Shannon Anderson (Wyoming Bar No. 6-4402)
Powder River Basin Resource Council
934 N. Main Street
Sheridan, WY 82801
(307) 672-5809 Voice
(307) 672-5800 Fax
sanderson@powderriverbasin.org

Andrea Issod (Calif. Bar No. 230920)
Sierra Club
85 Second St, 2nd Floor
San Francisco, CA 94105
(415) 977-5544 Voice
(415) 977-5793 Fax
andrea.Issod@sierraclub.org

Daniel Galpern (Oregon State Bar No. 06195)
David A. Bahr (Oregon State Bar No. 90199)
Western Environmental Law Center
1216 Lincoln Street
Eugene, OR 97401
(541) 485-2471 x114 Voice
(541) 485-2471 x108 Voice
(541) 485-2457 Fax
galpern@westernlaw.org
bahr@westernlaw.org

Sierra Club's Attorneys

BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING

IN THE MATTER OF:	)	Docket No. 09-2801
MEDICINE BOW FUEL & POWER,	)	
LLC AIR PERMIT CT-5873	)	

SIERRA CLUB'S
MOTION FOR SUMMARY JUDGMENT

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INTRODUCTION

Sierra Club challenges the Wyoming Department of Environmental Quality's (DEQ) decision to issue an air permit to Medicine Bow Fuel & Power, LLC (Medicine Bow) for an underground coal mine and industrial gasification and liquefaction plant that will produce transportation fuels. The pollutants emitted by the plant, including sulfur dioxide, particulate matter, and hazardous air pollutants, cause a wide variety of health and environmental impacts. *See* EPA, *Health and Environmental Impacts of SO2, available at* http://www.epa.gov/air/urbanair/so2/hlth1.html; EPA, *Particulate Matter, available at* http://www.epa.gov/particles/health.html.

At critical junctures throughout the permitting process, DEQ accepted Medicine Bow's analysis and recommendations without scrutiny. This lax review amounts to arbitrary decision-making. *Tri-State Generation and Transmission Ass'n, Inc. v. Environmental Quality Council*, 590 P.2d 1324, 1330-31 (Wyo. 1979) ("An agency action is arbitrary or capricious if it is not based on a consideration of the relevant factors.") DEQ's unjustifiable deference to Medicine Bow's application led to unlawfully low estimates for the facility's potential to emit sulfur dioxide and hazardous air pollutants; to controls for sulfur dioxide and volatile organic compounds that are inferior to the applicable "best available" control requirement; and to controls for hazardous air pollutants that are less that the applicable "maximum achievable" requirement. Additionally, DEQ failed to conduct – or require Medicine Bow to conduct – the required analyses to control fine particular matter pollution.

Because of these and other failures, the permit violates the Clean Air Act and Wyoming law. Accordingly, this Council must remand the permit to DEQ. The Medicine Bow facility will operate for decades. It is therefore essential that the Council require DEQ to consider and adopt, as required, the best controls that are available or the maximum controls that are achievable. Nothing less will protect the public, and nothing less will satisfy the law.

STANDARD OF REVIEW

Chapter II, Section 14 of the DEQ Rules of Practice & Procedure (DEQ RPP) makes the Wyoming Rules of Civil Procedure applicable to matters before the EQC. (DEQ RPP Ch. 2, § 14). The Wyoming Rules of Civil Procedure provide that summary judgment is appropriate when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." W.R.Civ.P. 56(c). Summary judgment procedures set out in W.R.Civ.P. 56 apply to administrative cases. *Rollins v. Wyoming Tribune Eagle,* 2007 WY 28, ¶ 6; 152 P.3d 367, ¶ 6 (Wyo. 2007). The purpose of summary judgment is to dispose of cases before trial that present no genuine issues of material fact. *Id.* A fact is material if proof of that fact would have the effect of establishing or refuting one of the essential elements of the cause of action or defense. *Id.* Where there are no genuine issues of material fact, summary judgment concerns application of the law. *Bd. of County Comm'rs of County of Laramie v. City of Cheyenne,* 2004 WY 16, ¶ 8; 85 P.3d 999, ¶ 8 (Wyo. 2004).

Moreover, as this Council has consistently held, its review of DEQ's permitting decision is *de novo*. *See, e.g., In The Matter Of Basin Electric Power Cooperative Dry Fork Station Air Permit CT-4631*, Docket No. 07-2801 (EQC Aug. 21, 2008, Order Denying Basin Electric Power Cooperative Inc.'s Motion to Dismiss Appeal at 7) ("Upon filing a petition for review of the agency's action with this Council, a full evidentiary, *de novo* hearing is required for further appellate review."); *see also Appeal of 4W Ranch Objection to NPDES Permits*, Docket No. 04-3801 (EQC Mar. 5, 2007) ("The EQC conducts de novo hearings pursuant to the DEQ Rules of Practice and Procedure, the Wyoming Rules of Evidence, and the Wyoming Rules of Civil Procedure."). Under *de novo* review, the Council must look afresh at DEQ's decision and should not afford deference to DEQ.

Accordingly, this Council may grant Sierra Club's Motion for Summary Judgment if there are no genuine issues of material fact and they are entitled to judgment as a matter of law. W.R.Civ.P. 56(c); *Dwan v. Indian Springs Ranch Homeowners Ass'n, Inc.*, 186 P.3d 1199 (Wyo. 2008); *Wyoming Bd. of Land Comm'rs v. Antelope Coal Co.*, 185 P.3d 666 (Wyo. 2008).

LEGAL BACKGROUND

Congress sought, in the Clean Air Act, a means "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare." 42 U.S.C. § 7401(b)(1). One of the ways the Act achieves that goal is by establishing national ambient air quality standards (NAAQS) at levels intended to prevent serious injury to human health and welfare. *Id.* § 7410. The Act requires states to de-

velop individual "State Implementation Plans" (SIPs) designed to achieve those standards. Wyoming has enacted such a State Implementation Plan, establishing the State's basic air quality rules. 40 C.F.R. § 52.2620 (approval of Wyoming SIP); Wyoming Air Quality Standards and Regulations (WAQSR). Wyoming's program must be at least as stringent as the federal requirements. 42 U.S.C. § 7416.

The NAAQS alone are insufficient to fully protect public health, so in 1977, Congress added the Prevention of Significant Deterioration (PSD) Program to the Clean Air Act in order to maintain air quality in areas that were still unspoiled by air pollution. 42 U.S.C. §§ 7470-7479; *see also* Wyoming Air Quality Standards and Regulations (WAQSR) Ch. 6 §4. To accomplish this goal, Congress targeted "major emitting facilities." *Id.* § 7475. Congress' intent was to "identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emission of the deleterious pollutants that befoul our nation's air." *Alabama Power Co. v. Costle,* 636 F.2d 323, 353 (D.C. Cir. 1979). The preconstruction PSD process is critical for these massive sources of air pollution that operate for decades because there is little opportunity under the Clean Air Act to revisit the allowed emissions levels.

Wyoming's Prevention of Significant Deterioration program requires large stationary sources of air pollution, such as the proposed Medicine Bow facility, to obtain a permit prior to construction. That preconstruction permit, generally referred to as a "PSD permit," has two central purposes, each critical to the Clean Air Act's overall air-quality scheme: 1) the permit sets the limits that will govern the

plant's emissions of air pollutants to a rate consistent with the use of the best available methods, systems, and techniques of pollution-control (in Clean Air Act jargon, these methods, systems, and techniques are used to determine an emission limit which is called the "Best Available Control Technology" ("BACT")), 6 WAQSR § 4(b)(ii); and 2) the application must provide a comprehensive public assessment of the plant's impact on air quality, ensuring that air quality remains consistent with the Clean Air Act's National Ambient Air Quality Standards as well as various site-specific ambient air quality standards, some of which are referred to as "increments," 6 WAQSR § 4(b)(i).

Wyoming's BACT requirement demands that the DEQ set an emissions limit based on the "Best Available Control Technology" for each pollutant subject to regulation. 6 WAQSR § 2(c)(v); *see also* 40 C.F.R. § 52.21(j)(2) (federal regulations differ slightly by requiring BACT for each regulated pollutant that a source emits in significant amounts). A work practice standard may be used for BACT only if the Administrator makes a determination that an emission limit is technically or economically infeasible. Wyoming defines the BACT limit, almost identical to the federal definition, as follows:

> an emission limitation…based on the maximum degree of reduction of each pollutant subject to regulation under these…Regulations or regulation under the Federal Clean Air Act, which would be emitted from…any proposed major stationary source…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 or production processes and available methods…for control of such pollutant.

> If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emission standard infeasible, he may instead prescribe a design, equipment, work practice or operational standard or combination thereof to satisfy the requirement of Best Available Control Technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results …

6 WAQSR § 4(a)("Best Available Control Technology"); *see* 40 C.F.R. 51.166 (b)(12)(federal BACT definition). Considered "[o]ne of the most critical elements of the [PSD] permit[ting] process," the BACT analysis results in the selection of emissions limitations *and* control technologies for a particular facility. *In re Knauf Fiber Glass*, 8 E.A.D. 121, 131 (E.A.B. 1999).

The U.S. Environmental Protection Agency has devised a "top-down" approach to BACT determinations. The DEQ has claimed that this approach formed the foundation of the rationale supporting its BACT limits for Medicine Bow. Deposition of Andrew Keyfauver (Oct. 29, 2009) ("Keyfauver Depo.") (attached as exhibit 1), at 44:1-20("We typically follow the five-step process"); *see* also DEQ's Memo. in Support of Motion to Dismiss $PM_{2.5}$ and CO_2 at 11. The top-down approach requires DEQ to assemble a comprehensive list of control technologies; eliminate those technologies which have "[c]learly documented …technical difficulties [that] would preclude [their] successful use"; rank the remaining technologies by their control effectiveness; assess the controls' costs and impacts to determine whether those costs and impacts are inappropriate, beginning at the "top" with the most effective pollution-reduction methods, and working "down" if those most effective methods pose

unacceptable costs or impacts; and select the most stringent emission limits that are not eliminated by virtue of their costs and impacts. EPA's New Source Review Workshop Manual B.2-9 (Draft October 1990).[1]

ARGUMENT

Sierra Club moves for summary judgment on six issues. First, Sierra Club seeks a declaration that it has standing. Second, Sierra Club seeks judgment that DEQ erred, as a matter of law, in failing to impose direct BACT requirements for control of Medicine Bow's fine particulate matter ($PM_{2.5}$) emissions. Third, Sierra Club seeks judgment that DEQ failed to consider significant sulfur dioxide emissions from flares in determining Medicine Bow's potential to emit and failed to apply BACT to flares. Fourth, Sierra Club seeks judgment that DEQ unlawfully and erroneously determined that Medicine Bow is a minor source of hazardous air pollutants. Fifth, Sierra Club seeks judgment that DEQ's approval of Medicine Bow's LDAR program as BACT for fugitive emissions was arbitrary and unlawful. Sixth, and finally, Sierra Club seeks judgment that DEQ unlawfully failed to model fugitive particulate emissions.

I. Sierra Club Has Standing to Challenge the Medicine Bow Air Permit.

DEQ's Rules of Practice and Procedure allow any "Protestant" to file an appeal before the Council. "Protestant" is defined as "any person . . . requesting a hearing before the Environmental Quality Council and who is objecting to an action of [DEQ] the Department of Environmental Quality and desiring affirmative relief."

[1] *Available at* http://www.epa.gov/ttn/nsr/gen/wkshpman.pdf.

Chpt. 1 § 2(a)(ii) . Although an intervenor must allege that he is "adversely affected" by the action, the rules contain no similar requirement for a Protestant. *See* Chpt. 2 § 7. Accordingly, Sierra Club is entitled to proceed before this Council without making a showing of standing.

To obtain judicial review of any order of the Council, however, Sierra Club must establish standing under the Wyoming Administrative Procedure Act ("APA"). Wyo. Stat. § 16-3-114(a). Review under the APA is based on the record established before the Council. *Id.* § 114(c). Therefore, in an abundance of caution, Sierra Club is offering evidence demonstrating its standing in this case so that this information will be in the record if an appeal is necessary. Sierra Club seeks an order from the Council finding that it has standing.

To challenge a final agency action under the APA, a "person" must demonstrate that she is "aggrieved or adversely affected in fact" by that action. *Id.* § 16-3-114(a). Associations and organizations fall within the definition of a "person" who may seek judicial review. *Id.* § 16-3-101(b)(vii). Only one member needs to have standing to establish standing for the entire organization. *Northfork Citizens for Responsible Dev. v. Park County Bd. of County Comm'rs*, 189 P.3d 260, 262 (Wyo. 2008); *Int'l Ass'n of Fire Fighters, Local No. 279 v. Civil Serv. Comm'n of Fire Dep't of City of Cheyenne*, 702 P.2d 1294, 1298 (Wyo. 1985) (Thomas, C.J., specially concurring). Furthermore, only one party needs to demonstrate standing for a case to proceed. *Rumsfeld v. Forum for Academic and Institutional Rights, Inc.,* 547 U.S. 47, 53 n.2 (2006).

To show it is "aggrieved or adversely affected," Sierra Club must demonstrate that it has a "legally recognizable interest" that will be "harmed" by the agency action. *Northfork Citizens,* 189 P.3d at 262. As demonstrated in the attached affidavits, Sierra Club easily met this standard. exhibits 2 and 3. Construction and operation of the Medicine Bow facility will emit harmful pollutants that will harm Sierra Club members' health and the health of their families, the use and enjoyment of their own lands, and their enjoyment of public lands near, and downwind from, the Medicine Bow facility. Sierra Club members and their families use the sweeping landscape around the proposed site for camping, hiking and research. Construction of Medicine Bow would disrupt the landscape and the natural wildlife corridors in the areas so that members would no longer be able to enjoy favorite recreational activities such as hunting or wildlife-viewing on the plain. Sierra Club is also harmed in its organizational capacity by DEQ's failure to comply with the procedures required under the law, including conducting a proper BACT analysis. Accordingly, Sierra Club has standing to pursue any subsequent appeal of the Council's decision if necessary.

II. The PM_{10} Surrogate Policy Does Not Excuse DEQ's Failure to Address $PM_{2.5}$

A. Background on $PM_{2.5}$ Requirements and EPA's Surrogate Policy

Particulate matter is made up of particles of varying sizes, and particle size determines, to a large extent, its health impacts. Prior to 1997, EPA regulated all particulate matter up to 10 microns in diameter under its PM_{10} standards. The fine particle component of PM_{10} – those up to 2.5 microns in diameter – are the most

harmful to health. Accordingly, EPA promulgated a separate NAAQS for $PM_{2.5}$ in 1997 because it found that the PM_{10} standards did not adequately protect public health and welfare. See 62 Fed. Reg. 38,652, 38,667 (July 18, 1997). Wyoming has incorporated the 1997 $PM_{2.5}$ NAAQS into its rules. 2 WASQR § 2(b).[2]

Wyoming rules require a BACT emission limit for each pollutant subject to regulation. 6 WAQSR § 2(c)(v). Such pollutants include "[a]ny pollutant for which a [NAAQS] has been promulgated" and therefore include $PM_{2.5}$. Id. § 4(a); 40 C.F.R. § 52.21(b)(50)(i). EPA has acknowledged that "[t]he obligation to implement PSD [is] triggered upon the effective date of the NAAQS." Rule to Implement the Fine Particle National Ambient Air Quality Standards, Notice of Proposed Rulemaking, 70 Fed. Reg. 65,984, 66,043 (Nov. 1, 2005). Before issuing a permit to Medicine Bow, DEQ was also required to demonstrate that its fine particulate emissions would not "cause or contribute" to air pollution in excess of the $PM_{2.5}$ air quality standards, and establish a BACT emission limit for $PM_{2.5}$. 6 WAQSR §§4(b)(i) & (ii). Yet DEQ admits that it did not consider $PM_{2.5}$ emissions from the Medicine Bow facility in any respect.

DEQ claims it complied with $PM_{2.5}$ permitting requirements by conducting a BACT analysis for PM_{10} and demonstrating compliance with PM_{10} NAAQS. DEQ's position is based on a misinterpretation of EPA's now-defunct PM_{10} surrogate pol-

[2] Many more recent studies on PM2.5 convinced EPA that stricter PM 2.5 standards would prevent "thousands of premature deaths" and "substantial numbers of incidences of hospital admissions, emergency room visits, aggravation of asthma and other respiratory symptoms, and increased cardiac-related risk." 71 Fed. Reg. 2,620, 2,643 (Jan. 17, 2006). In 2006, EPA revised the 24-hour NAAQS for PM2.5 to be nearly twice as stringent as the original 1997 NAAQS. *See* 71 Fed. Reg. 61,144(Oct. 17, 2006) (changing the 24-hour PM2.5 standard from 65 micrograms per cubic meter to 35).

icy. The surrogate policy has always been governed by D.C. Circuit law on surrogates, which requires a case-by-case reasonableness inquiry. This interim policy, announced over twelve years ago in the Seitz Memo, advised that permitting authorities could use PM_{10} as a surrogate for $PM_{2.5}$ only as long as it proved "administratively impracticable" to directly address $PM_{2.5}$ due to "technical and informational deficiencies." Memorandum from John S. Seitz at 2 (October 21, 1997) (attached as exhibit 4).[3] Those deficiencies of twelve years ago present no difficulties today – as EPA has recognized. The interim surrogate policy did not justify DEQ's failure to analyze $PM_{2.5}$ and its failure to perform a reasonableness analysis of a PM_{10} surrogate.

Sierra Club should prevail on this issue in summary judgment because DEQ admits it did not perform an analysis of whether PM_{10} is a reasonable surrogate at Medicine Bow, and because DEQ has not shown that it is unable to implement a $PM_{2.5}$ PSD program. *See* Order Denying Respondents' Motion for Dismissal of Claim VII and Granting Dismissal of Claim VIII, Docket No. 09-2801 (Nov. 2, 2009), at ¶¶ 22,23.

B. Surrogates May Be Used Only if Demonstrated Reasonable Under the Specific Circumstances

The law has been well-established for many years that surrogates may only be used in limited circumstances, and only after a thorough reasonableness inquiry demonstrates that use of the surrogate satisfies legal requirements for the original pollutant. *E.g., National Lime v. EPA*, 233 F.3d 625, 639 (D.C. Cir. 2000). EPA has

[3] *Available at* http://www.epa.gov/ttn/oarpg/t1/memoranda/pm25.pdf

acknowledged, in its recent objection to a Kentucky Title V operating permit for the Trimble County Generating Station, that this case law governs use of its PM_{10} Surrogate Policy. *In re Louisville Gas & Electric Co.*, Order Responding to Issues raised in April 28, 2008 and March 2, 2008 Petitions, and Denying in part and Granting in Part Requests For Objection to Permit (August 12, 2009), at 43-44 (attached as exhibit 5) (hereinafter "*Trimble*").

In *National Lime*, the D.C. Circuit established a rigorous three-part reasonableness test to determine whether use of a surrogate to establish emission limits for a regulated pollutant meets legal requirements. The record must clearly show that: (1) the primary pollutant is invariably present in the surrogate pollutant; (2) the control technology for the surrogate pollutant "indiscriminately captures" the primary pollutant; and (3) the control technology for the surrogate pollutant "is the only means by which facilities 'achieve' reductions" of the primary pollutant. 233 F.3d at 639. EPA's use of a PM surrogate for hazardous air pollutants (HAPs) at Portland cement plants satisfied this test because HAPs are found only in PM emissions, and PM controls are the only available controls for HAPs, at this source.[4] *Id.* ; *see also Sierra Club v. EPA*, 353 F.3d 976, 984-85 (D.C. Cir. 2004) (record showed use of PM as a surrogate for HAPs emissions from copper smelters was reasonable because HAPs are invariably present in PM emissions, and controls for PM reflect

[4] Although HAPs are regulated by a different section of the Clean Air Act than criteria pollutants like PM2.5, *see* CAA § 112, the *National Lime* surrogacy test is used for both types of pollutants. *See,e.g., American Trucking Ass'n v. EPA,* 175 F.3d 1027, 1055 (D.C. Cir. 1999). Instead of the BACT standard, a similar Maximum Achievable Control Technology, or MACT, standard applies to HAPs.

the control used for HAPs at the best performing sources); *Bluewater Network v. EPA*, 370 F.3d 1, 9, 18 (D.C. Cir. 2004).

Courts routinely reject the use of surrogates when the record lacks an adequate explanation of why the surrogate can be used to satisfy statutory requirements for the original pollutant. For example, in *American Trucking Ass'n v. EPA*, 175 F.3d 1027, 1054-55 (D.C. Cir. 1999) , *rev'd on other grounds*, EPA's revised NAAQS rule was vacated and remanded in part because EPA offered no explanation in the record why PM_{10} could be used as a surrogate for $PM_{2.5}$. *Id.* Likewise, in *Mossville Envt'l Action Now v. EPA*, 370 F.3d 1232, 1242-43 (D.C. Cir. 2004), EPA's polyvinyl chloride rule was remanded because EPA failed to provide any support for why vinyl chloride could be used as a surrogate to satisfy requirements for all other HAPs emissions. The court highlighted the fact that such an evaluation must be in the record for the public and the court to review.

> While EPA may be able to know that a correlation exists between one known pollutant and some other unknown pollutants, it has not memorialized that knowledge in such a fashion that commenters, interested members of the public, regulated entities, or most importantly, a reviewing court, can assess.

Id. at 1243.

D.C. Circuit cases specifically addressing particulate matter surrogacy allow use of a PM_{10} surrogate only based on a rigorous factual analysis demonstrating that the agency is complying with the law. *American Trucking Ass'n*, 175 F.3d at 1054; *American Farm Bureau v. EPA*, 559 F.3d 512, 534-35 (D.C. Cir. 2009) (finding that EPA offered adequate factual and scientific justification to show that use of

PM_{10} as an indicator for coarse PM met health-based statutory standards for NAAQS).

C. EPA Alerted Wyoming DEQ Before Medicine Bow's Final Permit Issued That It Cannot Use PM_{10} Indiscriminately As A Surrogate For $PM_{2.5}$

Consistent with this applicable law, EPA's surrogate policy has always required DEQ to perform a thorough reasonableness analysis. *Trimble*, exhibit 5, at 43 ("this case law governs the use of EPA's PM_{10} Surrogate Policy, and thus that the legal principle from the case law applies where a permit applicant or state permitting authority seeks to rely upon the PM_{10} surrogate policy in lieu of a $PM_{2.5}$ analysis to obtain a PSD permit.")

The terms of the Seitz Memo implicitly incorporate such an analysis by referring to its limited duration because of existing technical difficulties. The Memo explains that permitting authorities could use PM_{10} as a surrogate for $PM_{2.5}$ only as long as it proved "administratively impracticable" to directly address $PM_{2.5}$ due to "technical and informational deficiencies." Seitz Memo, exhibit 4 at 2 . Therefore the interim policy, by its own terms, could only apply after a reasonableness determination, and only "until these difficulties are resolved." *Id.* at 1. The 2005 Page Memo also refers to the limited term of technical difficulties; it re-affirmed the surrogate policy, "because of [on-going] limitations in ambient monitoring and modeling capabilities." Memorandum from Stephen D. Page at 4 (April 5, 2005) (attached as exhibit 6).[5]

[5] *Available at* http://www.epa.gov/nsr/documents/nsrmemo.pdf

Since almost a year before issuance of the Medicine Bow final permit on March 4, 2009, EPA has repeatedly conditioned application of the PM_{10} surrogate policy upon the reasonableness of such use. In May 2008, EPA declared that the technical difficulties cited in the 1997 Seitz Memo "have largely been resolved," and a permitting authority like Wyoming DEQ could continue to rely on the PM_{10} surrogate policy only if it "is unable to implement a PSD program for the $PM_{2.5}$ NAAQS . . . ." 74 Fed. Reg. 28,321, 28,340-41 (May 16, 2008). In January 2009, the Agency clarified that a permitting authority's "continued use of the PM_{10} surrogate policy" would depend upon "a case-by-case evaluation of the use of PM_{10} in individual permits" – which is exactly what is required by the governing law presented above. Letter from Stephen Johnson to Paul Cort, (Jan. 14, 2009) at 3 (attached as exhibit 7).[6] "Each permit that relies on the PM_{10} surrogate policy to satisfy the new $PM_{2.5}$ requirements is subject to review as to the adequacy of such presumption." *Id.* As detailed in Section E, *supra*, DEQ never made a case-by-case evaluation of using PM_{10} as a surrogate at the Medicine Bow facility. Lastly, immediately after the Medicine Bow permit issued, EPA announced that using PM_{10} as a surrogate ". . . is no longer substantially justified in light of the resolution of the technical issues with respect to $PM_{2.5}$ monitoring, emissions estimation, and air quality modeling that led to the PM_{10} Surrogacy Policy in 1997." Letter from Lisa Jackson to Paul Cort (April 24, 2009) (attached as exhibit 8).[7]

[6] *Available at* http://www.epa.gov/nsr/documents/20090115cort.pdf
[7] *Available at* http://www.epa.gov/nsr/documents/Earthjustice.pdf

Contrary to DEQ's arguments, the Wyoming SIP's reference to EPA guidance does not require DEQ to use PM_{10} as a surrogate and it does not allow DEQ to avoid its legal requirements. *See* WYOMING'S INTERSTATE TRANSPORT DECLARATION at 3 (Dec. 11, 2006) (attached as exhibit 9) ("Wyoming will implement the current rules in accordance with EPA's interim guidance using PM_{10} as a surrogate for $PM_{2.5}$ in the PSD program.") Because D.C. Circuit law has always governed the use of EPA's guidance, the policy requires that a reasonableness analysis must be performed in each case. The DEQ's interpretation of EPA's policy that PM_{10} can indiscriminately be used for $PM_{2.5}$ is inconsistent with the law.

D. The Council Must Consider EPA's *Trimble* Decision, Which Provides Detailed Instructions On How To Conduct A Proper $PM_{2.5}$ Surrogacy Analysis

In *Trimble*, the EPA stated that any permitting authority seeking to use the PM_{10} surrogate policy must undertake a rigorous, individualized assessment of the appropriateness of surrogacy as applied to the proposed unit. The Council must apply *Trimble* to this case.

Although *Trimble* was issued after the Medicine Bow permit was finalized, it is not a new statement of law. Rather, as the Council recognized, "Trimble, provided the Council with a historical perspective on the law regarding the use of surrogates as the law existed prior to the decision made by DEQ." Order Denying Respondents' Motion for Dismissal of Claim VII and Granting Dismissal of Claim VIII, Docket No. 09-2801 (Nov. 2, 2009), at ¶21. EPA examined Clean Air Act surrogacy law in the *Trimble* opinion, and clarified that this well-established doctrine governs the

use of EPA's PM_{10} Surrogate Policy. Citing the law from the D.C. Circuit, EPA stated, "[T]hese cases demonstrate the need for permit applicants and permitting authorities to determine whether PM_{10} is a reasonable surrogate for $PM_{2.5}$ under the facts and circumstances of the specific permit at issue, and not proceed on a general presumption that PM_{10} is always a reasonable surrogate for $PM_{2.5}$." *Trimble*, exhibit 5, at 44.

Even if *Trimble* were a new statement of law, the Council must consider it since Medicine Bow's permit is not yet a final agency action. *See* Order Denying Basin Electric Power Cooperative Inc.'s Motion to Dismiss Appeal, *In the Matter of Basin Electric Power Cooperative Dry Fork Station, CT-4631*, EQC Docket 07-2801, at ¶18 (Aug, 21, 2008) ("the issuance of the air permit is not a final agency action in this case until this appeal has been heard and decided.") The Trimble facility itself had a final PSD permit in 2006, but following a permit revision, EPA objected to its Title V permit renewal in 2009 based in part on its inadequate analysis of $PM_{2.5}$. *See Trimble*, exh. 5, at 6-7. The Council cannot ignore the EPA's clear direction to state permitting authorities in *Trimble*.

Trimble provides detailed instructions for state permitting authorities on how to show PM_{10} provides a reasonable surrogate for $PM_{2.5}$ in a particular case.

> First, the source or the permitting authority establishes in the permit record a strong statistical relationship between PM_{10} and $PM_{2.5}$ emissions from the proposed unit… A strong statistical relationship could be established in a variety of ways….[but] a simple ratio of AP-42 emissions factors…would not appear to be sufficient…

> Second, the source or the permitting authority demonstrates that the degree of control of $PM_{2.5}$ by the control technology selected in the PM_{10} BACT analysis will be at least as effective as the technology that would have been selected if a BACT analysis specific to $PM_{2.5}$ emissions had been conducted….The first [possible method] would be to perform a $PM_{2.5}$ –specific BACT analysis, in which case the requirement is met if the control technology selected through the PM_{10} BACT analysis is physically the same as what is selected though the $PM_{2.5}$ BACT analysis…The second path would be to perform a $PM_{2.5}$ –specific BACT analysis, and show that while the type and/or physical design of the control technology may be different, the efficiency for $PM_{2.5}$ control of the technology selected through the PM_{10} BACT analysis is equal to or better than the efficiency of the technology selected through the $PM_{2.5}$ BACT analysis…

Trimble, exh. 5, at 45. The reasonableness analysis must be demonstrated in the permit record. *Id.*

E. DEQ Has Not Shown That Use of PM_{10} As A Surrogate is Reasonable at Medicine Bow Facility or that it is Unable to Implement a $PM_{2.5}$ PSD Program.

The Council has held that there are two unresolved issues relevant to Petitioners' claim: 1) "whether the Department is unable to implement a PSD program for the PM-2.5 NAAQS based upon the EPA rule established on May 16, 2008"; and 2) "whether or not the use of the surrogate in this application has been shown to be a reasonable substitute." Order Denying Respondents' Motion for Dismissal of Claim VII and Granting Dismissal of Claim VIII, Docket No. 09-2801 (Nov. 2, 2009), at ¶¶ 22,23. Petitioners should prevail in summary judgment on both issues. DEQ has provided no reason why it cannot implement a PSD program for the $PM_{2.5}$ NAAQS, and DEQ admits it did not conduct or review a reasonableness inquiry of $PM_{2.5}$ for the Medicine Bow facility.

DEQ has provided no reason why it cannot implement a PSD program for the $PM_{2.5}$ NAAQS under its existing authority. Andrew Keyfauver, the DEQ's senior engineer responsible for technical analysis of Medicine Bow's application, could not provide a reason why DEQ cannot adopt a PSD program. *See* Keyfauver Depo., exh. 1, at 6:15-25). Mr. Keyfauver simply explained that DEQ follows a PM_{10} surrogate policy, *see id.* at 90:1-2. However, by not conducting a reasonableness inquiry DEQ is failing to follow EPA guidance and applicable law. The Wyoming SIP's reference to using PM_{10} as surrogate in no way precludes implementation of a $PM_{2.5}$ program.

Like the Kentucky permitting authority in the *Trimble* case, DEQ did not undertake an individualized assessment of PM_{10} as a surrogate in this case and therefore has not shown it is a reasonable and legal substitute. Nothing in the Permit Application, DEQ's Application Analysis, or its Response to Comments shows any correlation between PM_{10} and $PM_{2.5}$ emissions from the Medicine Bow facility, nor any demonstration that the chosen PM_{10} controls will effectively control $PM_{2.5}$. AR 1001 et seq., 506 et seq.; 1425 *et seq.* Moreover, DEQ admits that it did not conduct an analysis of why PM_{10} is a reasonable surrogate for $PM_{2.5}$:

> Q: Does the record contain a BACT analysis of $PM_{2.5}$?
> A: No, it does not, because we use a PM_{10} surrogate policy.
> …
> Q: Did you conduct an analysis of why PM_{10} is a reasonable surrogate for $PM_{2.5}$ at the Medicine Bow facility?
> A: No, I did not.
>
> Q: Did you review an analysis of why PM_{10} is a reasonable surrogate for $PM_{2.5}$ at the Medicine Bow facility?
> A: I do not recall that being in the application.
>
> Q: Okay. Did you analyze the relationship between PM_{10} and $PM_{2.5}$?

A: No, I did not.

Q: Did you determine that the control technologies selected for PM_{10} is at least as effective as the technology that would have been selected if a $PM_{2.5}$ analysis were conducted?
….
A: No.
…
Q: Can you explain why the PM_{10} control at the Medicine Bow facility will control $PM_{2.5}$?
A: I cannot.

Q: Do you believe the PM_{10} control at the Medicine Bow facility will control $PM_{2.5}$ emissions?
A: I do not know.

Q: Do you know of any controls that are available for $PM_{2.5}$ emissions at the Medicine Bow plant?
A: I do not, because I'm not familiar with $PM_{2.5}$ controls.

Keyfauver Depo., exh. 1, at 89:24-92:3. This is all the evidence the Council needs to consider to rule for Petitioners on this claim.

F. Conclusion

DEQ has not performed an individualized assessment of the reasonableness of using PM_{10} controls as a surrogate for $PM_{2.5}$ control at Medicine Bow. Nor has DEQ shown that it is unable to implement a $PM_{2.5}$ PSD program. DEQ's failure to conduct a $PM_{2.5}$ BACT analysis thus is entirely without justification in the record. Sierra Club accordingly seeks summary judgment on this claim.

III. DEQ Failed to Consider Significant Sulfur Dioxide Emissions from Flares in Determining the Source's Potential to Emit and Failed to Apply BACT to Flares

There are no material issues of fact in dispute with respect to these two claims. Medicine Bow admits that it neglected to include significant emissions of

sulfur dioxide in its potential to emit (PTE) calculation. Medicine Bow Resp. ¶43; DEQ Decision Document, March 4, 2009 at page 10 (AR 39). The law is well established that a permit may not ignore startup, shutdown, and malfunction (SSEM) emissions. EPA has had a "long-standing position that automatic exemptions for excess emissions…during startup and shutdown periods cannot be reconciled with the directives of the CAA [Clean Air Act]." *In Re: Tallmadge Generating Station*, 2003 WL 21500414 (PSD Appeal No. 02-12, May 22, 2003) at *8. Failure to properly estimate all of a facility's emissions is a violation of law. *In re Masonite Corp.*, 5 E.A.D. 551, 1994 WL 615380 at *15-16 (E.A.B. 1994); *In re BP Products North America, Inc.,* Order Responding to Petitioner's Request that the Administrator Object to Issuance of State Operating Permit, Permit No. 089-254880—453 (Oct. 16, 2009) at 5-7 (hereafter "*In re BP Products*") (attached as exhibit 11).

DEQ's failure to support the permit with a BACT analysis for sulfur dioxide emissions from the flares is a violation of Wyoming law which requires that a BACT limit must be set for every pollutant subject to regulation. 6 WAQSR §§ 2(c)(v) & 4(a). Summary judgment can be granted for any one of the following three reasons. First, DEQ admits that a top-down BACT analysis was not conducted for the flares. Second, although it admits it did not perform an analysis, DEQ nevertheless claims the startup, shutdown emission minimization plan (SSEM) plan is BACT. However, in order to use a work practice plan like the SSEM plan, the record must contain a determination that an emission limitation is infeasible. 6 WAQSR § 4(a)("Best Available Control Technology"); *In re Indeck-Elwood, LLC*, 2006 WL

3073109 at *32-37 (E.A.B. 2006). The record does not contain an infeasibility determination. Third, and finally, the SSEM plan is not BACT because it is not enforceable. Each of these points will be addressed in turn below.

A. There is No Dispute that Medicine Bow Failed to Count Sulfur Dioxide Emissions from Startup and Malfunction Events

The Medicine Bow project design includes construction of two flares to release and combust syngas at startup, shutdown and upset events when the downstream units cannot accommodate the gas. Permittee's Response to Appeal (hereinafter "Medicine Bow Resp.") ¶36. Normal operation of the flares is defined as including operation in connection with startup, shutdown, and maintenance (SSEM) events. *Id.*

There is no dispute that Medicine Bow's sulfur dioxide emissions are estimated just under the 40 tons per year (tpy) major source significance threshold at 36.6 tpy. Medicine Bow Resp. ¶43; DEQ Decision Document, March 4, 2009 at page 10 (AR 39). There can be also be no dispute that the proposed facility could emit approximately 164.56 tons of sulfur dioxide (SO_2) per year from flaring due to anticipated malfunction events, in addition to 256.9 tons per year from cold startups, and that it failed to include these emissions in calculating the facility's 36.6 tpy potential to emit (PTE). Medicine Bow Resp. ¶41-42 (admits estimates of sulfur dioxide emissions from cold starts are 256.9 tpy, and from malfunction emissions are 150.16 tpy); DEQ Application Analysis, June 19, 2008, page 8, Table Va (AR 513) (estimating cold start emissions of 256.9 tpy); Medicine Bow PSD Permit Application Dated December 31, 2007 at page 3-7 (AR 78-52) (sulfur dioxide malfunctions from flares

estimated at 164.5 tons per year). DEQ also admitted that Medicine Bow's estimate of malfunction emissions means that malfunctions are likely to occur. Keyfauver depo. at 23:11-17 ("Q: Why would Medicine Bow estimate emissions from malfunctions if they will never occur? A: I'm not an expert, but I guess any --- any company can estimate the malfunctions if they believe they would occur.")

Medicine Bow has explained that cold startups will occur at least every three or four years. DKRW letter to DEQ, November 11, 2008 (AR 1485). Averaging the cold start estimate of 256.9 tpy over four years yields over 64 tons per year, which alone would place the source over the major source threshold without consideration of any other emission sources. Medicine Bow additionally admitted that normal startups will emit over 200 tons per year. DKRW Letter to DEQ Response to Public Comment, October 14, 2008 (AR 1529) ("total potential SO2 emissions in the initial year of operation and also in following years, including normal startups, are both estimated to be 227.7 tons per year").

B. The Clean Air Act and Wyoming Regulations Require that Medicine Bow Count SSM Emissions in its Potential to Emit

The only dispute between the parties is whether, as a matter of law, startup and malfunction emissions must be included in a Medicine Bow's emissions estimate. Wyoming regulations, EPA guidance documents, and the persuasive authority of the EPA's Environmental Appeals Board make crystal clear that the Clean Air Act allows no exemption for startup and malfunction events.

Wyoming regulations define Potential to Emit as "the maximum capacity of a stationary source to emit an air pollutant under its physical and operational de-

sign." 6 WAQSR §4(a) ("potential to emit"); *see also* 40 C.F.R. § 51.165(a)(iii). "The definition of 'potential to emit' under the new source regulations is extremely important." EPA Memorandum from Terrell E. Hunt and John S. Seitz to Regional Counsels, *Guidance on Limiting Potential to Emit in New Source Permitting* at 1 (June 13, 1989) (attached as exhibit 12).

EPA guidelines and policy statements clarify that Potential to Emit (PTE) is a "worst-case" accounting that does not exempt emissions from SSM events.

> for the purposes of determining PTE in the New Source Review (NSR) and the Title V programs, EPA has no policy that specifically requires exclusion of "emergency" (or malfunction) emissions. Rather, **to determine PTE, a source must estimate its emissions based on the worst-case scenario taking into account startups, shutdowns and malfunctions.**

EPA Memorandum from Steven Riva to William O'Sullivan, *Accounting for Emergency Generators in the Estimate of Potential to Emit*, at 2 (Feb. 14, 2006) (hereinafter "Riva Memo"; attached as exhibit 13) (emphasis added).

Moreover, Wyoming's regulations independently require inclusion of SSM emissions in the Potential to Emit calculus. "Projected actual emissions" are closely related to PTE; the term applies to major modifications of existing sources whereas "Potential to Emit" applies to new sources. Wyoming regulations require that 'Projected actual emissions…shall include…emissions associated with startups, shutdowns, and malfunctions.'" 6 WAQSR §4(a)("projected actual emissions")(i)(B). New sources not yet operating have projected actual emissions that are equal to the unit's Potential to Emit. 6 WAQSR §4(a)("actual emissions")(iii).

Emissions from SSM events are part of the normal operation of a source. *In re Tallmadge*, the EPA's Environmental Appeals Board (EAB)[8] remanded a permit from the Michigan Department of Environmental Quality, *inter alia*, because the proposed natural-gas-fired power plant's permit provided exemptions for emissions from SSM events. The EAB explained that:

> Startup and shutdown of process equipment are **part of the normal operation** of a source and should be accounted for in the planning, design, and implementation of operating procedures for the process and control equipment. Accordingly, it is reasonable to expect that careful and prudent planning and design will eliminate violations of emission limitations during such periods.

2003 WL 21500414 at *8-*9 (quoting EPA Memorandum from John B. Rasnic to Linda M. Murphy, *Automatic or Blanket Exemptions for Excess Emissions During Startup, and Shutdowns Under PSD*, at 2 (Jan. 28, 1993) (attached as exhibit 14) (emphasis added); *see also* EPA Memorandum from Steven A. Herman and Robert Perciasepe to Regional Administrators, *State Implementation Plans (SIPs): Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown* (September 20, 1999) (hereinafter "Herman Memo"; attached as exhibit 15) (stressing that startup and shutdown are "part of the normal operation of a source" and "reasonably foreseeable").

Emissions from startup, shutdown and malfunction events are expected, regulated emissions, and courts consistently reject attempts to ignore them in a variety of contexts. *E.g., Michigan DEQ v Browner*, 230 F.3d 181, 183 (6th Cir. 2000);

[8] State courts often look to decisions from the EAB for guidance, affording the EPA's highest decisionmaking authority significant deference. *See, e.g.*, *United States v. S. Indiana Gas & Elec. Co.*, 245 F. Supp. 2d 994, 1009 (S.D. Ind. 2003).

Sierra Club v. EPA, 551 F.3d 1019, 1027-28 (D.C. Cir. 2008). The EAB has remanded many PSD permits for containing blanket BACT exemptions for SSM emissions. *In re RockGen Energy Center*, 8 E.A.D. 536 (E.A.B. 1999) ("startup and shutdown…are part of the normal operation of a source and should be accounted for"); *In re Tallmadge*, 2003 WL 21500414 at *8 (EPA has had a "long-standing position" that automatic exemptions for excess emissions…during startup and shutdown periods cannot be reconciled with the directives of the CAA."); *In re Indeck-Elwood, LLC*, 2006 WL 3073109 at *33 (E.A.B. 2006).

EPA asserted this position in its comments on Medicine Bow's draft permit.

> More analysis needs to be provided explaining why the proposed facility has not been determined to be a major source of sulfur dioxide (SO_2). Table Va on page 8 of the Division's analysis, as well as page B-2 of Medicine Bow Fuel and Power's (MBFP's) application, indicate that the emission of sulfur dioxide (SO_2) during the initial cold startup year would be 256.9 tons per year (tpy). During any other cold startup year, SO_2 emissions would equal 227.74 tpy in addition to the tonnage emitted in normal operational mode for the remainder of the year. Both scenarios would cause the emission of greater than 40 tpy of SO_2, which is the significance threshold for Prevention of Significant Deterioration (PSD) applicability. *The regulations do not provide exemptions for excluding startup emissions from a facility's Potential To Emit (PTE).* The current record appears to indicate that all PSD requirements should apply for SO_2; however table VI on page 9 of the Division's analysis indicates that PSD requirements do not apply to the facility for SO_2.

US EPA Region 8 Comments to DEQ, Aug. 4, 2008 (AR 1656-1661) (emphasis added).

Sulfur dioxide malfunction emissions are so serious that EPA singles them out, along with lead, as permit violations that must be enforced. For excess pollu-

tion arising from some unavoidable malfunctions, state agencies can opt not to impose monetary penalties, but they must penalize facilities for permit violations caused by SSM emissions of sulfur dioxide. Herman Memo, exhibit 15, Attachment at 1. "Where a single source ... has the potential to cause an exceedance of the NAAQS or PSD increments, as is often the case for sulfur dioxide and lead, EPA believes approaches other than enforcement discretion [i.e., imposition of a penalty] are not appropriate." *Id.* , Attachment at 1.

DEQ's failure to properly estimate all of the facility's emissions is reversible error. For example, the EAB has remanded a PSD permit because the EPA failed to consider all emissions of particulate matter related to a modification of a paneling and siding facility. *In re Masonite Corp.*, 5 E.A.D. 551, 1994 WL 615380 at *15-16 (E.A.B. 1994). Assessing the net emissions increase from a major modification is akin to estimating the potential to emit from a new source; the estimate determines whether a BACT analysis must be performed. *Id.* (citing 40 C.F.R. § 52.21(j)(3)). In *Masonite*, the EPA erred by not counting increases in fugitive emission of PM10 from the handling of wood chips at the facility, and the EAB "therefore remand[ed] this issue to the Region to reconsider its determination that there was not a significant net increase of PM10."*Id.* at 16.

In a similar case, the EPA objected to an operating permit for the BP Whiting Refinery because it did not include sulfur dioxide emissions from flares during SSM events in its emissions calculations. *In re BP Products*, exh. 11, at 6-7. EPA found that in order to omit the emissions from the estimate, BP must include "a prohibi-

tion on such emissions that is legally and practically enforceable" or "follow any other approach to address flaring emissions during periods of start-up, shut-down and malfunctions that is consistent with its nonattainment new source review (NNSR) and Prevention of Significant Deterioration (PSD) rules." *Id.*

Wyoming regulations and authorities require that Potential to Emit calculations include SSM emissions. SSM emissions are emissions of dangerous pollutants regulated by the CAA. DEQ claims to follow EPA guidance to determine what emissions to use in potential to emit, Keyfauver Depo. at 9:23-24, but it did not follow the overwhelming weight of authority to properly determine potential to emit in this case. Startup and malfunction emissions must be included in a new source's potential to emit as a matter of law. Medicine Bow's failure to include these emissions is a failure of law ripe for summary judgment.

C. DEQ Failed to apply BACT to the Flares and the SSEM plan is not BACT

DEQ's failure to apply BACT to all sources of sulfur dioxide emissions – specifically, the flares – is also a violation of law because Wyoming law requires a BACT limit must be set for every pollutant subject to regulation. 6 WAQSR §§ 2(c)(v) & 4(a).

The evidence clearly shows that DEQ did not apply BACT to the flares. DEQ admits that "a top-down BACT analysis was not conducted for the flares…" Keyfauver Depo. at 45:24-25. There was no BACT analysis for SO_2 from the flares in the Permit Application or DEQ's Permit Application Analysis. Permit App., Dec. 31, 2007 (AR 2173-2575); DEQ Application Analysis, June 19, 2008 (AR 506-582). In

sharp contrast, the Permit Analysis shows DEQ applied the five-step BACT process to sulfur dioxide emissions from the turbines and to the sulfur recovery unit in the permit application analysis. *Id.* (AR 528-529).

A BACT analysis requires consideration of all potentially available control options, but DEQ admits that it did not consider any other control options for the flares other than the proposed startup, shutdown emission minimization (SSEM) plan.

> Q: Did you consider any other control options for the flares, other than the startup/shutdown emission minimization, or SSEM plan?
> …
> A: I believe SSM plan is one of the options allowed under BACT for applying some sort of work practice standards.
>
> Q: Did you consider any other option for the flares?
> A: Not that I recall.

Keyfauver Depo. at 46:18-47:4; *id.* at 51:11-15; *see id.* at 57:20-22 ("Q: Can you explain how this 50 percent number was chosen? A: I cannot."). The top-down BACT analysis that DEQ follows requires DEQ to assemble a comprehensive list of control technologies. EPA's 1990 NSR Workshop Manual at B.5. As the EAB has explained:

> The "top-down" process begins with the identification of all available emission control options…Because the BACT analysis is so critical to the PSD permitting process, it should be well-documented in the record, and any decision to eliminate a control option should be adequately explained and justified.

In re Indeck, 2006 WL 3073109 at *6-7.

DEQ's failure to apply a proper BACT analysis to Medicine Bow's proposed SSEM plan is reversible error. *In re Tallmadge*, 2003 WL 21500414 at p*9-*10 ("The administrative record here, as in *RockGen*, is devoid of evidence that the permit issuer (here MDEQ) considered ways to eliminate or reduce excess emissions during startup and shutdown, as it is obliged to do to ensure compliance with the CAA.") (citing *In re Rockgen*); *In re Indeck-Elwood, LLC*, 2006 WL 3073109 at *33 (E.A.B. 2006).

Although DEQ admits it did not perform a BACT analysis for emissions from the flares, DEQ nevertheless claims that the SSEM plan is BACT for the flares. The SSEM plan is not BACT for the flares for at least three reasons. First, it was not subject to a proper BACT analysis, as explained above. Second, DEQ did not determine that an emissions limitation was technically infeasible before choosing a work practice plan, as the Wyoming regulations require. Third, the SSEM plan itself cannot possibly be BACT because it is not enforceable.

BACT is an emissions limitation. A work practice plan like the SSEM plan can be used for BACT only if a determination is made in the record that an emission limit is technically infeasible. 6 WAQSR § 4(a)("Best Available Control Technology"). *In re Indeck*, the EAB remanded a permit for a coal-fired power plant because the record did not contain an analysis why emissions limits were infeasible for SSM events before substituting work practices.

> Because IEPA does not adequately invoke infeasibility in the application of measurement methodologies, and because the record lacks analysis comparing the emission reductions expected from the implementation of work practices and operational standards with those re-

> ductions that could be expected from the application of numeric limits, as contemplated by section 52.21(b)(12), the Board remands the permit on this issue for further analysis consistent with its opinion.

In re Indeck, 2006 WL 3073109 at *3. There is no determination anywhere in the record that an emission limitation is technically infeasible for the flares, and unless DEQ points to a determination in the record, there is no material issue of fact remaining.

The SSEM plan is also not BACT because it contains a number of unenforceable provisions and DEQ admits as such.

> Q: Given that the plan requires Medicine Bow use it to the greatest extent possible, can you explain how this plan is enforceable?
> …
> A: I do not know…

Keyfauver Depo. at 58:4-9; *id.* at 59:8-60-9 ("When it comes to certain line items like this well pressure, probably say that would be hard to enforce."). EPA specifically commented on the plan's lack of enforceability. "If the Plan is a meaningful tool, it should provide requirements rather than suggestions." US EPA Region 8 Comment to DEQ, Aug. 4, 2008 (AR1666-16617). An unenforceable plan cannot be BACT. 6 WAQSR § 4(a)("Best Available Control Technology")("[a work practice standard] shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results…).

D. Conclusion

DEQ's acceptance of Medicine Bow's exclusion of SSEM emissions from its PTE calculation was unlawful. In addition, DEQ unlawfully failed to apply BACT to the flares and unlawfully accepted the SSEM plan – comprised largely of unenforceable work practices – as BACT. Summary judgment should be granted to the Sierra Club on these claims.

IV. DEQ Unlawfully and Erroneously Determined that Medicine Bow is a Minor Source of Hazardous Air Pollutants

Sierra Club's petition included two distinct claims with respect to emissions of Volatile Organic Compounds (VOC), and the especially dangerous VOC subset called Hazardous Air Pollutants (HAPs).[9] First, DEQ's determination that Medicine Bow is a minor source of HAPs lacks support in the record. For that reason, it is arbitrary,[10] and DEQ's conclusion that Medicine Bow need not utilize Maximum Achievable Control Technology (MACT) is, therefore, erroneous. Second, DEQ's determination that emission controls proposed in Medicine Bow's application represented the Best Available Control Technology (BACT) for fugitive emissions of volatile organic compounds (VOCs) is arbitrary, again given the absence of adequate support in the record. Because there exists no genuine dispute of the material facts

[9] HAPs "present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects (including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic) or adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise" 42 U.S.C § 7412(b)(2).

[10] "The term 'arbitrary' has been generally defined as willful and unreasoning action, without consideration and regard for the facts and circumstances presented, and without adequate determining principle." *Tri-State Generation and Transmission Ass 'n, Inc. v. Environmental Quality Council,* 590 P.2d 1324, 1330 (Wyo. 1979). "An agency action is arbitrary or capricious if it is not based on a consideration of the relevant factors." *Id.* at 1330-31.

underlying these claims, summary judgment should be awarded to the Sierra Club for each.

A. Statutory and Regulatory Framework For Hazardous Air Pollutant Major Source Determinations

Major sources of HAPs are those with the potential to emit (PTE) 10 tons per year (tpy) or more of any single regulated HAP, or 25 tpy or more of any combination of HAPS. 42 U.S.C. § 7412 (a)(1); *see* § 7412(b) for list of pollutants; *see also* 6 WAQSR § 6(f)(iv) (definition of "construct a major source"). Major sources of HAPs are required to comply with MACT regulations that must, where achievable, eliminate such emissions entirely. 42 U.S.C. § 7412(d)(2). New sources subject to MACT must achieve emissions reductions that are at least as stringent as "the emission control achieved in practice by the best controlled similar source." 42 U.S.C. § 7412(d)(3).

A source's PTE, in turn, is defined as "the *maximum* capacity of a stationary source to emit a pollutant under its physical and operational design." 40 C.F.R. 51.165(a)(1)(iii), 51.166(b)(4), and 52.21(b)(4); *see also* 6 WAQSR § 3(b)(xxi) (emphasis added). The concept of potential to emit "refers to the *maximum* emissions a source can generate when being operated within the constraints of its design." *USA v. Louisiana-Pacific (L-P) Corp.*, 682 F. Supp. 1141, 1157 (Colo. 1988) (emphasis added). The definition on its face does not authorize a permitting agency to accept, as a proper PTE, anything less than a maximum estimate of potential emissions.

Before an agency can render a PTE calculation – or accept one offered by an applicant in the course of a permitting process – the agency must verify the relevant

facts and assess the accuracy of central assumptions. In particular, it "must have before it sufficient information for the finding of those facts upon which it pretends to act, otherwise its action will be arbitrary." *Johnson v. Schrader*, 502 P.2d 371, 374 (Wyo. 1972). Moreover, "*findings of basic facts will not be implied from ultimate findings or conclusions of law; and failure of an agency to meet its responsibilities makes its determination susceptible to the charge that its order is contrary to law*." *Id.* (emphasis added)*; see also In re CertainTeed Corp.*, 1 E.A.D. 743, 747-49 n.11-12 (Adm'r 1982) (PSD permit decisions must be based on detailed, accurate, and site-specific information).

Moreover, the permitting agency is required to ensure that the methods utilized to construct a PTE, at minimum, apply relevant EPA guidance safeguards. Estimates of fugitive VOC emissions must be based on EPA's correlation equation approach where actual screening values – those derived from operations at the facility or from testing or use under similar conditions – can be obtained. Average emission factors can be used only where such "specific and/or better data" are not available.[11]

Where an applicant seeks to establish that it is a minor source, and thereby be relieved of stricter emissions control requirements, the arbitrary review standard demands that a permitting agency must take special care to verify and assess the accuracy of PTE calculations. This is particularly true in the current case where the critical assumptions underlying an applicant's PTE estimate have changed re-

[11] STAPPA-ALAPCO-EPA, Emission Inventory Improvement Program, "Preferred and Alternative Methods for Estimating Fugitive Emissions from Equipment Leaks," Final Report, November 1996 at 4.4-1. (attached as exhibit 19), *available at http://www.epa.gov/ttn/chief/eiip/techreport/volume02/ii04.pdf.*

peatedly in the course of the permitting process, and where the proffered estimate is exceedingly close to the major source statutory threshold.

A permit may not be granted on the basis of an erroneous or misleadingly low estimate of emissions. EPA has instructed, in particular, that sham permits – those with conditions that restrict a facility to a level of emissions "at which the source does not intend to operate for any extensive time" – are not allowed under the Clean Air Act and its implementing regulations. Terrell Hunt and John Seitz, *Guidance on Limiting Potential to Emit in New Source Permitting*, EPA Memorandum (June 13, 1989), 11-14 (attached as exhibit 12).

B. DEQ's Unsupported Path to its Conclusion that the MBFP Medicine Bow is a Minor Source of HAPs

Medicine Bow's final Application was submitted on December 2007, but individual pages were updated through July 2008. The relevant HAP pages were last updated May 18, 2008. These established that Medicine Bow anticipated – at least through May 2008 – that its facility would be a major source of HAPs, based on its estimate that methanol emissions would exceed the 10 tpy threshold. Application 1-2 (AR 942) and 1-7 (AR 943) (estimate of 12.79 tpy). Medicine Bow also asserted that its facility would be under the major source threshold of 25 tpy for total HAPs – albeit barely under at 24.7 tpy. *Id.*[12] In its June 2008 Application Analysis, DEQ accepted that the Medicine Bow facility would be a major source of HAPs, based on Medicine Bow's methanol emissions of 10.3 tpy. DEQ Analysis, 7 (AR 512). DEQ further estimated total HAPs from the facility to be 24.8 tpy. *Id.*

[12] In later pages of the same Application, Medicine Bow reported data that, when accurately summed, indicated that total HAPs exceeded 36 tpy. *Id.* at 1-7, Table 1.2 (AR 943) .

By March 2009, however, DEQ reversed its decision. In its Decision Document, DEQ concluded that the Medicine Bow facility would be a minor source of HAP emissions. DEQ based its reversal on "[r]evised emission calculations" that it had received from Medicine Bow. Decision Document at 7 (AR 36). DEQ accordingly lowered its estimate of total HAPs -- from the 24.8 estimate it reported in its prior Permit Analysis, to 23.6 tpy. DEQ also lowered its estimate of methanol emissions, from 10.3 tpy to 9.2 tpy. DEQ concluded, based on the new estimate, that the facility would no longer be required to undertake a case-by-case MACT analysis for HAPs.[13] *Id.*

C. DEQ's HAP Determinations Are Without Support in the Record

Other than leaks from methanol and gasoline storage tanks, equipment leaks are the largest projected source of VOC and HAP emissions at the Medicine Bow facility. Application 3-4, (AR 945-46). Any accurate assessment of PTE VOC/HAP emissions requires: (i) that all sources at the facility are accounted for, including from the flares as well as from fugitive emissions stemming from leaks in valves, pumps, connectors, compressors, and other facility components, (ii) an accurate count of the number of fugitive components, (iii) information about the design of

[13] To provide some assurance that its acceptance of Medicine Bow's new estimates would not prove incorrect in reality, DEQ established two permit requirements: Condition 19 requires "a demonstration that fugitive emissions are as represented in the application (minor source of HAPs) based on a final equipment count … of the as-built facility prior to startup of the facility." Decision Document at 29 (AR 58). Condition 20 requires "an "annual submittal of HAP emissions [both total HAPs and speculated HAPs] based on the measured leak detection rates at the facility "calculated using the methodology in the permit application." *Id.* at 30 (AR 59) . These conditions, however, entirely fail to remedy several of the central problems discussed *infra*, including, respectively, DEQ's failure to verify Medicine Bow's assertions as to component count, and DEQ's failure to question highly biased assumptions that underlay Medince Bow's permit application methodology for calculating HAP emissions.

such components to make appropriate assumptions about their likely emissions, (iv) selection of proper emission factors, and (v) a fair determination of the effect of selected controls in minimizing fugitive emissions. *Accord* Keyfauver Depo. 61, ln. 8-24.

The record establishes that DEQ uncritically accepted Medicine Bow's principle assumptions and decisions underlying the conclusion that the facility was a HAP minor source.

First, DEQ accepted Medicine Bow's decision to not include VOC/HAP emissions in the PTE for HAPs stemming from flares during shutdown or startup for major maintenance or repair. DEQ has designated no expert witness in this case. Medicine Bow's designated expert admits that no relevant federal or state statute or rule supports the decision to exclude such emissions. Katrina Winborn Depo. at 45. (attached as exhibit 16). Sierra Club agrees that there are no authority supports DEQ's exclude these emissions. Shutdowns for major maintenance or repair are predictable, foreseeable, planned, and essential for long term operation of the facility. Accordingly, exclusion of such emissions arbitrarily deprives the PTE calculation from emissions that the facility is "capable" of generating.

Second, DEQ did not render an accurate count of fugitive emission components, did not require Medicine Bow to provide an accurate count of fugitive components, and did not secure any supporting detail as to how Medicine Bow came up with its count of these components. Thus, DEQ could not and did not verify any of the component counts offered by Medicine Bow in support of its PTE calculation.

Keyfauver Depo., exh. 1, at 62 (failure to verify component counts and failure to obtain latest design drawings). Nor was the public able to review such counts or to even compare and contrast such counts with those from other comparable facilities that are currently operating.

Third, DEQ failed to verify whether the emission factors utilized by Medicine Bow were appropriate to use in its emission estimate for fugitive component leaks. The emission factors used by Medicine Bow – Synthetic Organic Chemical Manufacturing Industry (SOCMI) average values – were adopted from a 14-year old EPA leak detection protocol document that derived the factors from surveys conducted at various chemical plants and refineries in the late 1980s and early 1990s.[14] In fact, the EPA document proffers different emission factors, suitable for use in leak detection and repair programs depending on varying levels of environmental protection. Had Medicine Bow employed "screening range" emission factors[15] from the EPA protocol document – as compared to merely average factors – the PTE may have resulted in the facility being a major source of HAPs.[16] The record provides, however, no indication that DEQ questioned Medicine Bow's decision to utilize SOCMI averages exclusively. Without further explanation, DEQ had no reason to believe that Medicine Bow's particular choices from the EPA protocol document were appropriate, as opposed to outcome determinative. *Accord*, *In re: BP Products North Am.,*

[14] Protocol for Equipment Leak Emission Estimates, EPA-453/R-95-017, November 1995(available at http://www.epa.gov/ttnchie1/efdocs/equiplks.pdf.
[15] Values indicating leak rates that allows for "some adjustment for individual unit conditions and operation," and thus "offers some refinement over the Average Emission Factor Approach." *Id.* at 2-18.
[16] *Id.*, comparing Table 2-1 with Table 2-5.

Inc., EPA Order re. IN Dept Env't'l Management, Permit 089-25488-00453 (Oct. 16, 2009) at 11 (petition to review granted where state permitting agency failed to address applicability of selected emissions factors). This absence of necessary evidence in the record also deprived the public the ability to evaluate the appropriateness of Medicine Bow's particular selection of emission factors.

Moreover, EPA audits have shown that actual emissions from fugitive sources can be significantly greater than emissions estimates derived with the use of SOCMI average values.[17] DEQ failed even to attempt to verify that the selected factors appropriately characterized potential fugitive emissions for the facility. Keyfauver Depo., exh. 1, at 72 (citing lack of knowledge of what EPA used to develop emission factors utilized by Medicine Bow in its PTE calculations); 74 (citing ignorance of studies questioning appropriateness of using average emission factors). DEQ also failed to obtain engineering design details for these components. Without the design details it would have been impossible for DEQ – had it even attempted to do so – to determine whether the average emission factors that Medicine Bow used in estimating its emissions were appropriate.

Medicine Bow's expert, who was responsible for its PTE estimate for VOCs and HAPs, admitted that she did not utilize EPA's preferred method that requires the use of actual emissions data, as opposed to average estimates. She further admitted she had –not sought to secure actual test data from component vendors or already-operating facilities utilizing the same components. Winborn Depo., exh. 16,

[17] EPA Enforcement Alert, Volume 2, Number 9, October 1999. EPA 300-N-99-014.(attached as exhibit 17),*available at:*
http://www.epa.gov/compliance/resources/newsletters/civil/enfalert/emissions.pdf

at 105 (no attempt by Medicine Bow to obtain vendor data or data from similar facilities using same components); *see also*, *id.* at 97 (no independent assessment of appropriateness of the use of SOCMI average emission factors). At no point, according to the record, did DEQ seek to compel Medicine Bow to (a) utilize EPA's preferred methodology for estimating fugitive VOC/HAP emissions, or (b) undertake an analysis to justify whether the emission factors it sought to utilize were appropriate.

Fourth, DEQ's reliance on Medicine Bow's VOC/HAP PTE estimates relies, in turn, on Medicine Bow's prior assumptions about the control efficiencies of its proposed leak detection and repair (LDAR) program. However, the record provides such limited information about the LDAR that Medicine Bow will actually utilize that there is no basis for DEQ – or the public – to be able to assess those assumptions. (See next section on DEQ's uncritical acceptance of applicant's proposed LDAR plan).

Fifth, there is no evidence in the record that DEQ undertook any analysis to consider the likelihood that, in actuality, HAP emissions would exceed the major source threshold. Medicine Bow's PTE calculation for total HAPs and methanol – accepted without question by DEQ – were exceptionally close to that threshold. At best – even if the assumptions employed by Medicine Bow were reasonable – those estimates represented a best estimate. Nevertheless, Medicine Bow's expert admitted that no standard error was calculated based on that estimate, and that no analysis was performed as to the likelihood that, in fact, total HAP emissions would

exceed 25 tpy and methanol emissions would exceed 10 tpy. Winborn Depo., exh.16, at 145-46 (admitting that no standard error was calculated, and so no probability assessment was rendered that actual methanol or total HAP emissions would exceed statutory thresholds).

D. Conclusion

Several of DEQ's decisions – whether expressly or implicitly rendered – to accept without question or verification Medicine Bow's HAPs PTE assumptions, essentially affirmed an unwarranted low bias that, in combination, enabled the calculation to slide in just under the major source thresholds for HAPs. These include, prominently, exclusion of HAP emissions from cold start-ups and major shutdown events and failure to question the use of fugitive component factors that may substantially underestimate VOC emissions.

Other DEQ decisions or omissions, such as the failure to verify component counts and failure to press Medicine Bow to obtain actual fugitive component data for use in its PTE estimate, without question add an additional element of uncertainty to the HAP PTE estimates accepted by DEQ. Further, the Agency's failure to even consider the likelihood that actual emissions would exceed the major source threshold for HAPs is indicative of a unlawfully lax approach to the relevant facts surrounding Medicine Bow's PTE calculation.

DEQ is not allowed to rubber stamp Medicine Bow's HAP PTE calculation. Strict standards apply to HAP emissions in light of their substantial acute and long-term risks to human health. DEQ's decision to accept that PTE estimate as the ba-

sis of its determination that the facility will be a minor source of HAPs, and its conclusion that the facility need not utilize MACT, are both arbitrary, and so, contrary to law. Sierra Club accordingly seeks summary judgment on Issue II, on the basis that DEQ's determination that Medicine Bow will be a minor source of HAPs was unlawful.

V. DEQ's Approval of Medicine Bow's LDAR Program as the Best Available Control Technology for Fugitive Emissions was Arbitrary and Unlawful

A. DEQ's Uncritical Acceptance of Applicant's Proposed BACT Program

Fugitive VOC emissions, including HAP emissions, stem from leaks in valves, pumps, flanges, compressors, connectors, and other components. EPA Enforcement Alert, exh. 17, at 1. EPA has estimated that poorly designed and implemented lead detection and repair (LDAR) programs can miss up to 90 percent of detectable, repairable leaks. *Id.* The use of adequate practices –including use of lower than required leak definitions – can "improve the reliability of monitoring data and LDAR compliance." *Id.*

DEQ is required, prior to granting a pre-construction PSD permit, to set a BACT emissions limit for VOC and HAP emissions that is supported by an adequate analysis in the record. In its application, Medicine Bow conceded that its facility is a major source of VOC emissions, so it is required under both federal and state law to utilize BACT. Application 4-1 (AR 56). At Medicine Bow, fugitive sources are expected to account for 60 tpy of VOCs, nearly a third of total VOC emissions. Application 4-1 and 4-27 (AR 56 and 82). Accordingly, a BACT analysis must be applied to fugitive components.

DEQ unlawfully acquiesced to Medicine Bow's failure to support its application with a full "top-down" BACT analysis for controlling fugitive VOC emissions, even though Medicine Bow admits that it is required to do so under EPA guidelines. *See id.* at 4-1 to 4-2 (AR 56-57) (describing BACT analysis). Medicine Bow's sole reason for its departure was that it was able to identify only one fugitive VOC/HAP control technology, namely, a "structured Leak Detection and Repair" (LDAR) program. *Id.* at 4-27, (AR 82). Under its proposed LDAR program, Medicine Bow stated simply that it would undertake routine inspections of "certain piping components and equipment" for leaking "in excess of stated thresholds" – which it delineated at 500 ppm for valves and connectors, and 2,000 for pumps – and would repair leakers "in a timely manner." *Id.* No other substantive details were provided.

DEQ also did not undertake any top-down BACT analysis for fugitive VOC emissions. Instead, DEQ accepted Medicine Bow's choice of LDAR program as BACT, and offered a one-sentence justification of Medicine Bow's proposal: namely that Medicine Bow's proposed use of 500/2000 ppm detection levels for its LDAR program was "based on the requirements of Subpart VVa of 40 C.F.R. part 60 [New Source Performance Standards, or NSPS]." DEQ Application Analysis at 20, (AR 525) From that premise DEQ concluded, illogically and unlawfully, that it "considers the implementation of an LDAR program to be representative of BACT for fugitive emissions." *Id.* DEQ offered no top-down BACT analysis of its own for fugitive VOC emissions, and offered no comment on Medicine Bow's failure to conduct such an analysis. *Id.; see also* Analysis at 10 (AR 515).

In response to public comments, DEQ merely elaborated that Medicine Bow's proposed LDAR represented BACT because the proposed program's leak detection levels "are consistent with levels established in new source performance standards (NSPS) and national emission standards for hazardous air pollutants (NESHAP)." Decision Doc. at 16 (AR 1440). Keyfauver Depo. 79, ln. 6-18.

B. Federal NSPS and NESHAP Rules Establish Only the Floor for BACT

EPA's regulations define BACT, in part, as:

> an emissions limitation … based on the maximum degree of reduction for each a regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification ... *In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61.*

40 C.F.R. §§ 51.66(b)(12); 52.21(b)(12) (emphasis added); *see also*, 6 WAQSR §4(a) ("Best Available Control Technology").

Federal standards of performance for new stationary sources (NSPS), and national emission standards for hazardous air pollutants (NESHAP), accordingly, constitute just the floor for starting a BACT analysis. 40 C.F.R. parts 60 and 61, respectively. The definition for BACT requires emissions controls that are no less stringent than allowed under NSPS and NESHAP.

EPA has made abundantly clear that NSPS is the only the bare minimum level to start a BACT analysis, which requires the maximum amount of emission reduction achievable. A permitting agency may not select BACT simply by referencing NSPS levels. For example, in a 1987 letter to the head of Alabama's environ-

mental agency, EPA's head of the New Source Review Section noted that:

> The NSPS is the least common denominator and must be met; there are no variances. The BACT requirement, on the other hand, is the greatest degree of emissions control that can be achieved at a specific source and accounts for site-specific variables on a case-by-case basis. Since an applicable NSPS must always be met, it provides a legal "floor" for the BACT, which cannot be less stringent. A BACT determination should nearly always be more stringent than the NSPS because the NSPS establishes what every source can achieve, not the best that a source could do.

EPA, July 28, 1987, Letter Concerning Best Available Control Technology (BACT) Determinations, (attached as exhibit 18).

Similarly, in EPA's 1990 NSR Workshop Manual, EPA made clear that the NSPS is indeed the floor for any BACT determination:

> An NSPS simply defines the minimal level of control to be considered in the BACT analysis. The fact that a more stringent technology was not selected for a NSPS (or that a pollutant is not regulated by an NSPS) does not exclude that control alternative or technology as a BACT candidate. When developing a list of possible BACT alternatives, the only reason for comparing control options to an NSPS is to determine whether the control option would result in an emissions level less stringent than the NSPS. If so, the option is unacceptable.

NSR Workshop Manual at B.12, *available at* http://www.epa.gov/ttn/nsr/gen/wkshpman.pdf

Accordingly, DEQ's conclusion that just because the LDAR program is similar to the NSPS or NESHAP it must therefore be BACT, is clearly erroneous. Mere "consistency" with levels established in NSPS and NESHAP does not make the LDAR program BACT. Under the law, DEQ was required to do more than establish that Medicine Bow's proposed LDAR plan meets the

floor; it needed, as well, to ensure that the proposed pland would secure "the maximum degree of reduction" of fugitive VOC/HAP pollutants that DEQ determines can be achieved.

That this was not done is clear from the record and recent admissions from DEQ and Medicine Bow. Both the Agency and the applicant admit that they did not consider leakless component technology, even though the availability of such components well precedes the date of Medicine Bow's final application. Keyfauver Depo., exh. 1, at 80:14-17; Winborn Depo, exh.16, at 20-21.

The Clean Air Act requires DEQ to set a BACT emissions limit for fugitive VOC emissions. The BACT analysis must incorporate EPA's "top-down" BACT approach – or adequately justify why it could not be done. At minimum, an adequate BACT analysis for fugitive VOC emissions at the facility needed to consider utilization of leakless components and evaluate multiple LDAR program types, including:

- a standard LDAR program such as was proposed by Medicine Bow utilizing the 500 ppm/2000 ppm detection levels
- an enhanced (and more stringent) LDAR program to further constrain fugitive losses (controlling to less than 200 ppm for valves and connectors, for example), *see* MARAMA Model Rule for Enhanced LDAR, 2-3 (attached as exhibit 20.)[18]
- an LDAR program that widely employs leakless components
- an LDAR program that reserves use of leakless components for use in harder-to-reach portions of the facility, etc.[19]

The analysis would need to consider means of incorporating standards of performance for the LDAR program itself, so as to avoid identified problems that have

[18] *Available at* www.marama.org/Projects/021907_ModelRule_EquipmentLeaks.pdf.
[19] For example, enhanced LDAR in many parts of the country aims to control valve fugitive losses to less than 200 ppm, which is considerably smaller than the 500 ppm, assumed as BACT by DEQ. *Id.*

infected similar industry LDAR programs and provide for regular reporting and evaluation that ensures against erosion of quality.

DEQ, however, failed to consider any options to Medicine Bow's single choice. Keyfauver Depo., exh. 1, at 75: 6-15.

C. Conclusion

Summary judgment is appropriate on Issue III because DEQ's determination that Medicine Bow's LDAR program for fugitive VOC emissions is BACT was arbitrary. DEQ's approval of Medicine Bow's proposed BACT for fugitive VOC emissions was based on a flat misreading of the law. Based on that misreading, DEQ did not even attempt to undertake the required BACT analysis itself, and failed to ensure that Medicine Bow had done so. DEQ is not permitted to rubber stamp MBFP's BACT determination. Sierra Club accordingly seeks summary judgment on this claim, and a remand to the agency with instructions that DEQ conduct a proper BACT analysis and impose BACT for fugitive VOC and HAP emissions as a necessary precondition to construction.

V. DEQ Failed to Require Inclusion of the Project's Fugitive Particulate Emissions in the Model to Demonstrate Compliance with Air Quality Standards.

The DEQ failed to properly take fugitive emissions of particulate matter into account in its permitting analysis. *See* DEQ Decision Doc., pg. 14, paragraph III.14 (AR 43) (noting that "Current [DEQ] policy does not endorse short term (24 hour) modeling."). In order to obtain a valid PSD permit under federal and state law, an applicant must demonstrate compliance with the 24-hour particulate matter standard, and fugitive emissions must be included. *See* 2 WAQSR §2 (providing the

necessary 24 hour average concentration for ambient air standard for PM10); 6 WAQSR §4(b)(i)(D) (requiring fugitive emissions to be considered in calculating the potential to emit for PSD permit). The Medicine Bow facility does not demonstrate compliance with the air quality standards because DEQ failed to require modeling of fugitive emissions of particulate matter using a 24-hour standard; accordingly the Medicine Bow permit should be remanded with instructions to comply with state and federal law.

A. Permit Applicants Must Demonstrate Compliance with a 24-Hour Particulate Matter Standard

Particulate matter concentration must be measured using a 24-hour standard in order to ensure that PM emissions are not violating ambient air quality standards. *See* 2 WAQSR § 2(c) (providing 24-hour standard and requiring PM measurement); 6 WAQSR § 4(b) (providing maximum 24-hour PM increment values in Table 1); *see also* 40 C.F.R. § 50.6, 50.7 (requiring 24-hour standard for PM10 and PM2.5).

Facilities wishing to construct a major source must obtain a PSD permit.[20] 42 U.S.C. §7475; 6 WAQSR § (b). In order to obtain a PSD permit, facility owners must show "that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission

[20] It is uncontested that this is a major source. Medicine Bow PSD Permit Application 1.2 (AR 96).

standard or standard of performance under this chapter." 42 U.S.C. § 7475(a)(3); *see also* 6 WAQSR § 4(b)(i)(A)(I) (requiring analysis of predicted impact of all emissions of pollutants for which standards have been established in order to obtain construction permit for stationary source). An increment refers to an established baseline of harmful pollutants in the air for a particular region for which a maximum increase in pollutants above baseline is allowed. *See* 2 WAQSR § 1(a) ("establish[ing] standards of ambient air quality necessary to protect public health and welfare."); 4 WAQSR § 4(b) (providing maximum allowable PSD increments). This means there is an established baseline of harmful pollutants in the air for a particular region, and there is a maximum increase in pollutants above that baseline allowable by law. *See* 2 WAQSR § 1(a) ("establish[ing] standards of ambient air quality necessary to protect public health and welfare."); 4 WAQSR § 4(b) (providing maximum allowable PSD increments). Both federal and Wyoming law mandate that the facility demonstrate its emissions will not cause the region to fall out of compliance by exceeding the established baseline for a given pollutant. 42 U.S.C § 7475(a)(3); 6 WAQSR § 4(b), Table 1 (establishing maximum PSD increments (maximum allowable increase in a pollutant's concentration above an established baseline) for particulate matter); *see also* 2 WAQSR § 2(c)(2) (allowing a permit to be issued only if "proposed facility will not prevent the attainment or maintenance of any ambient air quality standard"); 42 U.S.C. § 7473(a) (setting maximum allowable increase in particulate matter concentration).

The law therefore requires that Wyoming DEQ ensure that facilities lawfully model particulate matter to demonstrate that maximum allowable increases and maximum allowable concentrations are not exceeded before issuing a PSD permit. 2 WAQSR § 2(c)(2) (allowing a permit to be issued only if "proposed facility will not prevent the attainment or maintenance of any ambient air quality standard"); 42 U.S.C. § 7473(a) (setting maximum allowable increase in particulate matter concentration).

Particulate matter modeling to determine whether a facility will cause or contribute to a violation of an ambient air quality standard must be done using a 24-hour average standard. *See* 2 WAQSR § 2(a), (b) (requiring PM measurement and providing 24-hour standards); 6 WAQSR § 4(c)(ii)(A) Table (providing the concentration of particulate matter must not exceed 5 $\mu g/m^3$ measured as a 24-hour average); *Ober v. U.S. EPA*, 84 F.3d 304, 309 (9th Cir. 1996) (holding Clean Air Act requires attainment of all NAAQS, including a 24 hour standard for particulate matter); *see also* 40 C.F.R. § 50.6, 50.7 (requiring 24-hour standard for PM10 and PM2.5).

B. Fugitive Emissions Must be Included in Emissions Modeling.

Both federal and Wyoming regulations require fugitive emissions to be included in the permitting analysis and compliance demonstration. 6 WAQSR § 3(a)(xi) ("Fugitive emissions … shall be included in the permit application"); 6 WAQSR § 4(b)(i)(D) (requiring fugitive emissions to be considered in calculating potential to emit for PSD permit for point sources); 6 WAQSR § 4(a) (requiring fugitive

emissions be included in calculating baseline actual emissions); *see also* 40 C.F.R. § 51.165(a)(ix), § 51.166(b)(1)(iii) (requiring fugitive emissions to be included when determining net emission increase associated with a fuel conversion plant). Fugitive emissions are those that "could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening." 6 WAQSR § 4(a).

In addition, the EAB has previously held that a failure to adequately model emissions, including fugitive emissions, is unlawful. *See In re Northern Michigan University*, PSD Appeal 08-02 at 49 (Feb. 18, 2009) (remanding permit for using modeling that could result in underestimated emissions). "[W]orst case emissions should be employed in the modeling analyses conducted to demonstrate a facility's compliance with the NAAQS and PSD increments." *Id.* In *Northern Michigan*, a facility applying for a PSD permit failed to adequately use short-term modeling when calculating PSD increments and compliance with NAAQS. *See id.* at 54. The facility utilized a longer average time than required by the NAAQS and PSD increment requirements. *Id.* at 50.[21] Because the facility did not demonstrate that its modeling using the longer average time represented the "worst-case" emissions as required by the NAAQS and PSD increments, the EAB remanded the permit to the Michigan DEQ. *Id.* at 49-56.

Failure to consider fugitive emissions in the PSD context is a violation of the Clean Air Act. *See* 40 C.F.R. §51.165(a)(iv)(C) (requiring inclusion of fugitive emissions); *see also In re Masonite Corp.*, 5 E.A.D. 551, 1994 WL 615380 at *15-16

[21] The facility's modeling relied on a twelve month averaging period rather than the 24-hour average modeling required by the Clean Air Act.

(E.A.B. 1994) (remanding permit for failing to consider fugitive emissions). PSD requirements do not distinguish between stack and fugitive emissions for NAAQs and PSD increment purposes. *Id.* In *Masonite*, a facility did not consider fugitive emissions from wood chips being dumped from trucks onto a conveyer belt in its BACT analysis. *Id.* at 31. Fugitive emissions are required to be measured in order to determine if a BACT analysis was necessary. *Id.* at 33. Since these fugitive emissions were not considered in the permitting analysis, the EAB remanded the permit with instructions to lawfully measure them. *Id.* at 36.

As in *Northern Michigan*, the DEQ's failure to require Medicine Bow to model fugitive emissions in accordance with the law will result in the underestimation of particulate matter emissions. Additionally, because fugitive emissions of particulate matter were not modeled using a 24-hour standard, the worst case emissions were not employed in the modeling analysis as required.

C. DEQ Failed to Properly Model Fugitive Emissions of Particulate Matter

In determining both the PSD increment increase and compliance with ambient air quality standards for particulate matter, DEQ admits it failed to require the inclusion of all of Medicine Bow's fugitive PM emissions into its 24-hour emissions modeling. DEQ Decision pg. 14, paragraph III.14 (AR 43). To justify its failure, DEQ purports to rely on a 1994 Memorandum of Agreement between the EPA and the Wyoming DEQ. *Id.* In certain limited circumstance not applicable in this matter, it might be argued that the Memorandum of Agreement allows the DEQ to use ambient monitoring of particulate matter in lieu of the requisite monitoring. Memo-

randum of Agreement on Procedures for Protecting PM10 NAAQS in the Powder River Basin (AR 3573) (hereinafter "Powder River MOA").

DEQ's reliance on the Powder River MOA to avoid 24-hour modeling is inadequate for two reasons. First, as a threshold matter, the MOA does not even apply to the proposed Medicine Bow facility's location. The MOA, by its terms, governed PM_{10} policy only in the Powder River Basin. Powder River Basin MOA (AR 3571) ("The purpose of this agreement is to document the … procedures to be followed by the State of Wyoming and EPA in protecting the National Ambient Air Quality Standards (NAAQS) for PM10 *within the Powder River Basin in Wyoming*.").(emphasis added).

Medicine Bow is not located in the Powder River Basin; in fact, it is approximately 100 miles southwest of that area; hence, the MOA does not apply. The MOA was established for the Powder River Basin because a review of PM_{10} ambient monitoring was found to be successful for maintaining the NAAQS in that area. *Id.* Here, there is no study in the record establishing that a 24-hour standard is unnecessary to successfully maintain the PM NAAQS of particulate matter in the Medicine Bow region. Therefore, by its own terms, the Memorandum does not apply to any other area or region other than the Powder River Basin, and is entirely irrelevant to this case.

Second, the MOA contemplated the use of NAAQS monitoring to replace modeling practice entirely unrelated to the 24-hour modeling at issue here; a thirty-year life-of-mine modeling study. *Id.* ("The approach outlined in this agreement is

based on continued ambient air quality monitoring, rather than the implementation of *a 30-year life-of-mine modeling study.*") (emphasis added). A model that is focused on estimating particulate impacts over a 30-year span is obviously not interchangeable with one intended to estimate impacts over a 24-hour period. Accordingly, DEQ cannot support its avoidance of the 24-hour modeling requirement by seeking the refuge of the MOA.

It is axiomatic that an agency's interpretation of the Clean Air Act must be consistent with the law. *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 844 (1984) (holding that agency interpretation must be "rational and consistent with the statute" in order to be granted deference); *Natural Resources Defense Council (NRDC) v. Costle*, 568 F.2d 1369, 1377 (D.C. Cir. 1977) (where the "wording of the statute, legislative history, and precedents are clear: the EPA Administrator does not have authority to exempt [compliance] . . . with the clear intent of the relevant statute.). Both federal and state law require 24 hour modeling of particulate matter to determine compliance with the Clean Air Act. *See* 2 WAQSR § 2(a), (b) (requiring PM measurement and providing 24-hour standards); 6 WAQSR § 4(c)(ii)(A) Table (providing the concentration of particulate matter must not exceed 5 $\mu g/m^3$ measured as a 24-hour average); *Ober v. U.S. EPA*, 84 F.3d 304, 309 (9th Cir. 1996) (holding Clean Air Act requires attainment of all NAAQS, including a 24 hour standard for particulate matter); *see also* 40 C.F.R. § 50.6, 50.7 (requiring 24-hour standard for PM10 and PM2.5).

Federal and state law requires facilities to include fugitive emissions in their modeling analysis. 6 WAQSR § 3(a)(xi) ("Fugitive emissions … shall be included in the permit application"); 6 WAQSR § 4(b)(i)(D) (requiring fugitive emissions to be considered in calculating potential to emit for PSD permit for point sources); 6 WAQSR § 4(a) (requiring fugitive emissions be included in calculating baseline actual emissions).

The MOA effectively avoids applicable law by not requiring DEQ to enforce a 24-hour modeling standard for fugitive emissions of particulate matter. *See* 40 C.F.R. § 50.6, 50.7 (requiring 24-hour standard for PM10 and PM2.5); 40 C.F.R. § 51.165(a)(ix), § 51.166(b)(1)(iii) (requiring fugitive emissions to be included when determining net emission increase associated with a fuel conversion plant). Therefore, under *Chevron*, the EPA does not have the authority to enter into the MOA because it is clearly inconsistent with federal and state law.

Both the Wyoming Ambient Air Quality Standards (WAAQS) and PSD increments for particulate matter have annual limits and 24-hour pollution limits; to receive a PSD permit, an applicant must demonstrate compliance with each. 6 WAQSR § 4(b), Table 1. Since DEQ failed to model fugitive emissions of particulate matter using a 24-hour standard, it did not demonstrate compliance with applicable law.

D. Conclusion and Relief Requested

By neglecting to model impacts from its fugitive PM emissions, DEQ failed to comply with the legal requirements for a PSD permit application. DEQ's reliance on

a 1994 MOA was applicable, if at all, in a different region, and DEQ's citation to it fails to justify the Agency's unlawful position. The Sierra Club therefore requests summary judgment on this claim and remand of the permit with instructions to include fugitive PM emissions in the 24-hour impact analysis.

CONCLUSION

Sierra Club has established that it has standing to challenge the permit issued in this case. It has further established that the permit is both legally and factually wanting and thus must be remanded. The record is clear that DEQ failed to impose the necessary BACT requirements for control of Medicine Bow's $PM_{2.5}$ emissions. Additionally, it cannot be contested that DEQ failed to consider significant sulfur dioxide emissions from flares in determining Medicine Bow's potential to emit and additionally failed to apply BACT to flares. As explained above, the DEQ erroneously determined that Medicine Bow is a "minor source" of hazardous air pollutants. It is clear that DEQ's approval of Medicine Bow's LDAR program as BACT for fugitive VOC and HAP emissions was arbitrary and thus unlawful. Finally, DEQ unlawfully failed to model fugitive particulate emissions. For all of these reasons, the permit at issue is unlawful and must be remanded.

Dated this 16th day of November, 2009.

/s/ Shannon Anderson
Shannon Anderson (Wyoming Bar No. 6-4402)
Powder River Basin Resource Council
934 N. Main Street
Sheridan, WY 82801
(307) 672-5809 Voice
(307) 672-5800 Fax
sanderson@powderriverbasin.org

Andrea Issod
Sierra Club
85 Second St, 2nd Floor
San Francisco, CA 94105
Telephone: (415) 977-5544
Facsimile: (415) 977-5793
Email: andrea.issod@sierraclub.org

David Bahr
Daniel Galpern
Western Environmental Law Center
1216 Lincoln Street
Eugene, OR 97401
Telephone: (541) 485-2471, ext. 108
Facsimile: (541) 485-2457
Email: bahr@westernlaw.org
Email: galpern@westernlaw.org

CERTIFICATE OF SERVICE

I hereby certify that I have caused to be served a true and correct copy of the forgoing *Motion for Summary Judgment* and associated documents via electronic mail on this the 16th day of November, 2009 to the following:

John Corra
Director, DEQ
jcorra@wyo.gov

Nancy Vehr
Sr. Asst. Attorney General
nvehr@state.wy.us

Jude Rolfes
Medicine Bow Fuel & Power
jrolfes@dkrwaf.com

Mary Throne
Throne Law
mthrone@thronelaw.com

Hickey & Evans
bhayward@hickeyevans.com

John A. Coppede
Hickey & Evans
jcoppede@hickeyevans.com

Andrea Issod
Andrea Issod
Sierra Club