



NATURAL RESOURCES DEFENSE COUNCIL

August 21, 2007

Via overnight mail

US Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board
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ENV. APPEALS BOARD

*Re: Petition for Review of Permit No. 06050052 issued to ConocoPhillips for the
Wood River Refinery in Roxana, Illinois*

Dear Sir or Madam:

Enclosed please find the original plus three copies a petition for review of the above-captioned facility (with exhibits exceeding 30 pages), submitted by the Natural Resources Defense Council on behalf of the American Bottom Conservancy, and the Environmental Integrity Project on behalf of the Sierra Club.

If you have any questions concerning this filing, please feel free to contact me at 312-780-7427.

Very truly yours,



Ann Alexander

cc: (by United States Mail)
Karla Raettig, EIP
Verena Owen, Sierra Club
Kathy Andria, ABC

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

ENVIR. APPEALS BOARD

IN THE MATTER OF:)
CONOCOPHILLIPS)
COMPANY)

APPEAL NUMBER: _____
APPLICATION NUMBER: 06050052
FACILITY ID NUMBER: 119090AAA

PETITION FOR REVIEW AND REQUEST FOR ORAL ARGUMENT

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INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), American Bottom Conservancy (“ABC”) and Sierra Club (collectively, “Petitioners”) petition for review of Prevention of Significant Deterioration (“PSD”) approval set forth in Permit No. 06050052 (Facility Identification No. 119090AAA) which the Illinois Environmental Protection Agency (“IEPA”) issued to ConocoPhillips Company (“ConocoPhillips” or “Applicant”) on July 19, 2007. A copy of the PSD permit is attached as Exhibit 1. The State of Illinois is authorized to administer the PSD permit program pursuant to a delegation of authority by the United States Environmental Protection Agency (“USEPA”). The Permit authorizes the Applicant to construct an expansion of its Wood River refinery in Roxana, Illinois, referenced as the Coker and Refinery Expansion (CORE) Project. Petitioners contend that IEPA failed to take necessary procedural steps in issuance of the permit, include certain permit conditions, make certain necessary findings, and undertake certain required analysis. These contentions are based on IEPA’s clearly erroneous conclusions of law, and also on the ground that this petition involves important policy considerations that the Board should review.

Petitioners also request oral argument in the above-captioned matter. Oral argument would assist the Board in its deliberations on the issues presented by the case because the issues raised herein are issues of first impression for the Board and the USEPA, are a source of significant public interest, and are of a nature such that oral argument would materially assist in their resolution.

THRESHOLD PROCEDURAL REQUIREMENTS

Petitioners satisfy the threshold requirements for filing a petition for review under Part 124. Petitioners have standing to petition for review of the permit decision because Petitioners' representatives participated in the public comment period on the draft permit. 40 C.F.R. § 124.19(a). See comments filed by Petitioners on behalf of the ABC and Sierra Club ("Petitioners' Comments"), attached as Exhibit 2. Petitioners' representatives also commented on the draft permit at the hearing held on May 8, 2007, at the Hartford Elementary School in Hartford.¹ See Hr'g Tr., Exhibit 3. The issues raised by Petitioners below were either raised with IEPA during the public comment period, concern changes made to the draft permit, or are new issues arising after the period for public comments and, therefore, not reasonably ascertainable at the close of the public comment period. Consequently, the Board has jurisdiction to hear Petitioners' timely request for review.

ISSUES PRESENTED FOR REVIEW

Petitioners respectfully request Board review of the following issues:

1. Whether IEPA's failure to provide a copy of its Responsiveness Summary together with notice of permit issuance is a procedural error that constitutes a clearly erroneous conclusion of law or an important policy consideration that

¹ The permitting documents, including the draft and final permit, response to comments, public notice and hearing transcript are available on EPA's website at:
http://yosemite.epa.gov/r5/il_permt.nsf/7eb568d882b9dda88625666d0061de12?OpenView&Count=50.

the Board should review and reverse, and order that the permit be re-issued so as to allow additional time for appeal;

2. Whether IEPA's failure to specify which provisions of the draft permit have been changed in the final permit decision, and the reasons for the change, constitutes a clearly erroneous conclusion of law or an important policy consideration that the Board should review and reverse;
3. Whether IEPA's failure to consider control technologies for emissions produced by flaring as part of top-down BACT analysis constitutes a clearly erroneous conclusion of law or an important policy consideration that the Board should review and reverse;
4. Whether IEPA's failure to include sufficient measures to ensure that requirements concerning management of flare emissions are practicably enforceable constitutes a clearly erroneous conclusion of law or an important policy consideration that the Board should review and reverse; and
5. Whether IEPA's failure to consider emissions reduction technologies for carbon dioxide (CO₂) and methane as part of top-down BACT analysis or in BACT collateral impacts analysis was a clearly erroneous conclusion of law, or an important policy consideration that the Board should review and reverse.

STATEMENT OF FACTS

ConocoPhillips submitted its application for the CORE Project on May 15, 2006. The Project entails installing facilities to increase both the total crude oil processing and percentage of heavier crude, obtained from Canadian tar sands, at the Wood River

refinery.² It includes, inter alia, a new Delayed Coking Unit and associated units to enable the processing of the heavier crude. IEPA issued a notice of public hearing and comment period on the draft permit on March 24, 2007. The public hearing was held May 8, 2007 at the Hartford Elementary School in Hartford, Illinois. Petitioners ABC and Sierra Club jointly submitted comments prior to the end of the comment period (see Exhibit 2).

Petitioners were served notice of issuance of the permit by United States mail (attached as Exhibit 4) in envelopes postmarked July 20, 2007. The notice did not include a copy of the Responsiveness Summary (RS). Instead, it set forth information as to how to request a copy of the RS, specifying Brad Frost as the appropriate contact person at IEPA. On July 21, upon learning via IEPA's web site of the issuance of the CORE Project permit, a representative of Petitioner ABC contacted Mr. Frost via electronic mail (attached as Exhibit 5) and requested a copy of the RS and the permit. ABC received the RS and the permit in the mail on July 28.³

The RS (attached as Exhibit 6) briefly referenced, in responding to specific comments, significant changes made to the draft permit to include additional conditions pertaining to flaring. However, the RS did not include any enumeration of the changes made to the draft, and did not specify reasons for the changes.

² Although this Petition for Review specifically concerns emissions of CO and CO₂, for which a BACT determination is required, Petitioners note as background that processing of this type of heavy crude causes substantially greater air emissions of numerous air pollutants than processing of conventional crude. For example, with respect to SO_x, Petitioners have estimated that this refinery reportedly puts out more SO_x than all the refineries in LA put together. Even after the installation of the Wet Gas Scrubbers required by the Consent Decree to which this refinery is subject, the refinery's emissions are expected to be higher than the average refinery in Texas. The increases in SO_x are masked by the use of reductions required by the Consent Decree as emissions offsets, which the Applicant contends the Consent Decree allows (Petitioners are not raising that issue in this appeal). See Petitioners' Comments at 3-6.

³ Additionally, Petitioners note as background that Petitioner ABC submitted a FOIA request on July 26, 2007 for all comments submitted in connection with the CORE Project draft permit. ABC received a letter from IEPA dated August 6 stating that the Agency would be unable to comply with the request within the statutorily required 14-day time frame, and that the delay should be treated as a denial.

ARGUMENT

I. The Permit Must Be Re-Issued Because IEPA Failed to Serve the RS Together with Notice of Permit Issuance

At the time of permit issuance, the permitting authority is required to issue a response to comments. 40 C.F.R. § 124.17(a). The Board has acknowledged in the past that the RS is critical to determining whether there are valid grounds to appeal a permitting decision. In re Prairie State Generating Station, PSD Appeal No. 05-02 (EAB, March 25, 2005).⁴ Accordingly, it has correctly suggested that failure to provide immediate access to the RS “could adversely affect appeal rights, which are time-limited.” The Board indicated in Prairie State that making the RS available only through the permitting authority’s web site could prejudice citizens without web access, even if they eventually were able to obtain a copy, because the time spent tracking down the RS would reduce the already short time available to prepare an appeal. It stated, “a commenter would have no way of determining whether to petition for review or the basis for any such petition until he or she had the opportunity to review the actual permit decision,” and accordingly raised the possibility that delayed access would prejudice

⁴ Indeed, because the Board will reject a petition for review solely for its failure to respond fully to representations or justifications raised in a response to comments document, this document arguably rivals the final permit itself in terms of its importance for the administrative appeals process. The Board has explained:

To obtain review, a petitioner must clearly and specifically identify the basis for its objection(s) to the permit, and explain why, in light of the permit issuer's rationale, the permit is clearly erroneous or otherwise deserving of review. See Zion Energy, LLC, 9 E.A.D. 701, 705 (EAB 2001). In order to carry this burden the petitioner must address the permit issuer's responses to relevant comments made during the process of permit development; the petitioner may not simply reiterate comments made during the public comment period, but must substantively confront the permit issuer's subsequent explanations. *Id.*; see also In re Knauf Fiber Glass, GmbH, 9 E.A.D. 1, 5 (EAB 2000) (“Petitions for review may not simply repeat objections made during the comment period; instead they must demonstrate why the permitting authority's response to those objections warrants review.”); In re City of Irving, Tex. Mun. Separate Storm Sewer Sys., 10 E.A.D. 111, 129-30 (EAB 2001).

In re Peabody Wester Coal, CAA Appeal No. 04-01 (EAB, Feb. 18, 2005) slip op. at 16, 12 E.A.D. ____.

appeal rights. *Id.* at n. 4, citing In re Hillman Power Co. L.L.C., interlocutory order at 3-6 (EAB, May 24, 2002).

The facts here warrant the conclusion strongly implied but not directly reached in Prairie State: that the RS is indispensable to a determination whether to appeal, and hence must be provided to the public simultaneously with the notice of permit issuance. Here, although Petitioner ABC submitted a request for the RS the same day it learned via IEPA's website that the final permit had been issued – which is not realistically possible in many cases, particularly for commenters without access to the internet – it did not receive the summary until a full week later. Thus, its actual time to evaluate whether to bring a petition for review was not 30 days, as allowed by 40 C.F.R. § 124.15(b), but a mere 23 days.

Accordingly, IEPA's failure to provide a copy of its RS together with the notice of permit issuance is a significant procedural error. Although such procedural errors may appear minor, they can have grave consequences for the ability of ordinary citizens to participate fully in the permitting process. Allowing this kind of procedural error to go unaddressed would encourage similar abuses that may significantly erode the core participatory function of the permitting process to an even greater degree in the future. The Board should recognize the requirement for timely distribution of the RS along with the final permit as a bright-line procedural standard because the potential prejudice to the public associated with a delay in receiving the RS is *much* greater than any potential inconvenience to the permitting authority or the permit applicant associated with the need to re-notice a final permit.

For these reasons, the Board should find that this error constitutes a clearly erroneous conclusion of law or an important policy consideration that the Board should review and reverse. The interests of justice demand that the requirement that the permitting authority “issue” the RS in 40 C.F.R. § 124.17(a) be construed to require that the RS be physically provided to commenters contemporaneously with notice of permit issuance.⁵

II. The Permit Must Be Remanded Because IEPA Failed to Specify the Changes to the Draft Permit and Give Reasons for the Changes

The final permit issued on July 19 differed significantly from the draft permit in that it contained significant and extensive additional conditions, and modifications to draft conditions, regarding flaring. A summary of these changes prepared by Petitioners is attached as Exhibit 8. These new conditions and modifications include, *inter alia*, the following:

- Control Requirements and Work Practices, condition 4.7.5. The final permit adds provisions to this condition regarding flare control and management, including requiring redundant compressor capacity and waste gas recovery in the Delayed Coking Unit and a root cause analysis requirement. It also adds provisions defining circumstances in which the permittee may vent gases containing reduced sulfur compound concentrations to the coker flare.
- Flaring Minimization Plan, condition 4.7.6-2. This entirely new condition requires the permittee to prepare a flare minimization plan for the Delayed Coker Unit and Hydrogen Plant, containing eight specified elements.

⁵ Associated expense and administrative burden could be reduced by giving individual commenters the option of notifying the permitting authority in advance of a final permit issuance of a preference to obtain the RS via the permitting authority’s web site.

- Testing Requirements, condition 4.7.7. The final permit adds provisions to this condition requiring the permittee to follow specified procedures in testing the hydrocarbon and sulfur content of flare emissions.
- Monitoring Requirements, condition 4.7.8-1. The final permit adds provisions to this condition setting forth requirements regarding monitoring of flares.
- Observation Requirements, condition 4.7.8-2. This entirely new condition contains requirements for observation of flares, allowing for either video image or operator observation, specifying the required frequency and duration of observation and creating various exemptions from the requirements.
- Recordkeeping Requirements, condition 4.7.9. The final permit adds provisions to this condition setting forth requirements for keeping records of flaring incidents.
- Reporting Requirements, condition 4.7.10. The final permit adds provisions to this condition setting forth requirements that the permittee submit with its Annual Emissions Report a report concerning flaring by each affected unit during the previous year, and specifies the required content of the flaring report.

The applicable regulations require that the RS shall “Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change.” 40 C.F.R. § 124.17(a)(1). IEPA completely failed to comply with this requirement. Nowhere in the RS does it enumerate the changes that were made to the draft permit, or provide specific reasons for the changes made. The only reference to the changes in the RS is made only in passing, in response to individual comments concerning the lack of sufficient controls on flares. See, e.g., Response to Comment 65, RS p. 28.

The Board has repeatedly made clear that failure to comply with the 40 C.F.R. § 124.17(a)(1) requirement to enumerate and explain changes to the draft permit is a fatal defect that requires remand of the permit. In In re Indeck-Elwood, LLC, PSD Appeal 03-04 (September 27, 2006), the Board held, “Compliance with this requirement is of primary importance because it ensures that all significant permit terms have been properly noted in the record of the proceeding and illuminates the permit issuer’s rationale for including key terms,” and “[i]t further ‘ensures that interested parties have an opportunity to adequately prepare a petition for review and that any changes in the draft permit are subject to effective review.’ City of Marlborough, slip op. at 14, 12 E.A.D. ____.” Indeck-Elwood, slip op. at 19. Citing extensive precedent, the Board explained the need for permitting agencies to thoroughly document changes to the draft permit and the reasons behind them, and enumerated instances in which permits had been remanded upon an agency’s failure to do so:

Indeed, the Board has in the past remanded permits where the permit issuer has failed to explain why it decided to change the terms of the draft permit. See, e.g., In re City of Marlborough, slip op. at 14 (remanding permit because the Region failed to explain why it apparently agreed with permittee’s comment and decided to change the terms of the permit); In re Amoco, 4 E.A.D. at 980 (remanding permit where the Region’s mere concurrence with a comment failed to provide adequate explanation for a change in draft permit and, thus, failed to provide the parties “with an opportunity to prepare an adequately informed challenge to the permit addition”); see also In re Matter of GSX Services of South Carolina, Inc., 4 E.A.D. 451, 467 (1992). Absent such an explanation, it does not appear that the record reflects the “considered judgment” necessary to support the permit determination. Cf. In re Austin Powder Co., 6 E.A.D. 713, 720 (EAB 1997). A permit issuer must, therefore, articulate with reasonable clarity the reasons for its conclusions and must adequately document its decision making. See, e.g., In re Ash Grove Cement Co., 7 E.A.D. 387, 417-18 (EAB 1997 (remanding RCRA permit because permitting authority’s rationale for certain permit limits was not clear and therefore did not reflect considered judgment required by regulations); Austin Powder, 6 E.A.D. at 720 (remand due to lack of clarity in permitting

authority's explanation).

Id., slip op at 19.

Thus, it is of no consequence that IEPA provided in a few places in the RS what appears to be a "mere concurrence" with Petitioners' comments regarding the need for additional flare controls, as in In re Amoco. The Agency was required by 40 C.F.R. § 124.17(a)(1) to actually enumerate its changes and explain the reasons for each, and failed to do so. It is furthermore of no significance to this requirement that some of the changes appear to have been made at Petitioners' behest. As explained by the Board, documentation of changes to the draft permit is essential not only to ensure the "considered judgment" that must support the Agency's permitting decision, but to allow the public to "prepare an adequately informed challenge to that judgment." As discussed in succeeding sections of this Petition, Petitioners believe that the added provisions, while helpful to a degree, are legally insufficient to meet PSD BACT permitting requirements. IEPA's failure to document and explain the rationale for its changes significantly undercuts Petitioners' ability to address and explain these deficiencies.

Moreover, as discussed in Sections III and IV below, the changes to the final rule themselves raise a whole host of issues that are not adequately addressed in the permitting record because of the inadequacy of IEPA's initial analysis. Because the specific issues and concerns with the provisions that IEPA elected to include in the final permit were not reasonably ascertainable to commenters based on the draft permit, the public's ability to participate in and inform the agency's decision making is severely undermined (and commenters are not and should not be expected to be prescient and anticipate every possible course of action in the face of a woefully inadequate draft

permit). As a result, if the Board denies review, IEPA's failure to adequately assess flare-related emissions in connection with the draft permit and its subsequent inclusion of un-proposed and un-vetted conditions in the final permit will allow these permit conditions to go essentially unscrutinized, denying both the public and the Board any meaningful opportunity to examine and assess the appropriateness of those provisions. If, as it appears from the final permit, IEPA has concluded that the draft permit was substantially inadequate, the proper course of action is to re-notice a new draft permit that includes provisions that IEPA believes to be sufficient, and allow the opportunity for public comment on those provisions – otherwise, these significant new conditions will never undergo public scrutiny and cannot benefit from meaningful public comment. At minimum, however, the Board should require that IEPA re-issue the final permit with an RS that includes a robust discussion of the rationale for all significant changes from the draft.

Thus, IEPA's failure to comply with 40 C.F.R. § 124.17(a)(1) constitutes a clearly erroneous conclusion of law or an important policy consideration that the Board should review and reverse. The clear remedy is to remand the permit and order IEPA to provide an opportunity for public notice and comment on the new flare-related conditions, or at minimum to order IEPA to re-issue the final permit with an RS that specifically enumerates the changes made to the draft permit and explains the reasons for each such change.⁶

⁶ We note here that such a remand would also allow IEPA to remedy its deficient service of the final permit by including the RS in its service of a re-issued final permit.

III. The Permit Must be Remanded Because IEPA Failed to Appropriately Identify BACT for Flare-related Emissions

A. IEPA's Failure to Engage in Appropriate BACT Analysis Violated the Clean Air Act and Implementing Regulations

The Clean Air Act regulations require that, for any pollutant subject to PSD permitting requirements, the permitting authority establish a BACT limit on emissions. 40 C.F.R. § 52.21(b)(12). This limit is to be established “on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.” *Id.* As explained in the USEPA New Source Review Workshop Manual (“NSR Manual”), a widely-used source of guidance concerning PSD implementation procedures, “the BACT determination must separately address, for each regulated pollutant with a significant emissions increase at the source, air pollution controls for each emissions unit or pollutant emitting activity subject to review.” NSR Manual at B.4. In each instance the BACT analysis *must ensure* that the selected emission limits accurately reflect the *greatest degree of reduction achievable* considering the factors enumerated in the Act (see CAA § 169(3), 42 U.S.C. § 7479(3)). The NSR Manual sets forth in detail a five-step process designed to help permitting authorities identify BACT. While not mandatory, this “top-down” BACT framework is widely used and when properly employed has proven effective for identifying an appropriate BACT level of control. The process includes the following steps: (i) identify all available control technologies, (ii)

eliminate technically infeasible options, (iii) rank remaining control technologies by control effectiveness, (iv) evaluate cost effectiveness of remaining controls and eliminate controls that are not economically feasible, and (v) select the most stringent level of emissions control from the remaining technologies as BACT. NSR Manual at B.5 et seq.

Although IEPA and the Applicant acknowledge that the CORE Project will result in a significant increase in CO emissions requiring imposition of BACT controls, and that the new and modified flares to be constructed as part of the project will be a source of increased CO emissions, IEPA did not engage in top-down BACT analysis to set a technology-based permit limit on CO emissions from the flares. Nor did the Applicant or IEPA otherwise perform a detailed assessment of control options to identify the appropriate BACT level of control for flares. IEPA's failure to thoroughly evaluate available technologies and methods for reducing flaring emissions as part of top-down BACT analysis or otherwise constitutes a clearly erroneous conclusion of law or an important policy consideration that the Board should review and reverse.⁷

In its application, ConocoPhillips effectively declined to engage in top-down BACT analysis for CO emissions from the flares, stating categorically that "there are no technically feasible CO control options for the new and modified flares."⁸ See Petitioners' Comments at 11. Although the draft permit set emissions limits for the new flares (permit condition 4.7.6-1), it did not do so through top-down analysis as defined in the regulations and NSR Manual. Indeed, IEPA did not even explain in the permitting process what data, assumptions, and analytical process it used to establish these limits,

⁷ As discussed above, when IEPA finally did identify some control options for flare-related emissions in the final permit, they failed entirely to explain if or how those emissions satisfy BACT.

⁸ The Applicant proposed an emission factor of 0.37 lbs/MMBtu for the flares as an emission limit, which was appropriately rejected by IEPA, as an emission factor does not by itself constitute a limitation on emissions at all. See Petitioners' Comments at 12.

and did not in any way compare the limits being set in this permit to reductions in flare emissions required and/or successfully demonstrated at other sources, as is required by that Act and would have been done in a full top-down BACT process.

Moreover, as described above in Section II, in establishing additional requirements for flaring in the final permit, IEPA again failed to specifically describe how it derived the requirements that it adopted and why or how they satisfy BACT. IEPA has therefore deprived both the public and the Board of the benefit of the information necessary to evaluate the reasonableness and adequacy of its assessment.

In their Comments, Petitioners alerted IEPA to existing control technologies that IEPA should have evaluated if it had engaged in appropriate BACT analysis. Petitioners' Comments set forth extensive information on existing refineries that have reduced their flare emissions by minimizing flaring, as well as information regarding existing standards put in place by the South Coast Air Quality Management District (SCAQMD) and the Bay Area Air Quality Management District (BAAQMD) for flare minimization. See Petitioners' Comments at 16 et seq. Specifically, the Comments identify (i) SCAQMD Flare Control Regulation 1118, concerning flare gas recovery systems, and the associated staff report (Petitioners' Comments at 17 and Comments Exhibit H), and (ii) BAAQMD Flare Control Regulations 12-11 and 12-12 and associated staff report, concerning flare monitoring, flare gas recovery compressor capacity, and other flare reduction management practices. Petitioners' Comments at 17 and Comments Exhibits F, G, I, M, N. These and other sources have identified a number of proven methods for reducing flaring events, including (1) adding sufficient compressor capacity, (2) installing backup compressors, (3) slowing vessel depressurization, (4) permanently fixing equipment that

chronically malfunctions and causes unnecessary “emergency” flaring, (5) designing thicker process vessel walls to increase allowable pressures, and (6) setting in place detailed and extensive diagnostic procedures. Petitioners’ Comments at 17.

Petitioners further provided information concerning refineries that have drastically reduced their flare emissions through adherence to the principles set forth in the SCAQMD and BAAQMD requirements and other related best management practices for flare reduction. In particular, Petitioners provided documentation that the methods employed by the Shell refinery in Martinez, California, which reflect the BAAQMD regulations, have drastically reduced flaring and associated emissions at that facility. After putting these methods in place, the Shell Martinez refinery had no large flaring events compared to other refineries’ documented huge and routine flaring events. Petitioners’ Comments at 18. Although IEPA did not obtain data concerning CO emissions from the Shell Martinez refinery flares – as would have been done in a top-down BACT analysis – Petitioners presented available data indicating that other flare emissions from the refinery are an order of magnitude lower than what is being permitted in the CORE Project: condition 4.7.6-1 of the CORE Project permit allows VOM flaring emissions from the Delayed Coker Unit flare at a rate of 4.1 tons per year (tpy), while the three flares at the Shell Martinez refinery representing a relevant comparison emit .28 tpy. Petitioners’ Comments at 19. Extrapolations from the available data suggest that the CO limit set in the final CORE Project permit for the two new flares is higher than the CO emissions from all of the flares at the entire Shell Martinez facility. Additionally, the Tesoro refinery in Avon was able to achieve similar radical reductions in flaring events by adding compressor capacity and using other management practices.

Notwithstanding this information, IEPA declined in the final permit to set flare emissions limitations through a top-down BACT analysis which would have specifically evaluated the practices at Shell Martinez and Tesoro, and perhaps other relevant sources. Its stated reasons were unclear, but appear to reflect an unlawful assumption regarding the scope of BACT analysis requirements. Specifically, IEPA stated,

[T]he relevant BAAQMD regulations do not prohibit flaring, as flaring is an appropriate action to address disposal of process gas in emergencies. Likewise, Flare Minimization Plan prepared by Shell Martinez indicates that none of the procedures that are part of that plan would restrict access to the flares when flaring is viewed as necessary for personnel or equipment safety, which further necessitates flaring by operators without hesitation when warranted for safety. Setting a limit in terms of annual emissions of flaring, in the manner proposed by this comment, would potentially act to prohibit flaring when it was appropriate. It would set an absolute, enforceable limit on the extent of flaring that could occur at the refinery independent of the actual circumstances at the refinery in a particular year.

RS at 13. Clearly, this statement is not meant as a conclusion that *any* annual limit on flare emissions is inappropriate, as the permit sets tpy emissions limits on emissions from the two new flares. See condition 4.7.6-1. Nor can IEPA's response be interpreted to mean that using Shell Martinez as a reference for achievable emissions limits in top-down BACT analysis would impede the use of flares for emergency purposes, because IEPA expressly acknowledges that the measures employed by that refinery in its Flare Minimization Plan, while reducing flaring events, do not prohibit their use in a genuine emergency. The only plausible reading of the Agency's response is that it concluded that BACT analysis and limit-setting is generally inappropriate in addressing non-routine upset events.

This reasoning is contrary to extensive Board precedent holding that upset events in a related air permitting context – startup, shutdown, and malfunction events at coal-

fired boilers – are not exempt from BACT analysis. In Indeck-Elwood, the Board reiterated the principle that upset events are subject to BACT analysis, and that numeric BACT limits rather than work practices must be imposed unless the permitting authority specifically sets forth the emission reductions expected to be achieved by the work practices approach, including “a comparative analysis of the emission reductions expected from the approach IEPA adopted and the reductions expected from the application of numeric limits.” Id. at 31. The wait-and-see approach adopted by IEPA here – reflected in its statement that “any further discussion about whether a particular flaring event was avoidable will occur after the event has occurred” (RS at 26) – is consistent neither with the experience of facilities that have successfully reduced their flaring incidents through advance planning, or with the principles expressed in Indeck-Elwood regarding the applicability of BACT to upset events.

B. IEPA’s Failure to Impose Additional Flaring Conditions Through Top-Down BACT Analysis Resulted in Inadequate Control Measures

Notwithstanding its refusal to conduct top-down BACT analysis for flare emissions, the Agency did agree to impose additional conditions on the CORE Project flares regarding flare minimization and monitoring, as outlined in the previous section. Specifically, as described in Section II., the Applicant is now required, inter alia, to install redundant compressor capacity and waste gas recovery in the Delayed Coking Unit, perform root cause analysis of flaring incidents, vent gases containing reduced sulfur compound concentrations to the coker flare only in defined circumstances, prepare a Flare Minimization Plan, and comply with monitoring and reporting requirements. However, the Agency’s failure to conduct BACT analysis removed essential comparison

data from the analytical process, and ultimately weakened the efficacy of the new conditions it proposed.

In determining the limits applicable to the flares, IEPA had before it no information on baseline existing compressor capacity, current monitoring practices or quality control procedures for monitoring, root causes of flaring in the past at the facility, or the volume, duration, and emissions of individual past flaring events. Petitioners' Comments at 21-22, 26-28. Moreover, as noted above, IEPA made no attempt to obtain readily-available data from Shell Martinez concerning its CO emissions, and the reduction in those emissions attributable to the management practices put in place. Nor did IEPA pursue, describe, or evaluate any such information in response to public comments.

As a result of this lack of information, and analytical deficiencies resulting from failure to apply top-down BACT methodology, or any other coherent BACT analysis, the numeric limits set for the new flares are significantly higher than what appears to be actually achievable through the types of flare control measures that were put in place in the final permit, as described above. At the very least, IEPA has failed utterly to identify specifically why more stringent controls are infeasible based on permissible BACT factors. Moreover, the adopted control measures themselves – while a step in the right direction – are weak and deficient in numerous respects.

First, the permit does not establish requirements to ensure that the flares and gas recovery system including compressors affected by the new provisions are dedicated flare systems for the new flares associated with the CORE Project. To the extent gases can be routed to the many different flares at the refinery, not just the new flares that are the

subject of the new permit conditions, the impact of these conditions is severely limited, as the existing fares have no comparable monitoring or minimization plan. Thus, there could easily be emissions increases at the exiting flares from gases originating due to startup or shutdown of the Delayed Coker Unit or the Hydrogen Plant, components of the new project.

Second, the flaring observation requirements put in place – critical to any root cause analysis to find and eliminate causes of flaring – are ineffectual. Pursuant to new condition 4.7.8-2, ConocoPhillips has the option of *either* using video monitoring *or* simply allowing the observation to be performed by operators to the extent such operators are actually available, *i.e.*, not engaged in “essential tasks related to the event” and not in a position where their safety would be compromised by observation, two very malleable exemptions. Additionally, the Applicant is not required to begin observation until 45 minutes after a flaring event has started and is only required to observe if the flaring event continues for more than 30 minutes – meaning that a highly polluting 30-minute flaring event could come and go before operators are even required to look at it. Many highly emitting smoking events at refinery flares last far less than 30 minutes. Human observation of refinery flaring events makes little sense as a substitute for video monitoring, only as a supplement; and even as a supplement, human observation should be timed so as to capture as many polluting events as possible.

Third, the monitoring provisions added to the final permit – again important to assessing the failures that lead to flaring events – are weaker than needed to ensure compliance with flaring limitations. Specifically, the monitoring conditions fail to

employ any of the following standard measures to ensure the accuracy and reliability of the required monitoring:

- Set detection limits for the added requirements for monitoring equipment measuring flare flow and flare chemical consistency;
- Require the flare monitoring equipment to meet specific USEPA or other standard test method requirements;
- Require any verification of the accuracy of the monitoring equipment;
- Set requirements for frequency of sampling;
- Limit equipment downtime and set conservative assumptions for calculating emissions when monitoring equipment is down; and
- Set requirements to ensure that the monitoring occurs at the flare header, to ensure that gases are directly monitored as they enter the flare, rather than monitoring at other locations upstream and using calculations to estimate what portion ends up in the flare;

Finally, the new conditions apply only to increased emissions at the new flares associated with the project, but do not address increased emissions from flaring at the existing flares due to increased production at the refinery as a whole. BACT-level controls should be put in place system-wide on existing flares to address emissions from these increased production levels.

There may well be additional deficiencies in the new conditions added to the final permit that Petitioners are as yet unaware of, due to IEPA's failure to assemble the necessary information and perform a thorough BACT review and make the results available for public scrutiny. The difficulty in assessing the new conditions is

compounded by IEPA's refusal to even specify what those changes are and explain the reasons for them, as described in the previous section. The appropriate remedy is remand of the permit to IEPA with instructions that it perform top-down BACT analysis (or otherwise adequately evaluate and identify BACT for flare-related emissions). Any such analysis must including a comparative assessment of the performance of the Shell Martinez refinery and other appropriate sources, to set appropriate limits for flares at the Applicant's facility. Additionally, IEPA must make this BACT analysis available for public review and comment prior to taking any final action on the permit.

IV. The Permit Must be Remanded Because the Flare Control Measures Established in the Permit are Not Practicably Enforceable

A fundamental requirement of PSD permitting is that the established limits must be "enforceable as a practical matter." NSR Manual at B.56. Specifically, PSD permits must "contain appropriate averaging times, compliance verification procedures and recordkeeping requirements," and must:

- be able to show compliance or noncompliance (i.e., through monitoring times of operation, fuel input, or other indices of operating conditions and practices); and
- specify a reasonable averaging time consistent with established reference methods, contain reference methods for determining compliance, and provide for adequate reporting and recordkeeping so that the permitting agency can determine the compliance status of the source.

Id.

The final permit issued to the Applicant, and in particular the new conditions added to that permit concerning flare minimization, fail to meet that enforceability standard. As described in the previous section, the new conditions imposed in the final

permit, while an improvement over the draft permit, fall short on establishing reliable, meaningful measures to monitor and assess flaring events. They allow significant events to escape the need for observation altogether; and the required monitoring fails to put in place measures to ensure that sampling location, equipment, and frequency will yield meaningful results.

Specifically, as described in Section II.B., Petitioners have identified the following shortcomings in enforceability and necessary improvements to the permit:

- *Inadequate flaring observation requirements.* The permit does not require video monitoring. The operator monitoring allowed to be used instead is not an adequate substitute, since (i) operators are only required to conduct observation when they are not “engaged in tasks essential to the event” or when their safety would be compromised, broad exceptions that would likely apply with great frequency during flaring events; and (ii) the required operator observation is only required to commence 45 minutes after a flaring event has started, and is not required at all for events lasting less than 30 minutes, meaning that the large number of smoking events likely to occur lasting less than 30 minutes would go entirely unobserved. In the absence of more appropriately timed information regarding flaring events, it will be impossible to ascertain compliance with the federal limit on smoking events, which limits such events to 5 minutes – an interval that would be completely missed by the current operator monitoring requirements. It would also be difficult, if not impossible, to ascertain compliance with visible emissions limits, since a large number of the smoking events which cause exceedances of those limits would go unobserved. Thus, the permit should be modified to require video monitoring.

Operator monitoring should be required as a supplement, and it should be timed to address flaring events of shorter duration.

- *Lack of equipment accuracy requirements.* Although the final permit requires monitoring, it says little about ensuring that the monitoring equipment functions effectively. Specifically, it fails to (i) set detection limits for the equipment used to measure flare flow and flare chemical consistency, (ii) require the flare monitoring equipment to meet standard test method requirements, (iii) require any measures to verify accuracy of the equipment, or (iv) limit equipment downtime and set conservative assumptions for calculating emissions when monitoring equipment is down. There is no way to ascertain whether the Applicant is complying with its numeric emission limits for CO, NO_x, and VOM (and, indirectly, PM) if there are no measures in place to make sure the monitoring equipment is accurate, and that the malfunction of such equipment is not used to circumvent required monitoring procedures. These deficiencies should be corrected by imposing the specific monitoring requirements contained in BAAQMD Regulation 12-11, which contains the equipment accuracy verification requirements listed above that are missing from the current permit. See Regulation 12-11 (Comments Ex. M; summarized in Petitioners' Comments at 24-25).
- *Deficiencies in methodology.* The monitoring requirements not specify the required frequency of sampling. Neither do they ensure that the monitoring occurs at the flare header. Thus, as currently written, the permit would allow the Applicant to make an end run around sampling and monitoring requirements by performing the sampling extremely infrequently. Additionally, it could diminish the accuracy of

monitoring by performing it upstream of the flare header and using calculations to estimate what portion ends up in the flare, a far less accurate method. There is no way to ascertain whether the Applicant is complying with its numeric emission limits for CO, NOx, and VOM (and, indirectly, PM) in the absence of appropriate sampling methodology. These deficiencies should be corrected by imposing the specific methodological requirements contained in BAAQMD Regulation 12, which include the essential protocols missing from the current permit. See Regulation 12-11 (Comments Ex. M; summarized in Petitioners' Comments at 24-25).

This failure to implement measures to ensure that the permit is practicably enforceable constitutes a clearly erroneous conclusion of law or an important policy consideration that the Board should review and reverse. The appropriate remedy is to remand the permit and order that IEPA implement sufficient observation and monitoring measures to ensure that the permit is practicably enforceable.

V. The Permit Must be Remanded Because it Lacks a BACT Limit for Greenhouse Gases

On April 2, 2007, the United States Supreme Court issued its landmark ruling in Massachusetts v. EPA, overturning USEPA's long-held position that carbon dioxide and other greenhouse gases ("GHGs") are not Clean Air Act "pollutants." Massachusetts v. EPA, 127 S.Ct. 1438, 1460 (2007). Because USEPA believed that Congress did not intend it to regulate substances that contribute to climate change, the agency maintained that carbon dioxide is not an "air pollutant" within the meaning of the provision. The statutory text forecloses USEPA's reading. The Clean Air Act's sweeping definition of "air pollutant" includes "*any* air pollution agent or combination of such agents, including *any* physical, chemical ... substance or matter which is emitted into or otherwise enters

the ambient air....” 42 U.S.C. § 7602(g) (emphasis added). On its face, the definition embraces all airborne compounds of whatever stripe, and underscores that intent through the repeated use of the word “any.” Carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are without a doubt “physical [and] chemical ... substance [s] which [are] emitted into ... the ambient air.”⁹ The statute is unambiguous. In ruling that carbon dioxide is a pollutant, and therefore “subject to regulation under the Act,” the Court also triggered the obligation for permitting agencies to include carbon dioxide and other GHG emission limits in PSD permits. 40 C.F.R. § 52.21(b)(50)(iv).

Despite the Supreme Court ruling, IEPA did not evaluate and require BACT for the CORE Project’s proposed emissions of carbon dioxide and methane, both potent GHGs. Although the Applicant failed to provide any calculation of the proposed Project’s increase in GHG emissions, it is clear that the increase will be massive. The Applicant did perform a calculation of GHG emission increases (in response to public pressure) at another of its refinery expansion projects in Rodeo, California. The Applicant calculated that CP Rodeo, which is less than a fifth the size of the CORE expansion, would increase CO₂ emissions by about 1.25 million metric tons per year – amounting *by itself* to a 1 percent increase in *all* Bay Area GHG emissions (including those from all power plants, cars, trucks, ships, consumer products, agricultural sources, etc.). See Petitioners’ Comments, Exhibit 2, at 35-36.

IEPA’s failure to establish BACT limits for this massive new and long-lived source of greenhouse gas pollution is an erroneous conclusion of law and an important policy issue deserving of this Board’s review. 40 C.F.R. § 124.19(a). Petitioners’ Comments express extensive concern with the GHG emissions anticipated to result from

⁹ The CORE Project will also emit nitrous oxide and hydrofluorocarbons.

the CORE Project, and IEPA acknowledges in its RS that “[t]reating emissions of CO2 and other greenhouse gases as regulated air pollutant [sic] . . . is effectively being requested” by those Comments. RS (Exhibit 3) Response No. 55, p. 24.¹⁰

A. The Clean Air Act PSD Provisions Require BACT For Each Pollutant “Subject to Regulation”

The Clean Air Act prohibits the construction of a new major stationary source of air pollutants except in accordance with a PSD construction permit. 42 U.S.C. § 7475(a); 40 C.F.R. § 52.21(a)(2)(iii). A PSD permit must include a BACT limit “for each pollutant subject to regulation under [the Clean Air Act]” for which emissions exceed specified significance levels. 42 U.S.C. §§ 7475(a), 7479; 40 C.F.R. §§ 52.21(b)(1), (b)(2), (b)(12), (b)(50), (j)(2). BACT is further required “for each regulated NSR pollutant that [a source] would have the potential to emit in significant amounts.” 40 C.F.R. § 52.21(j)(1). For any regulated NSR pollutant that is not listed in the table at 40 C.F.R. § 52.21(b)(23)(i), a significant rate is “any net emission increase.” 40 C.F.R. § 52.21(b)(23)(ii).

Section 52.21(b)(50), in turn, defines “Regulated NSR pollutant” as:

- (i) Any pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for such pollutants identified by the Administrator (e.g., volatile organic compounds are precursors for ozone);
- (ii) Any pollutant that is subject to any standard promulgated under Section 111 of the Act;
- (iii) Any Class I or Class II substance subject to a standard promulgated under or established by title VI of the Act; or
- (iv) Any pollutant that otherwise is subject to regulation under the Act; except that any or all hazardous air pollutants either listed in section 112 of the Act or added to the list pursuant to section 112(b)(2) of the Act, which have not been delisted pursuant to section 112(b)(3) of the Act, are not regulated NSR pollutants unless the listed hazardous air

¹⁰ Given that IEPA recognized that this issue was being raised by commenters, it was obligated to respond adequately and the Board has jurisdiction to consider the issue on appeal.

pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

40 C.F.R. § 52.21(b)(50). The regulatory definition of BACT similarly applies to all air pollutants “subject to regulation” under the Act:

Best available control technology means an emissions limitation (including a visible emission standard) based on the maximum degree of reduction *for each pollutant subject to regulation under Act* which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

40 C.F.R. § 52.21(b)(12) (emphasis added); see also 42 U.S.C. 7479(3). In short, a PSD permit must include a BACT limit for each pollutant *subject to regulation*.

B. The Significance Level for Carbon Dioxide and Methane is Any Amount Above Zero

The significance level triggering PSD applicability for a regulated NSR pollutant, other than the 15 listed in 40 C.F.R. § 52.21(b)(23)(i), is *any* net increase. 40 C.F.R. § 52.21(b)(23)(ii). Carbon dioxide and methane are not among the 15 pollutants listed in 40 C.F.R. § 52.21(b)(23)(i). Therefore, because carbon dioxide and methane are regulated NSR pollutants, as shown below, *any* increase in emissions is significant and requires a BACT limit. 42 U.S.C. §§ 7475(a)(1), (4), 7479(3); 40 C.F.R. §§ 52.21(j)(2), 52.21(b)(23)(ii). The CORE Project will have the potential to significantly increase emissions of these GHGs – clearly meeting the requirement for “any” emission rate increase. As described above, although the Applicant has failed to calculate GHG emissions from the Project, a calculation of this nature performed for its much smaller

refinery expansion determined that the expansion would result in a colossal increase in carbon dioxide emissions.

C. Carbon Dioxide and Methane are Pollutants That are Subject to Regulation Under the Act

Carbon dioxide and methane are “pollutants,” as that term is used in the Clean Air Act and the PSD regulations. Section 302(g) of the Clean Air Act defines “air pollutant” expansively to include “*any* physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters into the ambient air.” 42 U.S.C. § 7602(g) (emphasis added).

The Clean Air Act’s sweeping definition of “air pollutant” includes “*any* air pollution agent or combination of such agents, including *any* physical, chemical . . . substance or matter which is emitted into or otherwise enters the ambient air . . .” §7602(g) (emphasis added). On its face, the definition embraces all airborne compounds of whatever stripe, and underscores that intent through the repeated use of the word “any.” Carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are without a doubt “physical [and] chemical . . . substance[s] which [are] emitted into . . . the ambient air.” The statute is unambiguous.

Massachusetts, 127 S.Ct. at 1460 (emphasis in original).

Additionally, the term “subject to regulation,” as that term is used in the Act and the PSD regulations, means not only pollutants that are currently regulated, but pollutants for which EPA and the states possess but have not exercised authority to impose requirements. Notably, carbon dioxide and methane meet either test – they are currently regulated and are potentially regulated even further under the Act.

1. Carbon Dioxide and Methane are Currently Regulated Under the Act

Even if the term “subject to regulation” in the Act and 40 C.F.R. § 52.21(b)(50) were limited to pollutants that are currently regulated under an existing Clean Air Act provision, a BACT limit for carbon dioxide is required. Carbon dioxide is currently

regulated under the Clean Air Act's acid rain provisions and the Illinois State Implementation Plan.

a. Carbon Dioxide Is Regulated Under the Acid Rain Provisions

Section 821 of the Clean Air Act Amendments of 1990 directed EPA to promulgate regulations to require specified sources to monitor carbon dioxide emissions and report monitoring data to EPA, 42 U.S.C. § 7651k. In 1993, EPA promulgated such regulations, which are set forth at 40 C.F.R. Part 75. The regulations generally require monitoring of carbon dioxide emissions through the 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 EPA, including electronic quarterly reports of carbon dioxide emissions data (40 C.F.R. §§ 75.60 – 64). Section 75.5 prohibits operation of an affected source in the absence of compliance with the substantive requirements of Part 75, and provides that a violation of any requirement of Part 75 is a violation of the Clean Air Act. 40 C.F.R. § 75.5; see also Buckley v. Valeo, 424 U.S. 1, 66-67 (1976) (finding record keeping and reporting requirements to be regulation, albeit permissible regulation, of political speech). Thus, carbon dioxide is already regulated under the Act as part of the Acid Rain provisions.

b. Carbon Dioxide and Methane are Regulated Under the Illinois State Implementation Plan

The Illinois State Implementation Plan-- approved by EPA-- reads: “[N]o person shall cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as, either alone or in combination with other sources, to

cause or tend to cause air pollution in Illinois.” 35 Ill. Admin. Code § 201.141.¹¹ The term “air pollution” is further defined to mean “the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.” 35 Ill. Admin. Code § 201.102.¹²

IEPA does not dispute that the CORE Project is a large new source of GHGs, that GHGs contribute to global warming, and that global warming is injurious to human, plant, or animal life. Indeed, as pointed out in Petitioners’ Comments at 33, documentation posted at IEPA’s own website recognizes that combating global warming needs urgent action:

In 2006 Governor Blagojevich announced a new global warming initiative that will build on Illinois’ role as a national leader in protecting the environment and public health. The announcement marked the beginning of a longterm strategy by the state to combat global climate change, and builds on the steps the state has already taken to reduce greenhouse gas (GHG) emissions, such as enhancing the use of wind power, biofuels and energy efficiency. Executive Order 2006-11 signed by the Governor Blagojevich creates the Illinois Climate Change Advisory Group, which will consider a full range of policies and strategies to reduce GHG emissions in Illinois and make recommendations to the Governor. The Advisory Group has broad representation including business leaders, labor unions, the energy and agricultural industries, scientists, and environmental groups from throughout the state. The Governor named Doug Scott, Director of the Illinois Environmental Protection Agency, as Chair of the Advisory Group.

See <http://www.epa.state.il.us/air/climatechange> (last visited August 16, 2007).

¹¹ U.S. EPA approved this rule as part of the Illinois SIP on May 31, 1972 (37 Fed. Reg. 10,862). See <http://yosemite.epa.gov/r5/newsip.nsf/02ddba31bced1b4386256fb10062256f35e0f10c8f62d967852563ab0069e2e21OpenDocument>.

¹² This SIP provision was also approved on May 31, 1972 (37 Fed. Reg. 10,682).

IEPA instead argues that “historically” carbon dioxide “has not been considered harmful to humans or the environment.” RS at 25. However, whether carbon dioxide has “historically” been considered a pollutant is irrelevant in light of the clear statutory definition of a pollutant. The Supreme Court dispensed with IEPA’s theory in Massachusetts. The definition of “air pollution” in the Illinois SIP is substantially similar to the definition in the Clean Air Act, which the Court found “embraces all airborne compounds of whatever stripe... [and c]arbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are without a doubt “ physical [and] chemical ... substance [s] which [are] emitted into ... the ambient air.” Massachusetts, 127 S.Ct. at 1460. The Court found the definition “unambiguous” and rejected EPA’s arguments based on the historical treatment of carbon dioxide in light of the plain statutory language. Id. at 1460-61. Even without the benefit of the most recent Intergovernmental Panel on Climate Change (“IPCC”) Reports, the Supreme Court also found that carbon dioxide met the definition of an “air pollutant... [which can] cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” Id. at 1460. Indeed, the Court found that “[t]he harms associated with climate change are serious and well recognized.” 127 S. Ct. at 1455. The Supreme Court also acknowledged “the enormity of the potential consequences associated with manmade climate change.” Id. at 1458.

Indeed, the tremendous potential for harm associated with greenhouse gas emissions cannot be credibly denied. In addition to the Supreme Court and the IPCC, other entities have also recognized the enormous potential for health, environmental, and economic harm from global warming. EPA itself recognizes that global warming is likely to have numerous and particularly severe adverse public health and environmental

consequences, including direct heat-related effects, extreme weather events, climate-sensitive disease impacts, air quality effects, agricultural effects (and related impacts on nutrition), wildlife and habitat impacts, biodiversity impacts, impacts on marine life, economic effects, and social disruption (such as population displacement).¹³

Additionally, numerous studies directly link global warming with increases in a variety of serious environmental, health, economic, and ecological impacts.¹⁴ In fact, a recent assessment of global warming's economic impacts concluded that the economic and social welfare impacts of global warming will be profound.¹⁵

Therefore, carbon dioxide and methane are "contaminants," which the CORE Project "in combination with other sources [will] cause or tend to cause air pollution..." 35 Ill. Admin. Code § 201.141. As such, carbon dioxide and methane are already regulated under the Illinois SIP.

¹³ See <http://www.epa.gov/climatechange/effects/health.html>.

¹⁴ Reports in late 2006 suggest that global warming is likely to cause extreme events that will damage ecosystems, harm public health, and disrupt society well before the end of the century. <http://www.commondreams.org/headlines06/1021-01.htm>. See also links to the following studies at http://www.pewclimate.org/global-warming-in-depth/environmental_impacts/reports/ (including Observed Impacts of Climate Change in the U.S., Coping With Global Climate Change: The Role of Adaptation in the United States, A Synthesis of Potential Climate Change Impacts on the United States, Coral Reefs & Global Climate Change: Potential Contributions of Climate Change to Stresses on Coral Reef Ecosystems, Forests & Global Climate Change: Potential Impacts on U.S. Forest Resources, Coastal and Marine Ecosystems and Global Climate Change: Potential Effects on U.S. Resources, Aquatic Ecosystems and Global Climate Change: Potential Impacts on Inland Freshwater and Coastal Wetland Ecosystems in the United States, Human Health & Global Climate Change: A Review of Potential Impacts in the United States, Ecosystems & Global Climate Change: A Review of Potential Impacts on U.S. Terrestrial Ecosystems and Biodiversity, Sea-Level Rise & Global Climate Change: A Review of Impacts to U.S. Coasts, Water and Global Climate Change: Potential Impacts on U.S. Water Resources, The Science of Climate Change: Global and U.S. Perspectives, Agriculture & Global Climate Change: A Review of Impacts to U.S. Agricultural Resources). These studies are incorporated here by reference.

¹⁵ See STERN REVIEW ON THE ECONOMICS OF CLIMATE CHANGE, available at: http://www.hm-treasury.gov.uk/Independent_Reviews/stern_review_economics_climate_change/sternreview_index.cfm. (incorporated by reference here).

2. Carbon Dioxide and Methane are Subject to Further Regulation Under the Act.

Moreover, a current limit on carbon dioxide is unnecessary for it to be “subject to” regulation under the Clean Air Act. “Subject to” means “capable of being regulated” and not “currently regulated.” EPA itself has recognized the general principle that “[t]echnically, a pollutant is considered regulated once it is *subject to regulation* under the Act. A pollutant *need not be specifically regulated* by a section 111 or 112 standard to be considered regulated. (See 61 FR 38250, 38309, July 23, 1996.)” 40 C.F.R. Part 70, Change to Definition of Major Source Tuesday, 66 Fed. Reg. 59161 (Nov. 27, 2001) (emphasis added).¹⁶ Also, USEPA has previously interpreted the phrase “subject to” in the context of the Resource Conservation and Recovery Act (RCRA) and Clean Water Act as meaning “should” be regulated, as opposed to currently regulated:

RCRA section 1004(27) excludes from the definition of solid waste “solid or dissolved materials in ... industrial discharges which are point sources subject to permits under [section 402 of the Clean Water Act].” For the purposes of the RCRA program, EPA has consistently interpreted the language “point sources *subject to permits* under [section 402 of the Clean Water Act]” to mean point sources that *should have* a NPDES permit in place, whether in fact they do or not. Under EPA’s interpretation of the “subject to” language, a facility that should, but does not, have the proper NPDES permit is in violation of the CWA, not RCRA.

¹⁶ Indeed, this principle only makes sense. For example, section 112(b) of the Act specifically lists more than 180 chemicals to be regulated as hazardous air pollutants from stationary sources under section 112. However, whether or not EPA ever adopts any stationary source rule with actual emission limitations for an individual chemical, all of these chemicals are “subject to regulation” under the Act (they are however expressly excluded from NSR/PSD). In the wake of the Supreme Court’s recent decision, CO₂ must similarly be understood as “subject to regulation.”

Memo from Michael Shapiro and Lisa Friedman (OGC) to Waste Management Division Directors, *Interpretation of Industrial Wastewater Discharge Exclusion from the Definition of Solid Waste* at 2, (Feb. 17, 1995) (emphasis added).¹⁷

Under both Sections 111 and 202, carbon dioxide can be regulated and, indeed, should be regulated. Section 202 of the Act requires USEPA to set standards applicable to emissions of “any air pollutant” from motor vehicles, and Section 111 requires USEPA to establish standards of performance for emissions of “air pollutants” from new stationary sources, where air pollution “may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7411(b)(1)(A); 42 U.S.C. § 7521(a)(1).¹⁸

USEPA’s failure, thus far, to establish specific emission limits for carbon dioxide and methane under these two programs is not determinative of whether these GHGs are “subject to” regulation. However, it is notable that this failure to establish emission limits is the subject of pending legal actions against the agency. For example, USEPA’s failure to establish carbon dioxide emission limits for stationary sources under Section 111 is

¹⁷ The EPA memo is available at:

[http://yosemite.epa.gov/osw/rcra.nsf/ea6e50dc6214725285256bf00063269d/C8FA9634A91B9FE08525670F006BF1ED/\\$file/11895.pdf](http://yosemite.epa.gov/osw/rcra.nsf/ea6e50dc6214725285256bf00063269d/C8FA9634A91B9FE08525670F006BF1ED/$file/11895.pdf) (last visited July 6, 2007).

¹⁸ Indeed, in other contexts EPA has specifically acknowledged that the impact of methane on global warming is an important consideration for potential new sources. See Letter from EPA Region 8 to Charles Richmond, Forest Supervisor Gunnison National Forest (June 1, 2007) (attached as Exhibit 7). This letter relates to an Environmental Impact Statement regarding a proposal to drill 168 methane drainage wells at the West Elk Mine in Gunnison County, CO. In this letter, the Deputy Regional Administrator explains:

The draft EIS does not present information no the amount of methane that is expected to be released from the proposed action . . . As indicated on EPA’s website, methane is a greenhouse gas that remains in the atmosphere for approximately 9-15 years and is over 20 time more effective in trapping heat in the atmosphere than carbon dioxide (CO₂) over a 100-year period. Methane’s relatively short atmospheric lifetime, coupled with its potency as a greenhouse gas, makes it a candidate for mitigation global warming over the near-term (i.e., next 25 years or so). . . . Given the project’s release of significant quantities of methane, there is an important economic and environmental opportunity here to capture and utilize the methane resource. . . . [W]e recommend that the final EIS analyze measure for capturing all or part of the methane to be vented from the mine. . . . Methane capture and reuse is a reasonable alternative to the proposal of venting the methane to the atmosphere, and thus, we recommend that it be analyzed. . . . EPA believes that the information in the DEIS is insufficient and the missing information and analyses are substantial issues which must be resolved and disclosed in the Final Environmental Impact Statement.

pending before the United States Court of Appeals for the District of Columbia. State of New York, et al. v. EPA, No. 06-1322.

On April 30, 2007, USEPA announced that it was holding a hearing on California's request to regulate greenhouses gas from automobiles because, as EPA explains, "Section 209(b) of the Act requires the Administrator ... to waive application of the prohibitions of section 209(a) for any state that has adopted standards ... for the control of emissions from new motor vehicles ... if the state determines that the state standards will be ... at least as protective of public health and welfare as applicable standards." 72 Fed. Reg. 21,260 (Apr. 30, 2007). While the State of California has notified USEPA that it intends to sue the agency for unreasonable delay in responding to its waiver request later this year,¹⁹ Administrator Johnson announced that the agency expects to make its waiver decision by the end of the year.

More recently, on May 14, 2007, President Bush issued an Executive Order confirming the Supreme Court's ruling that USEPA can regulate greenhouse gases, including carbon dioxide, from motor vehicles, nonroad vehicles and nonroad engines under the Clean Air Act.²⁰ The Executive Order directs USEPA to coordinate with other federal agencies in undertaking such regulatory action. The President's action indicates the Chief Executive is also of the opinion that carbon dioxide is subject to regulation under the Clean Air Act.

Because carbon dioxide is currently regulated under both the acid rain provisions of the Act and the Illinois SIP, it is a pollutant "subject to regulation" under the Act. Additionally, because GHG can and should be regulated under one or more additional

¹⁹ Gov. Schwarzenegger Tells U.S. EPA of Inevitable Lawsuit on Greenhouse Gas Emissions Waiver, <http://gov.ca.gov/index.php?/press-release/6665/> (June 13, 2007) (last visited July 5, 2007).

²⁰ <http://www.whitehouse.gov/news/releases/2007/05/20070514-2.html> (last visited July 5, 2007).

Clean Air Act programs, including section 111 and 202, because it “may reasonably be anticipated to endanger public health or welfare,” it is “subject to regulation” under the Act. 42 U.S.C. §§ 7411(b)(1)(A), 7521(a)(1).

IEPA’s failure to require BACT for the CORE Project’s GHG emissions was an erroneous conclusion of law. This issue is also an important policy matter that the Board should review.

CONCLUSION

For the foregoing reasons, we respectfully request that the Board review and remand IEPA’s permit issued to ConocoPhillips for the CORE Project.

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Respectfully submitted,



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