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BEFORE THE BOARD OF ENVIRONMENTAL REVIEW
OF THE STATE OF MONTANA

IN THE MATTER OF:
SOUTHERN MONTANA ELECTRIC
GENERATION AND TRANSMISSION
COOPERATIVE — HIGHWOOD
GENERATING STATION
AIR QUALITY PERMIT NO. 3423-00

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**MONTANA ENVIRONMENTAL INFORMATION CENTER ET AL.’S
REPLY IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT**

The Montana Department of Environmental Quality (“DEQ”) and the Southern Montana Electric Generation and Transmission Cooperative (“SME”) agree that this appeal should be decided on summary judgment, and they present no reason why summary judgment should not be granted in favor of Petitioners Montana Environmental Information Center and Citizens for Clean Energy (collectively “MEIC”).

In the absence of any winning legal argument, DEQ and SME devote much of their briefing to the policy argument that other states have not yet enforced best available control technology (“BACT”) requirements for carbon dioxide (CO₂) and very fine particulate matter (PM_{2.5}). However, up until the Supreme Court’s ruling in April of this year, the U.S.

Environmental Protection Agency (“EPA”) was taking the position that CO₂ was not a “pollutant” and that CO₂ emissions therefore could not be regulated under the Clean Air Act. See Massachusetts v. EPA, 127 S.Ct. 1438, 1450 (2007). EPA was even skeptical about the “causal link” between increased CO₂ emissions and global warming. Id. at 1451. Under these circumstances, it is not surprising that state permitting agencies have not set BACT emissions limits for CO₂ before now. However, in light of Massachusetts v. EPA, there is no longer any reason why Montana should not be the first among many states to aggressively confront global warming and require installation of the best available control technology (“BACT”) for CO₂.

It is similarly unsurprising that states have waited for EPA to take the lead in requiring BACT emissions limits for PM_{2.5}. However, states cannot fairly assume that EPA’s delay in implementing PM_{2.5} BACT requirements is legal. The history of Clean Air Act enforcement is in large part a history of state and citizen suits to compel required action by EPA. Even the recent revisions of the National Ambient Air Quality Standards (“NAAQS”) for PM_{2.5} were issued in response to successful litigation to compel EPA to act under court-set deadlines.¹ Against this example demonstrates, EPA’s inaction is not a valid justification for inaction on the part of state air agencies.

States including Montana have their own independent obligation to uphold the law, and more profoundly, to protect air quality on behalf of their citizens. It has now been ten years since EPA first set National Ambient Air Quality Standards (“NAAQS”) for PM_{2.5}, and in the

¹ See Final Rule, 71 Fed. Reg. 61,144, 61,147 (Oct. 17, 2006) (explaining in the final rule for the revised PM_{2.5} NAAQS that “[t]he schedule for completion of this review is governed by a consent decree resolving a lawsuit filed in March 2003 by a group of plaintiffs representing national environmental organizations. The lawsuit alleged that EPA had failed to perform its mandatory duty, under section 109(d)(1), of completing the current review within the period provided by statute. American Lung Association v. Whitman (No. 1:03CV00778, D.D.C. 2003).

meantime, a fast-growing body of scientific and medical data has proven that PM_{2.5} is even more dangerous than previously believed. In response to several recently published studies, EPA has been obliged to make the NAAQS for PM_{2.5} nearly twice as stringent as they had been formerly. In the face of the known human health threat posed by PM_{2.5}, Montana should not wait any longer to enforce BACT requirements that have long been applicable to PM_{2.5}. Given the widespread commercial availability of technologies that are extremely effective at controlling PM_{2.5}, there can be no justification for continuing to exempt PM_{2.5} from the proper application of BACT requirements.

I. BACT IS REQUIRED FOR CO₂

Federal and state BACT requirements apply to CO₂ because CO₂ is “subject to regulation” under the Clean Air Act. Mont. Admin. R. 17.8.801(6); *id.* at 17.8.818(2); 42 U.S.C. § 7475(4). Not only is CO₂ a “pollutant” subject to regulation by EPA and other delegated state agencies including DEQ, CO₂ has been actually regulated by Congress since the passage of the 1990 Clean Air Act Amendments. See Montana Environmental Information Center, *et al.*’s Memorandum In Support of Summary Judgment (“MEIC Br.”) at 18-19; Montana Environmental Information Center’s Memorandum In Opposition To Summary Judgment Motions (“MEIC Opp.”) at 7-15. Thus, DEQ and SME cannot legitimately argue that CO₂ is not “subject to regulation” under the Clean Air Act. As a matter of law, new sources including the Highwood coal plant are required to control their CO₂ emissions in keeping with BACT-determined limits.

DEQ and SME try to obscure this clear legal requirement by arguing that mandatory monitoring and reporting requirements under § 821 of the 1990 amendments are not actually regulations, that “subject to regulation” does not actually mean what it says, and that

straightforward provisions of the Clean Air Act are too complex for this Board to understand. The Board should disregard these efforts to complicate the simple legal question at issue and grant MEIC's motion for summary judgment with respect to BACT requirements for CO₂ emissions.

A. CO₂ Is Regulated Under § 821's Monitoring And Reporting Requirements

SME and DEQ do not, and cannot, explain why CO₂ is not regulated by § 821 of the 1990 Clean Air Act Amendments, which requires that sources including coal-fired power plants monitor and report their emissions of CO₂ — not for purposes of monitoring nitrogen oxides (NO_x) emissions — but rather, to track the contribution of these sources' CO₂ emissions to global warming. See P.L. 101-549, 104 Stat. 2399 § 821 (Nov. 15, 1990) (reprinted for ease of reference in Exh. 1 attached hereto). DEQ and SME make two passing arguments as to why § 821's requirements do not amount to regulation of CO₂: (1) they deliberately confuse § 821's requirements with other monitoring requirements under the acid rain program; and (2) they suggest that monitoring and reporting requirements do not constitute "regulation." Neither argument has any merit.

1. Monitoring And Reporting Are Required Specifically For CO₂

First, DEQ and SME try to read § 821's requirements out of the Clean Air Act by arguing that CO₂ monitoring is required solely to establish NO_x emissions rates for purposes of enforcing compliance with the acid rain program. See Department of Environmental Quality's Answer Brief In Opposition To Motion For Summary Judgment By MEIC/CCE ("DEQ Opp.") at 7; see also Permittee's Memorandum of Law In Opposition To Montana Environmental Information Center's Motion For Summary Judgment ("SME Opp.") at 8-9. However, this argument ignores

the plain language and intent of § 821, which was passed not as part of the Acid Rain program but rather as a stand-alone provision that reflected growing concerns about global warming.

To be clear, in 1990, Congress established monitoring requirements for the acid rain program, see 42 U.S.C. § 7651k, and EPA’s implementing regulations allow sources to use CO₂ emissions rates as a measure of NO_x emissions rates. See 40 C.F.R. §§ 75.10(a)(2), 75.12. In addition, Congress passed § 821, which established monitoring requirements for CO₂ relative to global warming. Congress chose to execute § 821’s “information gathering” requirements by making the monitoring provisions of the acid rain program apply “in the same manner and the same extent” to CO₂. See Exh. 1 (emphasis added). Thus, § 821 is now codified in the U.S. Code under § 7651k, which is part of the acid rain program, but § 821’s monitoring and reporting requirements still apply specifically to global warming emissions of CO₂. See id.; see also 42 U.S.C.A. § 7651k (Note).

As required by § 821, the Clean Air Act’s implementing regulations require CO₂ monitoring and reporting both for purposes of measuring NO_x emissions rates under the Acid Rain program and for purposes of measuring CO₂ emissions in their own right. See 40 C.F.R. § 75.10(a). “General operating requirements” mandate that “[t]he owner or operator shall measure opacity, and all SO₂, NO_x, and CO₂ emissions for each affected unit.” Id. (emphasis added). Accordingly, “[n]o owner or operator of an affected unit shall operate the unit so as to discharge, or allow to be discharged, emissions of SO₂, NO_x or CO₂ to the atmosphere without accounting for all such emissions. Id. § 75.5(d) (emphasis added).

In keeping with these requirements, one provision of the governing regulations specifies how “[t]o determine NO_x emissions” and allows for use of “a CO₂ diluent gas monitor.” Id. § 75.10(a)(2); see also id. § 75.12 (setting forth “specific provisions for monitoring NO emissions

rate). Another separate provision requires that “[t]he owner or operator shall determine CO₂ emissions” using one of several alternative methods. Id. § 75.10(a)(3); see also id. § 75.13 (setting forth “Specific provisions for monitoring CO₂ emissions”).

In addition, the regulations set forth separate requirements for record-keeping and reporting of NO_x and CO₂ emissions respectively. See id. § 75.57(d) (record-keeping requirements for NO_x); id. § 75.57(e) (record-keeping for CO₂); § 75.64(4) (reporting requirements for NO_x); § 75.64(a)(5) (reporting requirements for CO₂). To comply with these requirements, a source must report not only its “[a]verage NO_x emission rate (lb/mmBtu, rounded to the nearest thousandth) during the quarter and cumulative NO_x emission rate for the calendar year” but also the “[t]ons of CO₂ emitted during quarter and cumulative CO₂ emissions for calendar year.” Id. §§ 75.64(a)(4),(5).

As this regulatory framework makes clear, sources including coal-fired power plants must monitor and report their CO₂ emissions, separate and apart from any obligations to monitor and report NO_x emissions. Indeed, SME and DEQ were obliged to concede this point in their response briefs. Thus, DEQ acknowledges that the “greenhouse gas information gathering requirements of Section 821 of the 1990 Clean Air Act Amendments” require that “the Administrator of EPA establish a database of annual CO₂ emissions.” DEQ Opp. at 7. Moreover, in a footnote, SME admits that 40 C.F.R. § 75.13 “requires continuous monitoring of CO₂” but “simply to allow the public to have access to annual data on CO₂ emissions.” SME Opp. at 9 n.6.

Yet, despite these concessions, DEQ and SME continue to assert that there are no monitoring and reporting requirements that are directly applicable to CO₂. In text that is directly contrary to the footnote quoted above, SME states that “not only is a source not required to

monitor CO₂ (as opposed to O₂) for this purpose (of tracking NO_x emission rates), but even if it does monitor CO₂, it does so as part of its analysis of other pollutants.” SME Opp. at 9.

Similarly, DEQ states in its response brief that, “[t]he federal regulations cited by the Petitioners relate only to monitoring of CO₂ emissions from coal-fired facilities in order to establish NO_x emission rates, for purposes of acid rain regulation. See 40 C.F.R. § 75.10(a)(2).” DEQ Opp. at 7 (emphasis added) (notably omitting any reference to 40 C.F.R. § 75.10(a)(3) requiring that sources “shall determine CO₂ emissions” regardless of NO_x emissions).

These statements flatly misrepresent the law. While DEQ and SME are apparently determined to ignore the plain language of § 821 and its implementing regulations, the reality is that CO₂ emissions are subject to mandatory monitoring, record-keeping, and reporting requirements.

2. Monitoring, Record-Keeping, And Reporting Requirements Are “Regulation”

Requirements to install expensive continuous emissions monitors or other fail-safe monitoring systems, to keep detailed records of emissions, and to report such emissions on a quarterly basis constitute regulation by any definition. Nevertheless, DEQ and SME contend that CO₂ is not regulated by virtue of these requirements. According to SME, “a mere optional monitoring requirement does not render a pollutant ‘regulated.’” SME Opp. at 9. Similarly, DEQ contends that “[a] requirement to merely monitor a particular pollutant does not require any kind of actual control or other limitation for that pollutant and cannot reasonably be considered to constitute “regulation” of that pollutant for BACT purposes.” DEQ Opp. at 7. Neither proposition is supportable.

First, there is nothing “optional” about the monitoring, record-keeping and reporting requirements applicable to CO₂. The Clean Air Act’s implementing regulations provide that

sources: “shall determine CO₂ emissions;” “shall maintain ... a file of all measurements, data, reports, and other information required by this part” including information on CO₂ emissions; and “shall electronically report ... data and information” including “[t]ons of CO₂ emitted during quarter and cumulative CO₂ emissions for calendar year.” 40 C.F.R. §§ 75.10(a)(3); 75.57(e), 75.64(a)(5); see also id. § 75.5(d) (“[n]o owner or operator of an affected unit shall operate the unit so as to discharge, or allow to be discharged, emissions of SO₂, NO_x or CO₂ to the atmosphere without accounting for all such emissions in accordance with the provisions of §§75.10 through 75.19”). “Shall,” as it appears in each of these regulatory provisions, necessarily means shall. As the Supreme Court has explained with respect to the use of the word “shall” in statutes, “Congress could not have chosen stronger words to express its intent that [adherence to the provision] be mandatory.” United States v. Monsanto, 491 U.S. 600, 607 (1989); see also Anderson v. Yungkau, 329 U.S. 482, 485 (1947) (“The word ‘shall’ is ordinarily ‘The language of command.’”) (citation omitted).

A failure to comply with any of these binding “shall” requirements constitutes “a violation” of the Clean Air Act. 40 C.F.R. § 75.5(a) (expressly providing that “[a] violation of any applicable regulation in this part by the owners or operators or the designated representative of an affected source or an affected unit is a violation of the Act.”). Given that sources, including coal-fired power plants, cannot lawfully operate absent compliance with the requirements of § 821 and its implementing regulations, SME wrongly characterizes these provisions as “mere optional monitoring requirement[s].” SME Opp. at 9.

Second, DEQ wrongly argues that these requirements are somehow non-regulatory because they do not establish emissions limits. DEQ cannot point to a single legal authority that supports this novel contention. Just from an industry standpoint, it is hard to conceive of any other

circumstance in which a permittee would agree that expensive and labor-intensive monitoring, record-keeping, and reporting requirements amount to something other than regulation.

Section 821 and its implementing provisions in the Code of Federal Regulations are statutory and regulatory requirements that necessarily constitute “regulation.” Because they apply to CO₂ emissions, CO₂ is unequivocally “subject to regulation” under the Clean Air Act. Accordingly, MEIC is entitled to summary judgment on its claim that the air permit for the Highwood coal plant must include BACT-determined limits for CO₂.

3. This Board Can Determine That CO₂ Is Subject To Regulation

DEQ and SME agree that this Board can, and should, decide on summary judgment the purely legal question whether BACT requirements are applicable to CO₂. See DEQ Br. at 1; SME Br. at 4. However, in the event “the Board decides to delay decision on or deny both SME’s and MEIC’s motions for summary judgments,” SME “requests that the Board hold a hearing to allow the parties to educate the Board on this complex area of law through their expert witnesses.” SME Br. at 12; see also id. at 1-2.

This request is fundamentally at odds with the purpose of an evidentiary hearing, which is to provide the Board with sufficient information to decide disputed factual issues. Where, as here, there are no material facts in dispute, and the issues raised in the appeal are legal in nature, there is no need for an evidentiary hearing.

Even if the Board were to hold a hearing in this appeal, expert testimony regarding legal issues would be improper. “Expert opinion that states a legal conclusion or applies the law to the facts is inadmissible.” Perdue v. Gagnon Farms, Inc., 314 Mont. 303, 311, 65 P.3d 570, 575 (2003); see also S.E.C. v. Capital Consultants, LLC, 397 F.3d 733, 749 (9th Cir. 2005) (“Experts may interpret and analyze factual evidence but may not testify about the law.”); Crow Tribe of

Indians v. Racicot, 87 F.3d 1039, 1045 (9th Cir. 1996) (“Expert testimony is not proper for issues of law.”).

Finally, while SME suggests that this appeal is too complex to be decided without further “education” by a former EPA employee, the legal questions before the Board are clear-cut. The Board needs only to recognize that § 821 and its implementing provisions constitute “regulation” in order to determine that CO₂ is “subject to regulation” under the Clean Air Act and therefore subject to BACT requirements.²

II. BACT IS REQUIRED FOR PM_{2.5}, NOT JUST PM₁₀

The issue raised in this appeal with respect to PM_{2.5} — specifically, whether BACT is required for PM_{2.5}, as opposed to coarser-grained PM₁₀ that poses a lesser health threat — is equally clear-cut. While DEQ and SME assert that non-binding EPA guidance from ten years ago excuses the failure to impose BACT-determined emissions limits for PM_{2.5}, the so-called “Seitz memo” cannot trump the unambiguous requirements of the Clean Air Act and the Clean Air Act of Montana, which DEQ is bound to enforce regardless of EPA foot-dragging at the federal level.

A. The Seitz Memo Does Not Legally Exempt PM_{2.5} From BACT Requirements

The Seitz memo is not a legal license to avoid BACT requirements for PM_{2.5}. It has never been adopted through notice-and-comment federal rule-making, and, as the memo itself makes clear, its “statements do not bind State and local governments and the public as a matter of law.” Exhibit 15 to MEIC Br. at 2. Accordingly, DEQ and SME both concede that the Seitz Memo has no legal force. See DEQ Opp. at 17; SME Opp. at 11.

² For all of the reasons set forth in MEIC’s previous briefing, CO₂ would be “subject to regulation” for purposes of BACT requirements even if it were not currently regulated. However, because CO₂ is currently regulated under § 821, the Board does not need to reach this issue.

“Interpretations such as those in ... policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law — do not warrant ... deference” from this Board. Christensen v. Harris County, 529 U.S. 576, 587 (2000). Nevertheless, DEQ and SME argue that the Seitz memo is “persuasive” authority regarding the permissibility of using PM₁₀ BACT analysis as a surrogate for BACT PM_{2.5} analysis. SME Opp. at 11; see also DEQ Opp. at 10. This argument is unavailing. EPA guidance is only persuasive to the extent that it is consistent with the plain language of governing legal requirements, and contrary to DEQ’s assertions, the Seitz Memo, in its allowance for “surrogate” analysis, cannot be squared with governing BACT requirements under state and federal law.

Section 17.7.840 of the Montana Administrative Rules (“ARMs”) defines BACT as “an emission limitation ... based on the maximum degree of reduction for each pollutant subject to regulation” under the federal Clean Air Act and the Clean Air Act of Montana. Mont. Admin. R. 17.7.840(2) (emphasis added); see also id. 17.8.801(6) (same). Similarly, §165 of the Clean Air Act provides that a “proposed facility is subject to the best available control technology for each pollutant subject to regulation” under the Clean Air Act. 42 U.S.C. § 7475(4) (emphasis added); see also id. § 7479(3) (defining BACT to mean “an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation” under the Clean Air Act).

In making BACT requirements applicable to “each pollutant subject to regulation,” these statutory and regulatory provisions uniformly contemplate that permit applicants will consider the available technologies to control each pollutant emitted in significant amounts, and that permitting agencies will tailor individual emissions limits to achieve the maximum degree of reduction for each such pollutant. See id. The Seitz memo is antithetical to this individualized case-by-case, pollutant-by-pollutant approach, in that it purports to allow permit applicants to

avoid consideration of controls for PM_{2.5} and agencies to omit the inclusion of PM_{2.5} emissions limits in air permits. See Exh. 13 to MEIC Br.

The unfortunate consequence of implementing this policy is that new sources do not achieve the maximum feasible reduction in emissions of PM_{2.5}, which is toxic in far lower concentrations than PM₁₀. Compare 40 C.F.R. § 50.6 (setting the 24-hour NAAQS for PM₁₀ at 150 µg/m³) with 71 Fed. Reg. 61,144 (setting the 24-hour NAAQS for PM_{2.5} at 35 µg/m³). As discussed below, control technologies that are determined to be BACT for PM₁₀ do not necessarily represent BACT for PM_{2.5}. In a BACT analysis for PM_{2.5}, the fact that PM_{2.5} is more difficult to capture than particulate in the PM₁₀ size range, and the fact that PM_{2.5} is more dangerous in smaller quantities than PM₁₀ would favor selection of control technologies that are most efficient at capturing the very smallest particles, notwithstanding their potentially greater expense. In other words, an agency may reject key technologies that would be identified as BACT for PM_{2.5} in a BACT analysis for PM₁₀, thereby allowing new sources to avoid installation of controls that would most effectively reduce harmful PM_{2.5} emissions.

This is true not only for direct emissions of PM_{2.5} but also for secondary emissions of PM_{2.5}. Focusing solely on PM₁₀ precludes maximum reductions in emissions of the precursor pollutants that are responsible for “secondary formation” of PM_{2.5}. Among the key precursors for PM_{2.5} are nitrogen dioxide (NO₂) and sulfur dioxide (SO₂). In determining BACT for these pollutants, the public health benefits associated with controlling secondary PM_{2.5} emissions should play into the agency’s calculus of what control technologies can be considered cost-effective. While a given control technology might not be considered cost-effective if the goal is to control SO₂ solely for purposes of preventing acid deposition, it might well be considered cost-effective if the additional goal of preserving compliance with the PM_{2.5} NAAQS and

preventing adverse health effects from PM_{2.5} is also taken into account. See Deposition of Gary McCutchen 158:5-159:15 (conceding this point) (excerpt attached as Exh. 2).³ If agencies are allowed to consider PM₁₀ exclusively, PM_{2.5} precursor pollutants, as well as direct PM_{2.5} emissions, are very likely to slip through the cracks at new polluting facilities.

This defies the fundamental mandate to prevent significant deterioration of air quality under the federal Clean Air Act and the Clean Air Act of Montana. Because reliance on the Seitz memo is inconsistent with the plain language and overarching intent of governing BACT requirements, MEIC is entitled to summary judgment as a matter of law on its claim that DEQ violated the Clean Air Act in failing to impose BACT-determined emissions limits specifically for PM_{2.5}.

B. There is No Reason Why This Board Should Not Require BACT For PM_{2.5}

While SME and DEQ agree that there are no undisputed material facts at issue in this appeal, and that summary judgment is therefore appropriate, see SME Opp. at 2-3; DEQ Opp. at 1, they nevertheless advance several reasons why, as a factual matter, BACT for PM_{2.5} is either unnecessary or impracticable. None of these stated reasons provide a valid basis to avoid undertaking routine BACT analyses for PM_{2.5}.

³ Q. ... If, say SO₂ is regulated, in part, because of its contribution to acid rain but SO₂, as a precursor to PM_{2.5} in smaller quantities contributes to localized health effects, when you're considering SO₂ as a regulated pollutant for itself versus SO₂ as a regulated precursor to PM_{2.5}, would its disparate impacts in those two situations ever affect what ultimately you would determine to be BACT?

A. It could through the cost-effectiveness evaluation McCutchen Depo. at 159:11-20 (Exh. 2).

1. The Highwood Permit's BACT Emissions Limits For Filterable PM And PM₁₀ Are Not Equivalent to BACT Emissions Limits For PM_{2.5}

DEQ and SME suggest that the BACT-determined emissions limits for total filterable particulate matter ("PM") and condensable particulate (which together make up the Highwood permit emissions limit for PM₁₀) will effectively control PM_{2.5}. This is not true.

First, as explained in MEIC's previous briefing, common control technologies, such as the fabric filters which SME proposes to install at Highwood, are highly effective at controlling particulate matter (PM) and PM₁₀ but less effective at capturing finer-grain PM_{2.5}. See MEIC Br. at 16-18; MEIC Opp. at 17-19. It is therefore necessary to target PM_{2.5} specifically in a BACT analysis in order to achieve the greatest feasible reductions in PM_{2.5} emissions.

Second, in permitting the Highwood coal plant, DEQ not only failed to require a PM_{2.5}-specific BACT analysis, it set an emissions limit for filterable PM that was based on BACT analysis for total PM, not PM₁₀. See MEIC Br. at 12-14; MEIC Opp. at 17-18; see also Exh. 2 to MEIC Br., Permit Analysis at 43 (stating that "the PM₁₀ emission rate is calculated based on the assumed components that make up the condensable PM₁₀ fraction plus the BACT-determined filterable PM emission limit") (emphasis added). Thus, with respect to filterable emissions, DEQ did not follow even the Seitz memo's guidance to control PM₁₀. This means that DEQ can offer no assurances regarding the control efficiency that the Highwood plant will be required to achieve for fine particles as opposed to total PM. Neither SME or DEQ have attempted to explain how controlling total PM could possibly substitute for controlling particles under 10 microns in size, much less the very smallest, and most dangerous particles under 2.5. microns in size.

Instead, SME and DEQ assert that the BACT analysis for the Highwood coal plant went above and beyond what was required because it considered condensable as well as filterable

particulate emissions. However, EPA stated in 2005 that agencies using the surrogate approach outlined in the Seitz memo “will be required to include condensable particulate matter emissions in determining major NSR applicability and control requirements.” Proposed Rule, 70 Fed. Red. 65,984, 66,044 (Nov. 1, 2005) (further explaining the condensable emissions are necessarily part of the PM₁₀ analysis as well as the surrogate analysis for PM_{2.5}). Accordingly, BACT analysis for condensable particulate emissions is now routinely required by state agencies. Employing this standard practice cannot fairly be characterized as a conservative approach that compensates for the failure to undertake BACT for PM_{2.5} specifically.

Moreover, in touting the Highwood BACT analysis for condensable emissions, SME and DEQ neglect to mention, much less justify, the fact that SME’s permitted emissions limit is less stringent than BACT-determined limits that have already been demonstrated in practice at comparable coal plants. See MEIC Opp. at 18-19. In short, the condensable emissions limit in the Highwood permit offers no further assurance that this new coal plant will be required to achieve maximum reductions in its PM_{2.5} emissions.

Because the Highwood permit’s PM/PM₁₀ limits are not an adequate substitute for PM_{2.5} limits, the permit should be remanded to DEQ with instructions to perform a proper BACT analysis for PM_{2.5}.

2. There Are No Practical Hurdles To Requiring BACT For PM_{2.5}

Finally, contrary to DEQ’s and SME’s arguments, there are no longer practical impediments to full compliance with PM_{2.5} BACT requirements. When the Seitz memo was drafted in 1997, EPA was concerned about “the lack of necessary tools to calculate emissions of PM_{2.5} and related precursors and project ambient air quality impacts” and the lack of “sufficient monitoring data to verify and validate protocol modeling results.” Exh. 15 to MEIC Br. at 2.

However, these concerns are no longer an issue, as evidenced by the fact that EPA is now proposing an implementation rule explicitly providing for compliance with PM_{2.5} BACT requirements. See Proposed Rule, 72 Fed. Reg. 54,112 (Sept 12, 2007).

This proposal is by no means premature. Over two years ago, EPA recognized that the “practical difficulties” identified in the Seitz memo “have been resolved in most respects.” 70 Fed. Reg. at 66,043.⁴ Extensive PM_{2.5} monitoring data has now been gathered, and EPA has confirmed that reliable tests for determining PM_{2.5} emissions of PM_{2.5} have been developed. See Final Rule, 72 Fed. Reg. 20,586, 20,653 (Apr. 15, 2007) (explaining that “[w]e believe that a dilution sampling method for measuring direct PM_{2.5} [Conditional Test Method CTM–039] eliminates essentially all artifact formation and provides the most accurate emissions quantification” and further stating that “[a]s for CTM–040, we believe that further validation of this method is unwarranted since the technology and procedures are based upon the same as evaluated for promulgated Method 201A.”). Thus, SME and DEQ wrongly contend that “it would be unwise and inappropriate to set numerical emissions limits for PM_{2.5} in the permit because no reference test method exists at this time for in-stack measurement of PM_{2.5} emissions.” SME Br. at 27; see also DEQ Opp. at 16 (arguing that “final, EPA-approved emission factors and reference tests for measuring PM-2.5 emissions [are] critical to determining PM-2.5 emission rates.”). As SME’s own hired expert has acknowledged, there is a satisfactory reference test method that is currently available and subject to imminent approval by EPA. See McCutchen Depo. at 140:25-141:5, 142:1-13 (excerpts attached to MEIC Opp. as Dillen Decl. Exh. E). Further, Given that SME has appealed the Highwood permit in order to compel use of a

⁴ While SME and DEQ fault MEIC for referencing rule-making documents that relate primarily to state implementation plans for attainment of the PM_{2.5} NAAQS, see SME Opp. at 10; DEQ Opp. at 13-14, EPA’s statements in the Federal Register regarding the status of concerns raised in the Seitz memo are clearly relevant to the arguments raised by SME and DEQ in this appeal.

reference test method for PM₁₀, its arguments regarding the lack of EPA-approved test methods in the PM_{2.5} context are not well-taken.

Because control technologies are readily available to achieve greater reductions in PM_{2.5} emissions, and because the practical difficulties associated with measuring and monitoring PM_{2.5} have largely been resolved, this Board should not allow yet another facility in Montana to be built without state-of-the-art pollution controls for PM_{2.5}.

CONCLUSION

For all of the reasons set forth above and in Petitioners' Memorandum In Support of Summary Judgment and Memorandum in Opposition to Motions for Summary Judgment, Montana Environmental Information Center and Citizens for Clean Energy respectfully request that this Board grant Petitioners' Motion for Summary Judgment and deny SME's and DEQ's cross-motions for summary judgment.

Respectfully submitted this 11th day of December 2007,

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EXHIBIT 1

UNITED STATES PUBLIC LAWS
101st Congress - Second Session
Convening January 23, 1990

PL 101-549 (S 1630)
November 15, 1990
CLEAN AIR ACT, AMENDMENTS

...

<< 42 USCA § 7651k NOTE >>

SEC. 821. INFORMATION GATHERING ON GREENHOUSE GASES CONTRIBUTING TO GLOBAL CLIMATE CHANGE.

(a) MONITORING.--The Administrator of the Environmental Protection Agency shall promulgate regulations within 18 months after the enactment of the Clean Air Act Amendments of 1990 to require that all affected sources subject to title V of the Clean Air Act shall also monitor carbon dioxide emissions according to the same timetable as in section 511(b) and (c). The regulations shall require that such data be reported to the Administrator. The provisions of section 511(e) of title V of the Clean Air Act shall apply for purposes of this section in the same manner and to the same extent as such provision applies to the monitoring and data referred to in section 511.

(b) PUBLIC AVAILABILITY OF CARBON DIOXIDE INFORMATION.--For each unit required to monitor and provide carbon dioxide data under subsection (a), the Administrator shall compute the unit's aggregate annual total carbon dioxide emissions, incorporate such data into a computer data base, and make such aggregate annual data available to the public.

EXHIBIT 2

1 because that's the only practical way the program could
2 proceed.

3 **Q. Okay. But you've indicated that you believe**
4 **that there are reliable emissions testing methods for**
5 **PM2.5, that dilution method you referred to?**

6 A. I think that dilution method, if accepted by
7 EPA, would resolve one of the worst problems in both
8 PM10 and PM2.5, which is another situation that's been
9 with us for a decade, and would very much like to see
10 that go into effect. And I do think it is a better test
11 method for the PM2.5 direct and for PM10 emissions than
12 the combination of 201 plus 202.

13 **Q. Okay. And you agree that there are**
14 **technologies that can control PM2.5 emissions?**

15 A. Yes.

16 **Q. Okay. In your experience, is PM2.5 unique in**
17 **that there have been problems measuring it and**
18 **understanding exactly how it forms, are there other**
19 **pollutants that are regulated under the act that have**
20 **suffered from the same gaps in understanding?**

21 A. The closest thing to PM10 and PM2.5 has been
22 ozone which, of course, is regulated as a NAAQS, but
23 we're regulated under the NSR program through its
24 precursor VOC attainment areas. And until recently,
25 that was the only precursor in attainment areas. And

1 **should spend to control that pollutant?**

2 A. If you have to -- I can think of one case
3 where it would, but that's not necessarily the situation
4 here. You don't redo the analysis and end up with a
5 different cost-effectiveness factor. But what happens
6 in some cases, and the clearest of these is NO2, NO2 is
7 a National Ambient Air Quality Standard regulated
8 pollutant in its own right.

9 It's always one of the precursors as a NOX
10 compound for VOC. So it can end up being regulated from
11 a major stationary source in an ozone non-attainment
12 area, first as a BACT determination for NO2, and then as
13 a LEER determination without considering economics to
14 the same extent as NOX, as a part of NOX. And you
15 could, therefore, end up doing two different analyses
16 under two different sets of criteria and end up with,
17 usually, LEER, of course, being a controlling
18 determination for NOX. So most people just skip the
19 BACT and go right to the LEER in those kind of cases.

20 Then for the SO2, since that is involved in
21 the condensables, so it's part of PM2.5 and PM10 direct
22 emissions, and also a pollutant in its own right, you
23 might ask if there is any parallel there, and I can't
24 offhand really think of one. Because if you're going to
25 look for best available control for SO2, it really

1 now EPA is finally making NOX also a precursor in
2 attainment areas, so we have two precursors.

3 Again, I'm not a modeling expert, but I
4 understand that it really complicates already
5 complicated models even more when you start trying to
6 deal with atmospheric interaction in the formation of a
7 pollutant from its precursors. And this is why, for
8 PM2.5, EPA has really complicated things even further by
9 looking at and requiring that at least one precursor be
10 considered as part of PM2.5.

11 And this was not done for PM10, that's SO2.
12 Of course, SO2 can also be regulated in its own right.
13 In the Highwood case, of course, it is regulated in its
14 own right as a separate pollutant. So that's the reason
15 for my statement in the expert report that, in effect,
16 they have done a BACT for the PM2.5 precursor, but they
17 did it directly as SO2. And I'm not sure how you would
18 do a BACT otherwise for that PM2.5 precursor other than
19 as SO2.

20 **Q. Let me ask you a question in that regard. Do**
21 **you think, this is getting back to our discussion**
22 **earlier about how you do a BACT analysis, but if you**
23 **have a pollutant that's also a precursor so it's**
24 **regulated in two or more different ways, would that ever**
25 **affect your assessment of how much money a facility**

1 doesn't matter that it's regulated twice. You just go
2 in, get the cost effectiveness number, compare that to
3 whatever the agency's threshold of comfort is for SO2,
4 and that is the value you'd use.

5 **Q. Okay. And that wouldn't change if, for**
6 **instance, my understanding is that pollutants are**
7 **regulated because they all have different impacts. So**
8 **if, say, SO2 is regulated primarily, all of these**
9 **pollutants have health impacts, clearly, and this may**
10 **not be an accurate statement but I'm just trying to**
11 **understand this theoretically. If, say, SO2 is**
12 **regulated, in part, because of its contribution to acid**
13 **rain but SO2, as a precursor to PM2.5 in smaller**
14 **quantities contributes to localized health effects, when**
15 **you're considering SO2 as a regulated pollutant for**
16 **itself versus SO2 as a regulated precursor to PM2.5,**
17 **would its disparate impacts in those two situations ever**
18 **affect what ultimately you would determine to be BACT?**

19 A. It could through the cost-effectiveness
20 evaluation because, and, again, this is theoretical, but
21 an agency may have one comfort level as a
22 cost-effectiveness threshold for SO2, as SO2, and their
23 status concerning the SO2 National Ambient Air Quality
24 Standard, they may well be within compliance, no real
25 worries, so cost-effectiveness values, just throwing out

1 a number, a thousand dollars a ton.

2 If they're required to consider SO2 as a
3 precursor to PM2.5 and they're fairly close to the PM2.5
4 National Ambient Air Quality Standards, they may have a
5 different cost-effectiveness threshold for a PM2.5
6 precursor. So they could end up saying, Well, unless
7 it's three thousand dollars a ton, we think it's cost
8 effective. And of course that's all just assumptions
9 there, throwing out numbers. We didn't apply any of
10 those numbers or numbers that any agency uses, but
11 that's one way in which you could end up affecting BACT
12 because that cost-effectiveness number might mean the
13 difference between excluding the technology you're
14 looking at and going to the next most effective
15 technology.

16 **Q. Okay. I think I only have a few more**
17 **questions for you, you'll be relieved to hear.**

18 **I will readily admit that, in answering**
19 **interrogatories, I did a civilian search of the RBLC**
20 **Clearinghouse. I had assumed that there would be no**
21 **BACT emission limits for CO2, but some came up on the**
22 **search and so I referred counsel to those and found out**
23 **that when the due diligence was done, that there were no**
24 **permits that were associated with my results on the data**
25 **base. You may remember this from the deposition**

1 yesterday; I don't know.

2 A. Oh, near the end of the day, yes.

3 **Q. I had similarly found what I thought might be**
4 **some PM2.5 emissions limits, and you had testified in**
5 **your report that you were not persuaded of that fact,**
6 **and I do assume that you had gone and looked at those**
7 **permits?**

8 A. I looked at the number of permits and did not
9 see any PM2.5 limits.

10 **Q. Do you remember if you checked out the, ever**
11 **checked out the permit limits I had identified to see**
12 **whether they were actually included in any permits?**

13 A. I don't recall if I did or not.

14 **Q. Okay. So you're not sure what the basis for**
15 **your statements in the report are?**

16 MR. REICH: Objection. He didn't say that.
17 But go ahead.

18 MS. DILLEN: Excuse me?

19 MR. REICH: Objection. I don't think he said
20 what you're just asking him, telling him he said.

21 MS. DILLEN: Let me just refer him to the
22 statement.

23 **Q. (By Ms. Dillen) It's on page 28. You say,**
24 **this is the second full paragraph down and it is the**
25 **third sentence, and you say, your report says, "I have**

1 reviewed recent permits for coal-fired boilers issued by
2 various permitting agencies, and none of these permits
3 contain a specific PM2.5 emissions limitations BACT.
4 Further, EPA's RBLC Clearinghouse lists PM2.5 emissions
5 limitations for 12 processes, 11 facilities; however,
6 none of these emissions limitations or control
7 technology assessment pertains to coal-fired boiler."

8 **I may have it wrong. Perhaps my search was**
9 **right in this instance. Do you recall? Oh, you had**
10 **said, "Since the RBLC database does not list compliance**
11 **demonstration information for these listed processes, it**
12 **is not feasible to determine, based on limited**
13 **information, what fraction of particulate matter was**
14 **considered in establishing the emissions limitations."**

15 A. Yes.

16 **Q. So you did look at these permits?**

17 A. When you say "these permits" --

18 **Q. These permits that I have identified from the**
19 **RBLC Clearinghouse. Or you did your own search?**

20 A. This was our own search, as I recall.

21 **Q. Okay. So there are PM2.5 limits?**

22 A. Emissions limits for 12 processes at
23 11 facilities.

24 **Q. I believe that I had identified from the**
25 **clearinghouse, and I'm the first one to say, I have no**

1 idea if this turns out to be a legitimate exercise,
2 although I was doing what I thought people do.

3 **But they were listed as PSD BACT**
4 **requirements. If there are PSD BACT emissions limits,**
5 **what relevance would there be that there is no**
6 **compliance demonstration?**

7 MR. REICH: Objection. That was, I think,
8 the most confusing question you've asked all day.

9 THE WITNESS: I am confused.

10 MR. REICH: All right. You don't have to
11 answer the question if you're confused.

12 **Q. (By Ms. Dillen) I'm interested to know what**
13 **you think the significance of a compliance demonstration**
14 **information is. You say there are PSD BACT emissions**
15 **limits, but I'm assuming that you say, you refer to**
16 **compliance demonstration information to suggest that**
17 **somehow these limits are not credible, and I want to**
18 **understand why you say that.**

19 A. Oh, I didn't say that they weren't credible.
20 I said that since we don't have the compliance
21 demonstration information, we don't know what fraction
22 of particulate matter was used in establishing the
23 limits. This gets back to the problem I mentioned
24 before the break, which must seem about a week ago by
25 now, the considerable confusion and lack of reporting