT determinations. Senator Huddleston pointedly explains his intent to require consideration of gasification combustion technology in the following colloquy with Senator Muskie. The relevant passage of the debate is excerpted below:

> Mr. HUDDLESTON. Mr. President, the proposed provisions for application of best available control technology to all new major emission sources, although having the admirable intent of achieving consistently clean air through the required use of best controls, if not properly interpreted may deter the use of some of the most effective pollution controls. The definition in the committee bill of best available control technology indicates a consideration for various control strategies by including the phrase "through application of production processes and available methods systems, and techniques, including fuel cleaning or treatment." And 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. Mr. President, I believe again that this amendment has been checked by the managers of the bill and that they are inclined to support it.[1]

The Commission therefore should reject arguments that consideration of IGCC as a part of the BACT determination would require an applicant to "redefine the source." The emissions unit under evaluation should not be defined any more narrowly than "unit for producing electricity from coal." Doing so would contravene the clear statutory requirement to consider innovative

[1] 95th Congress, 1st Session (Part 1 of 2) June 10, 1977 Clean Air Act Amendments of 1977 A&P 123 Cong. Record S9421 (emphasis added).

fuel combustion techniques while thwarting Congress's intent that "in determining Best Available Control Technology, all actions taken by the fuel user are to be taken into account."[2]

Thank you for your consideration of these comments.

Sincerely,

Arthur Marin
Executive Director

Attachments

[2] Id