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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 )

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**SIERRA CLUB'S RESPONSE TO MEDICINE BOW'S AND DEQ'S  
MOTIONS FOR SUMMARY JUDGMENT**

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**FILED**

**Nov 30, 2009**

**Jim Ruby, Executive Secretary  
Environmental Quality Council**

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## INTRODUCTION

The Wyoming Department of Environmental Quality's (DEQ) and Medicine Bow Fuel & Power, LLC (Medicine Bow) have moved for summary judgment in this case. As explained below, they have misconstrued the legal principles applying to this case while also failing to demonstrate that there are no genuine disputes of material fact regarding their claims. Accordingly, their summary judgment motions must be denied.

As established in Sierra Club's summary judgment papers, DEQ's unjustifiable deference to Medicine Bow's application led to unlawfully low estimates for the facility's sulfur dioxide and hazardous air pollutant emission estimates; to controls for sulfur dioxide and volatile organic compounds that are inferior to the required "best available" control requirement; and to controls for hazardous air pollutants that are less than the applicable "maximum achievable" requirement. Additionally, DEQ wholly failed to conduct – or require Medicine Bow to conduct – any analyses to control fine particulate matter pollution. Because of these and other failures, the permit violates the Clean Air Act and Wyoming law and must be remanded to the Agency.

## DISCUSSION

### **I. Neither DEQ nor Medicine Bow Can Be Awarded Summary Judgment on PM<sub>2.5</sub>**

The Council noted two unresolved issues relevant to Petitioners' PM<sub>2.5</sub> claim: 1) "whether the Department is unable to implement a PSD program

for the PM<sub>2.5</sub> 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. DEQ and Medicine Bow have not carried the burden required to answer either of these questions in the affirmative. DEQ admits, in fact (as it has before), that it “did not conduct a ‘reasonableness’ analysis for this application...” DEQ Memo at 18 n.9. Sierra Club should be granted summary judgment on its PM<sub>2.5</sub> claim. *See* Sierra Club Memo at 9-20. If the Council is not inclined for rule for Sierra Club, at the very least, there are triable issues of fact on this claim because Sierra Club’s expert, Dr. Ranajit Sahu, disputes Medicine Bow’s evidence.

**A. DEQ Continues to Misinterpret EPA’s Surrogate Policy**

Although the Council specifically directed DEQ to show that it is unable to implement a PSD program for PM<sub>2.5</sub> and that use of a PM<sub>10</sub> surrogate was reasonable, DEQ ignores the Council’s decision and argues that it need not make either showing.

DEQ admits that it failed to perform any analysis of the reasonableness of using a PM<sub>10</sub> surrogate at the Medicine Bow facility; instead DEQ steadfastly insists that the WY SIP justifies its refusal to perform any such analysis. As explained in Sierra Club’s Motion for Summary Judgment, however, EPA’s surrogate policy, consistent with applicable law from the D.C.

Circuit, has always required DEQ to perform a thorough reasonableness analysis. *Id.* at 11-16 (explaining D.C. Circuit law on the use of surrogates and its relation to EPA’s PM<sub>10</sub> surrogate policy). The *Trimble* case reaffirmed that EPA’s PM<sub>10</sub> surrogate policy reflects this governing law. *Trimble*, exhibit 5,<sup>1</sup> at 44 (“permit applicants and permitting authorities [must] determine whether PM<sub>10</sub> is a reasonable surrogate for PM<sub>2.5</sub> under the facts and circumstances of the specific permit at issue, and not proceed on a general presumption that PM<sub>10</sub> is always a reasonable surrogate for PM<sub>2.5</sub>”).

DEQ argues that SIPs are federally enforceable, DEQ Memo at 21-22, but this is beside the point: regardless of how the Wyoming SIP refers to EPA’s surrogate policy, what matters here is whether or not DEQ properly applied the surrogate policy to the Medicine Bow permit. Sierra Club is entitled to summary judgment because DEQ misinterpreted and misapplied the surrogate policy in granting Medicine Bow’s permit. DEQ argues that it can use PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub> across the board, in every case, with no individualized analysis. But this is contrary to the law, and neither Medicine Bow nor DEQ have any answer to the *Trimble* decision, nor any excuse for ignoring the long-established Clean Air Act precedent governing the use of surrogates.

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<sup>1</sup> All numbered exhibits cited herein are attached to Sierra Club’s Motion for Summary Judgment. Lettered exhibits are attached to this Response Brief.

Ongoing use of the PM<sub>10</sub> surrogate policy is not in flux, contrary to Medicine Bow's arguments. *See* Medicine Bow Memo at 27. The law on surrogates has been established for almost a decade, and it has always applied to the EPA's PM<sub>10</sub> surrogate policy, which EPA acknowledges. *See* Sierra Club Memo at 9-18. Beginning almost one year prior to issuance of the Medicine Bow final permit on March 4, 2009, EPA has repeatedly conditioned application of the PM<sub>10</sub> surrogate policy upon the reasonableness of such use backed up by analysis. *Id.* at 14-16 (citing 73 Fed. Reg. 28,321, 28, 340-42 (May 16, 2008)); Letter from Stephen Johnson to Paul Cort (Jan. 14, 2009), exhibit 7, at 3. As a matter of law, DEQ erred in its application of the surrogate policy and so Medicine Bow's permit must be remanded.

The May 2008 PM<sub>2.5</sub> NSR Implementation Rule does not justify DEQ's misapplication of the PM<sub>10</sub> surrogate policy. *See* DEQ Memo at 20, 23. As the Council recognized, the rule only allows a state to use a PM<sub>10</sub> surrogate if it is "unable to implement a PSD program for the PM<sub>2.5</sub> NAAQS based on these final rules..." and DEQ has not shown why it is unable to perform a PM<sub>2.5</sub> BACT analysis or demonstrate compliance with PM<sub>2.5</sub> NAAQS for Medicine Bow. *See* Section B below. Additionally, the May 2008 rule does not allow a state to substitute PM<sub>10</sub> for PM<sub>2.5</sub> without meeting certain basic analytical requirements. *See* Letter from Stephen Johnson to Paul Cort (Jan. 14, 2009), exhibit 7, at 3 (permitting authorities must perform a "case-by-case evaluation of the use of the PM<sub>10</sub> in individual permits").

The Council should not consider the Georgia court's decision in the *Longleaf* case since it is nonbinding law from Georgia, wrongly decided, and inapplicable because the permit in that case was issued before technical developments in measuring and modeling PM<sub>2.5</sub> emerged. *Longleaf Energy Assoc. v. Friends of the Chattahoochee, Inc.*, 681 S.E. 2d 203 (Ga. App. 2009). The case was wrongly decided because the court implies that the surrogate policy allows an agency to substitute PM<sub>10</sub> for PM<sub>2.5</sub> without a reasonableness analysis, which conflicts with well-established D.C. Circuit surrogate law and EPA's position. *See* Sierra Club Memo at 11-16; *Trimble*, exhibit 5, at 42-46.

Since reasonableness changes over time as technical developments emerge, the reasonableness of a PM<sub>10</sub> surrogate in the Longleaf permit cannot be directly compared to the reasonableness of a PM<sub>10</sub> surrogate in Medicine Bow's permit. In *Longleaf*, EPA had expressly confirmed that at that time, under the circumstances of that case, use of the surrogate policy was reasonable. EPA commented on the Longleaf permit that: "PM<sub>2.5</sub> is a regulated NSR pollutant and should be acknowledged as such in the final determination. At your discretion, you could state that you are following EPA's guidance to use PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub> until final PM<sub>2.5</sub> NSR implementation rules are adopted." 681 S.E. 2d at 212. EPA's comments are consistent with EPA's 2005 position that it was reasonable to use PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub> because of "limitations in ambient monitoring and modeling capabilities." Memorandum from Stephen D. Page (Apr. 5, 2005), exhibit 6, at



4. Here, EPA did not confirm that use of a PM<sub>10</sub> surrogate is reasonable, and DEQ made no attempt to show that use of a PM<sub>10</sub> is reasonable. The DEQ must consider current technical developments, but DEQ admits it did not conduct any analysis at all. *Longleaf*, therefore, does not support a similar result in this case.

**B. DEQ Has All the Necessary Tools to Demonstrate Compliance with PM<sub>2.5</sub> NAAQS and Perform a PM<sub>2.5</sub> BACT analysis at the Medicine Bow Facility**

As for the Council's first question, there is no reason why DEQ or Medicine Bow cannot directly demonstrate compliance with PM<sub>2.5</sub> NAAQS from the facility, or perform a PM<sub>2.5</sub> BACT analysis, as required by 6 WAQSR § 4(b)(i) & (ii). The EPA's surrogate policy was instituted in 1997 because of "technical and informational deficiencies"; twelve years later, those difficulties no longer exist. Seitz Memo, exhibit 4, at 2. All the necessary technical tools needed for a PM<sub>2.5</sub> analysis were available throughout the Medicine Bow permitting process. Affidavit of Ranajit Sahu ("Sahu Aff."), exhibit A, at ¶6. DEQ has not cited any evidence indicating that measuring, monitoring or modeling tools are unavailable. Therefore, there are no triable facts on this issue.

There are reliable, field-tested methods available to measure PM<sub>2.5</sub> at the Medicine Bow facility, Sahu Aff., exhibit A, at ¶5, and therefore no impediments to a PM<sub>2.5</sub> BACT analysis. EPA has issued Other Test Method 27 (OTM-27) for filterable PM<sub>2.5</sub>, which is based on Method 201A, a well-

established test method. 72 Fed. Reg. 20586, 20653 (Apr. 25, 2007). DEQ also has all the tools necessary to model PM<sub>2.5</sub> because PM<sub>2.5</sub> monitoring stations have been in operation for many years and adequate modeling techniques for PM<sub>2.5</sub> have been developed. Sahu Aff., exhibit A, at ¶¶9-10.

DEQ's reference to the lack of final rules for PM<sub>2.5</sub> increments, significant impact levels (SILs) and significant monitoring concentration (SMC) is a complete distraction. *See* DEQ Memo at 25-26. First, these modeling concepts have no relation to DEQ's ability to estimate PM<sub>2.5</sub> emissions and choose the best available control technology for PM<sub>2.5</sub> at the Medicine Bow facility. Sahu Aff., exhibit A, at ¶8. Second, SMC and increment relate only to the increment, not the NAAQS. Finally, while there is not yet a final SIL for PM<sub>2.5</sub> NAAQS, that does not provide a basis for DEQ to violate its statutory duty to ensure Medicine Bow does not "cause, or contribute" to a violation of the PM<sub>2.5</sub> NAAQS. *See* 42 U.S.C. 7475(a)(3). The SIL is a regulatory threshold developed by EPA; EPA does not require sources to perform a full impact analysis (cumulative modeling) if its emissions estimate is below the threshold. EPA's 1990 NSR Workshop Manual at C.24-25, *available at* <http://www.epa.gov/ttn/nsr/gen/wkshpman.pdf>. There is no reason why DEQ cannot model PM<sub>2.5</sub> and compare with the proposed SILs, or with an SIL of zero. Sahu Aff., exhibit A, at ¶¶8, 17.

DEQ's regulation of SO<sub>2</sub> and NO<sub>x</sub> does not remedy the errors in Medicine Bow's permit. *See* DEQ Memo at 18. The law requires that direct PM<sub>2.5</sub>

emissions must be assigned a BACT limit in addition to and independent of BACT limits for SO<sub>2</sub> and NO<sub>x</sub>. *See* Sierra Club Memo at 9-11 (citing 6 WAQSR 2(c)(v), 4(a), (b)(i) & (ii)). PM<sub>2.5</sub> is a distinct pollutant, the levels of which are only partially determined by SO<sub>2</sub> and NO<sub>x</sub> precursor emissions. For example, even if SO<sub>2</sub> and NO<sub>x</sub> have BACT emission limits, (which they do not here), their emissions could still result in a violation of the PM<sub>2.5</sub> NAAQS. Sahu Aff., exhibit A, at ¶16. Further, BACT and NAAQS compliance are distinct legal requirements, so SO<sub>2</sub> and NO<sub>x</sub> BACT limits have no relation to DEQ's failure to demonstrate compliance with NAAQS. 6 WAQSR § 4(b)(i) & (ii). Finally, DEQ did not properly regulate SO<sub>2</sub> emissions from the facility. DEQ failed to estimate a significant amount of SO<sub>2</sub> emissions from the flares and did not apply BACT to the hundreds of tons of SO<sub>2</sub> emissions from the flares. *See* Sierra Club Memo at 20-32.

**C. The Council Should Not Consider Katrina Winborn's Post-Hoc, Inadequate PM<sub>2.5</sub> Analysis**

Medicine Bow's expert, Katrina Winborn, purports to evaluate the reasonableness of a PM<sub>10</sub> surrogate in her expert report, Medicine Bow exhibit G1 ("Winborn Report"). Ms. Winborn's analysis should not be considered because it is a post-hoc litigation analysis, not the permitting analysis of the DEQ, and in any event constitutes inadmissible hearsay evidence that was not sworn under oath. *See, e.g.*, Sierra Club's Motion to Strike filed herewith. The Council should ignore Ms. Winborn's post-hoc (and insufficient) PM<sub>2.5</sub>

analysis because an agency's action "must be upheld, if at all, on the basis articulated by the agency itself." *Motor Vehicle Mfrs Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 50 (1983). Ms. Winborn's report should also be rejected because it was not subject to the proper public notice and comment procedures. *Mossville Env'tl Action Now v. EPA*, 370 F.3d 1232, 1242-43 (D.C. Cir. 2004) (rejecting use of surrogate where no explanation in the record for public review); *see* 6 WAQSR § 2(m).

If the Council nevertheless chooses to examine Ms. Winborn's opinion, it should find it is incorrect and unsupported. In direct contradiction of EPA's direction in *Trimble*, Ms. Winborn relies entirely on EPA's Compilation of Air Pollutant Emission Factors (AP-42) to assess the statistical relationship between PM<sub>10</sub> and PM<sub>2.5</sub> emissions from Medicine Bow. Winborn Report, Medicine Bow exhibit G1, at 30-34. AP-42 provides a constant, fixed ratio of PM<sub>10</sub>/PM<sub>2.5</sub> for estimation purposes only. *See* EPA, AP 42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, (Jan. 1995), exhibit B, at 1 ("An emission factor is a representative value that...facilitate[s] estimation of emissions from various sources of air pollution"). For this reason, *Trimble* explicitly stated "a simple ratio of AP-42 emissions factors...would not appear to be sufficient [to demonstrate the statistical relationship between PM<sub>10</sub> and PM<sub>2.5</sub>]." *Trimble*, exhibit 5, at 45.

At the very least, there is a triable issue of fact on these issues since Sierra Club's expert, Dr. Ranajit Sahu, disagrees with Ms. Winborn's analy-

sis. Sahu Aff., exhibit A, at ¶¶11-15. As one example, in the case of fugitive particulate emission sources, Ms. Winborn relies exclusively on AP-42 to argue that there is a constant or almost constant relationship between PM<sub>10</sub> and PM<sub>2.5</sub> emissions. Winborn Report, Medicine Bow exhibit G1, at 32. This is simply incorrect. The PM<sub>10</sub>/PM<sub>2.5</sub> relationship “will vary significantly depending on numerous factors such as wind velocity, surface friction factor, degree and manner of wear and friability of the materials, and others.” Sahu Aff., exhibit A, at ¶14.

Ms. Winborn’s attempt to meet the second step of the *Trimble* analysis is similarly flawed. She makes the unsupported claim that “the same set of emission control techniques are applied for fugitive particulate emissions regardless of the size of the particulate emissions...” Winborn Report, Medicine Bow exhibit G1, at 33, but she fails to account for the fact that the control techniques should vary in amount and frequency depending on the particle size. Sahu Aff., exhibit A, at ¶15.

In conclusion, Neither DEQ nor Medicine Bow is entitled to summary judgment on Sierra Club’s PM<sub>2.5</sub> claim. The law is clear that DEQ must perform an individualized analysis to demonstrate that use of PM<sub>10</sub> as a surrogate was reasonable for the Medicine Bow permit. DEQ admits that it did not perform any analysis, and summary judgment should be awarded to Sierra Club on this undisputed fact. However, if the Council allows Katrina Winborn’s inadmissible, post-hoc analysis to create a factual dispute, then

summary judgment must be denied to DEQ and Medicine Bow as well, since Dr. Ranajit Sahu disputes Ms. Winborn's analysis.

Sierra Club urges the Council to keep in mind that PM<sub>2.5</sub> is very dangerous to human health; the fine particles become lodged deep inside the lungs and cause a wide range of health problems. EPA, Particulate Matter, "Health and Environment," *available at* <http://www.epa.gov/oar/particlepollution/health.html>; 71 Fed. Reg. 2,620, 2,643 (Jan. 17, 2006). EPA set separate standards for PM<sub>2.5</sub> under the Clean Air Act because it found that PM<sub>10</sub> standards do not adequately protect the public from the dangers of PM<sub>2.5</sub>. 62 Fed. Reg. 38, 652, 38,667 (July 18, 1997). Twelve years ago there may have been some "technical and informational deficiencies" impeding the PM<sub>2.5</sub> program, Seitz Memo, exhibit 4, at 2, but these no longer exist, and state agencies must now fulfill their responsibility of protecting the public from the harmful effects of fine particulate matter.

## **II. Neither DEQ Nor Medicine Bow is Entitled to Summary Judgment on Sierra Club's SO<sub>2</sub> Claims**

### **A. DEQ Did Not Properly Calculate the Flares' Potential to Emit**

1. Neither DEQ nor Medicine Bow Provide Legal Authority Supporting Their Position that Cold Starts and Malfunctions Can Be Excluded from PTE

The only dispute between the parties is whether, as a matter of law, cold starts or malfunctions are properly excluded from Medicine Bow's emis-

sions estimate. Wyoming regulations, EPA guidance documents and the persuasive authorities of the EPA's Environmental Appeals Board make crystal clear that the Clean Air Act allows no exemption for startup and malfunction events, and Sierra Club should therefore prevail on its Summary Judgment Motion on this claim. *See* Sierra Club Memo at 23-28. In contrast to the reams of sources provided by Sierra Club, DEQ provides only a few sources, none of which support its position that it can exclude startup and malfunction events from the potential to emit.

*U.S. v. Louisiana Pacific Corp.*, 682 F. Supp. 1141, 1158 (D. Colo. 1988), provides no support for DEQ's argument. The court explained that, in accordance with the regulatory definition, potential to emit refers to "the maximum emissions a source can generate when being operated within the constraints of its design." *Id.* at 1157. A source should not be operated contrary to its design to estimate emissions – it must be tested "in the manner in which it is designed to be operated," which includes control equipment. *Id.* In that case, the emissions test data was generated while the unit was operating "in a manner that would never occur in normal operations," *id.* at 1159, and therefore the court found this data should not be used to calculate potential to emit.

Here, unlike *Louisiana Pacific Corp.*, malfunctions are not hypothetical events like that would "never occur in normal operations." *Id.* To the contrary, as the EPA's Environmental Appeals Board has explained, "[s]tartup

and shutdown of process equipment are part of the normal operation of a source...” *In re Tallmadge Generating Station*, 2003 WL 21500414 (E.A.B. 2003) at \*8-9 (quoting Memorandum from John Rasnic, exhibit 14, at 2). DEQ and Medicine Bow have admitted that malfunctions are likely to occur at the Medicine Bow facility. Keyfauver Depo., exhibit 1, at 23:11-17; Medicine Bow Response to Sierra Club’s Request for Admission No. 1 (August 19, 2009), exhibit C.

Wyoming Air Regulations do not require exclusion of malfunction emissions from the PTE. *See* DEQ Memo at 15-16. DEQ’s untenable argument is that because the regulation states that malfunctions are “not part of a recurring pattern caused by inadequate operation, maintenance or design,” malfunctions cannot be part of the operation of a source, and therefore cannot be included in PTE. *Id.*; 1 WAQSR § 5. DEQ’s conclusion is completely unsupported by the regulation. Malfunctions are events expected to occur on an irregular but predictable basis, as DEQ and Medicine Bow admit. A run-of-the-mill malfunction is quite different from a “recurring pattern” or a design or operational flaw. While a facility is not designed to malfunction, malfunction events are inevitable and must be accounted for. Similarly, cars are not designed to crash, but they incorporate many safety features because crashes inevitably occur on a regular basis.

DEQ’s failure to account for all the facility’s emissions is not irrelevant as Medicine Bow suggests, *see* Medicine Bow Memo at 16, because this fail-



ure is a violation of the law. *In re Masonite Corp.*, 5 E.A.D. 551, 1994 WL 615380 at \*15-16 (E.A.B. 1994) (permit remanded for failure to consider all emissions of particulate matter in emissions estimate); *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), exhibit 11, at 5-7 (EPA objected to operating permit because emissions calculations did not include sulfur dioxide emissions from flares during SSM events); *see* Sierra Club Memo at 27-28.

The DEQ's interpretation of the law on potential to emit is not based on any authorities, and it is not entitled to deference. *See* Medicine Bow Memo at 10. As the Council has repeatedly and consistently held, review of DEQ's permitting decisions is *de novo*. *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); *see also Appeal of 4W Ranch Objection to NPDES Permits*, Docket No. 04-3801 (EQC Mar. 5, 2007). *De Novo* review means the Council gives no deference to the agency's interpretation or application of the law. *Chavez v. State ex rel. Wyoming Workers' Safety and Compensation Div.*, 204 P.3d 967, 970 (Wyo. 2009). Medicine Bow's sole authority, *Printher v. Department of Administration and Information*, 866 P.2d 1300, 1302 (Wyo. 1994), does not involve *de novo* review. Review was controlled by a different

standard pursuant to the Wyoming Administrative Procedure Act's provision for judicial review of agency decisions. *Printher* at 1302.

The Council must review the legal authorities provided in the parties' respective motions and determine whether the law requires inclusion of startup and malfunctions in a new source's emissions estimate. Scores of cases from the EAB, EPA guidance documents and the Wyoming regulations support the Sierra Club's position that they must be included; DEQ and Medicine Bow cite only two authorities, neither of which support their position, as explained above. If the Council nonetheless declines to decide this issue as a matter of law, there are triable issues as to whether cold starts and malfunctions are part of the normal operation of a source that should be included in the potential to emit.

2. In the Alternative, There are Triable Issues Whether Cold Starts and Malfunctions are Part of the Normal Operation of a Source

DEQ and Medicine Bow argue that cold starts and malfunctions were properly excluded from Medicine Bow's potential to emit. DEQ Memo at 10-16; Medicine Bow Memo at 13-16. Neither is entitled to summary judgment on this claim because Dr. Ranajit Sahu testifies that cold starts are "routine, predictable events," malfunctions will occur at every operating facility, and emissions from these events must be included in a facility's potential to emit. *See Sahu Aff.*, exhibit A, at ¶¶20-22.

The Council should ignore DEQ's outrageous contention that, as cold startup/shutdown events occur in the future, DEQ may "at some point, determine such events must be included as part of normal operations." DEQ Memo at 11 (citing *Schlichtemeier Aff.* at ¶53). This statement is completely irrelevant to the question at hand. DEQ must properly estimate emissions prior to construction to ensure that the best available control technology is built into the source to control emissions of harmful pollutants – that is the fundamental point of preconstruction permitting. *In re Knauf Fiber Glass*, 8 E.A.D. 121, 131 (E.A.B. 1999) (BACT is considered "[o]ne of the most critical elements of the [PSD] permit[ting] process"). DEQ's vague promise to review future emissions cannot cure its violation of preconstruction permitting requirements.

**B. Medicine Bow's SSEM Plan is Not BACT**

DEQ and Medicine Bow claim they are entitled to summary judgment because DEQ determined that the SSEM plan is BACT for the Medicine Bow facility. This is impossible for several reasons. First, DEQ did not determine that an emissions limitation was technically infeasible before choosing a work practice plan, as the Wyoming regulations require. 6 WAQSR §4(a) ("Best Available Control Technology"). Second, the SSEM plan itself cannot possibly be BACT because it is not enforceable, and it was not subject to a proper BACT analysis. Sierra Club should therefore be granted summary judgment on this claim. *See* Sierra Club Memo at 28-32. If the Council decides not to

rule for Petitioners, however, there is at least a triable issue on whether the SSEM plan is enforceable because there is conflicting evidence.

1. There is No Determination in the Record that Emission Limits are Technically Infeasible

Sierra Club does not dispute that the definition of BACT allows work practice plans and that plans have been recognized as BACT in other cases; however, such plans are only allowable if 1) there is a determination in the record that emissions limitations are infeasible; and 2) the plan is equivalent to BACT. 6 WAQSR §4(a) (“Best Available Control Technology”); *In re In-deck-Elwood, LLC*, 2006 WL 3073109 at \*3 (E.A.B. 2006).

In this case, neither DEQ nor Medicine Bow provides the Council with a page number in the record where DEQ made a determination that an emissions limit was infeasible for the flares, because no such determination was made. *See* DEQ Memo at 16-19 (citing generally to the entire Application, DEQ’s Analysis, and Decision); Medicine Bow Memo at 16-18. Their motions fail on this basis because the definition of BACT requires a determination that an emission standard is infeasible before a work practice plan can be used, 6 WAQSR §4(a)(“Best Available Control Technology”), and this determination must be clearly explained in the decision-making record. *In re In-deck-Elwood, LLC*, 2006 WL 3073109 at \*3 (E.A.B. 2006) (remanding PSD permit because record does not properly invoke infeasibility or contain analysis of expected emission reductions from work practices); *see also In re Tall-*

*madge Generating Station*, 2003 WL 21500414 (PSD Appeal No. 02-12, May 22, 2003) at \*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”).

2. The SSEM Plan Cannot be BACT Because it is Not Enforceable and DEQ Did Not Evaluate Other Options

Sierra Club, not DEQ or Medicine Bow, should be granted summary judgment on this claim because *DEQ admits that it did not apply BACT to the flares*. DEQ admits that “a top-down BACT analysis was not conducted for the flares....” Keyfauver Depo., exhibit 1, at 45:24-25. Neither DEQ nor Medicine Bow points to any BACT analysis for SO<sub>2</sub> from the flares in the Permit Application or DEQ’s Permit Application Analysis. *See* DEQ Memo at 16-18; Medicine Bow Memo at 16-19. A BACT analysis requires consideration of all potentially available control options, *see In re Indeck*, 2006 WL 3073109 at n.116, but DEQ admits that it did not consider any other control options for the flares other than the proposed SSEM plan. Keyfauver Depo., exhibit 1, at 46:18-47:4; *id.* at 51:11-15; *see id.* at 57:20-22.

Additionally, DEQ admits that the SSEM plan contains a number of unenforceable provisions. Keyfauver Depo., exhibit 1, at 58:4-9; *id.* at 59:8-60:9. 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...*”(emphasis added); *see also* US EPA Region 8 Comment to DEQ, Aug. 4, 2008 (AR1666-16617); *In re Indeck*, 2006 WL 3073109 at \*3 (if a work plan is chosen, the emissions “reductions should be equivalent to BACT, and the permitting authority *must provide a methodology for compliance.*”)(emphasis added).

DEQ brusquely contends the SSEM plan is BACT because it was reviewed “using engineering judgment.” DEQ Memo at 17-18. But the law requires that any so-called engineering judgment must be contained in the record so that the public and the Council can review it. *In re Indeck-Elwood, LLC*, 2006 WL 3073109 at \*3. DEQ also claims it determined the plan minimized emissions, but cites only vaguely to a 35 page Decision document, and there is nothing in that document that provides an explanation *why* this particular plan represents the “maximum degree of reduction...achievable.” 6 WAQSR § 4(a) (“Best Available Control Technology”). The BACT legal standard requires more than the conclusory, unsupported statements that Medicine Bow and DEQ offer in their motions.

3. In the Alternative, There are Triable Issues Whether There is a Determination that Emissions Limits are Infeasible and Whether the SSEM Plan is BACT

If the Council declines to rule for Sierra Club on this claim, it should deny DEQ’s and Medicine Bow’s motions because there is, at the very least, a

triable issues whether the SSEM plan can be BACT since it is unenforceable. *See Sahu Aff.*, exhibit A, at ¶23.

Sierra Club urges the Council to bear in mind that sulfur dioxide is a very dangerous pollutant. “Studies also show a connection between short-term exposure [to SO<sub>2</sub>] and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics.” EPA, Health SO<sub>2</sub>, <http://epa.gov/air/sulfurdioxide/health.html>. By failing to fully account for SO<sub>2</sub> emissions, and by failing to engage in any analysis to determine the best means to achieve the “maximum degree of reduction” achievable, 6 WAQSR §4(a)(“Best Available Control Technology”), DEQ is derelict in its responsibilities to limit emissions of harmful pollutants to protect public health. *See Keyfauver Depo.*, exhibit 1, at 38:20-39:7 (“I don’t know all the health risks of the pollutants.”)

### **III. Neither DEQ Nor Medicine Bow is Entitled to Summary Judgment on Sierra Club’s Hazardous Air Pollution Claims**

#### **A. The Council Must Deny Motions for Summary Judgment by DEQ and Medicine Bow Regarding DEQ’s Determination Approving PTE for Hazardous Air Pollutants**

In its petition, Sierra Club asserted that DEQ erroneously approved Medicine Bow’s potential to emit (PTE) calculations for Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) emissions and, for that

reason, DEQ erred in determining that Medicine Bow will be a minor source of HAPs. The asserted errors have important implications because a major source of HAPs is subject to maximum achievable control technology (MACT) requirements.

Sierra Club agrees with DEQ and Medicine Bow that no genuine issue of material fact exists with respect to this claim. For that reason, Sierra Club moved for summary judgment on the issue that DEQ erroneously determined that Medicine Bow is a minor source of HAPs.

Here, DEQ and Medicine Bow offer unsupported assertions, dubious interpretations of the regulations, inadmissible evidence,<sup>2</sup> and facts that are not material, in support of *their* motions for summary judgment. The Council should reject their specious arguments and deny their motions, even if the Council elects not to grant summary judgment on this claim to the Sierra Club.

The record of this case clearly established several key facts:

- Medicine Bow did not utilize EPA's preferred method, requiring use of actual emissions data as opposed to average estimates, in its PTE calculations for estimating maximum fugitive VOC and HAP emissions. (Sierra Club Statement of Fact 38, citing Winborn Depo., exhibit 16, at 103:24).
- DEQ did not verify whether the emission factors utilized by Medicine Bow were appropriate for use in its emission esti-

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<sup>2</sup> Throughout their motions, DEQ and Medicine Bow rely upon, and cite to, the response report of Medicine Bow expert Katrina Winborn. That report constitutes inadmissible hearsay and the Sierra Club has moved to strike it.



mate for fugitive component leaks (Sierra Club Statement of Fact 38, citing Keyfauver Depo., exhibit 1, at 72:14-18);

- DEQ accepted, without undertaking its own independent assessment, Medicine Bow’s decision to utilize SOCM I *aver-ages* as emission factors for VOC and HAP PTE determinations. (Sierra Club Statement of Fact 38, citing Keyfauver Depo., exhibit 1, at 72-74).
- Medicine Bow itself did not independently assess whether it was appropriate to utilize SOCM I average emission factors in its PTE calculations for VOC and HAP emissions at the facility. (Sierra Club Statement of Fact 40, citing Winborn Depo., exhibit 16, at 105).
- DEQ approved Medicine Bow’s VOC and HAP PTE calculations that assume, without any record support, a 98 percent destruction efficiency for VOC and HAP emissions reaching the flares. Application Appendix B-17, AR 203; Sahu Aff., exhibit A, at ¶32.
- DEQ and Medicine Bow did not calculate the likelihood that actual total HAP emissions would exceed 25 tons per year, and did not calculate the likelihood that actual methanol emissions would exceed 10 tons per year. (Sierra Club Statement of Fact 38, citing Winborn Depo., exhibit 16, at 145-46).

DEQ attempts a notable diversion from these material facts by arguing that because the Sierra Club’s expert did not undertake his own PTE calculation for VOC and HAP emissions, the Sierra Club’s arguments are “baseless.”<sup>3</sup> DEQ Memo at 27 (citing Sahu Depo., DEQ exhibit 41, at 98:1-99:12). But DEQ neglects to provide Dr. Sahu’s full answer, namely that Dr. Sahu could not accurately estimate the facility’s total or individualized

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<sup>3</sup> In its statement of facts, however, DEQ stated that “*Medicine Bow’s expert* did not perform any fugitive VOC or HAP emission calculations.”

(speciated) fugitive VOC and HAP emissions, nor check the accuracy of Medicine Bow's calculations, because of the dearth of information that Medicine Bow provided in the record. Sahu Depo., DEQ exhibit 41, at 98:5-14. Sahu Aff., exhibit A, at ¶ 24.

Indeed, in the same deposition, Dr. Sahu provided substantial detail about the kind of necessary information that Medicine Bow failed to provide – and that DEQ failed to obtain. Sahu Depo., DEQ exhibit 41 *Id.* at 79:1-81:3. Such information includes engineering plans to verify asserted component counts, the type and description of components, a justification for the selection of particular emission factors, and supporting documentation about the efficiency with which emissions would be controlled through the LDAR program. *Id.* Medicine Bow's failure to provide such information — and DEQ's failure to ask for it — rendered it impossible not only for Sierra Club (or DEQ) to undertake its own calculations with any measure of integrity, but impossible also for DEQ even to verify Medicine Bow's calculations of fugitive VOC and HAP emissions. Sahu Aff., exhibit A, at ¶ 24.

Of course, the burden rested with DEQ – not with the Sierra Club – to either calculate or reasonably verify Medicine Bow's HAP emissions prior to determining the facility to be a minor, and not a major, source of HAPs. Sierra Club has detailed DEQ's failures to calculate or verify the facility's fugitive VOC and HAP emissions. Sierra Club Memo at 37-41.

Contrary to its assertions, DEQ did not “analyze” Medicine Bow’s equipment count, the emission factors it selected, or its presumed control efficiencies for fugitive emissions. DEQ Memo at 27. Regarding equipment count, DEQ’s supporting memorandum cites to nothing in the record supporting that the agency undertook any analysis whatsoever, and DEQ’s permit writer has admitted that he failed either to render his own count or to verify the counts that Medicine Bow used in its calculation. Keyfauver Depo., exhibit 1, at 62:10-22. Accordingly, contrary to DEQ’s assertion that its “component count review [and] analysis . . . was reasonable,” DEQ Memo at 29, there was no reasonable attempt to verify through analysis or even meaningful review. Sahu Aff., exhibit A, at ¶ 24.

DEQ’s plea for deference on the component count issue, DEQ Memo at 29, must be rejected. The Council cannot defer to DEQ where DEQ rubber-stamps an applicant’s calculations.

Similarly, as to DEQ’s acceptance of Medicine Bow’s selected emission factors, DEQ cites to a recent EPA document to assert that “[e]mission factors ‘are frequently used,’” DEQ Memo at 29, and to inadmissible hearsay that the emission factors used by Medicine Bow “are widely used and recognized for such calculations.” *Id.* at 29-30. But the issue is not whether average emission factors are frequently or widely used for any purposes, but rather whether DEQ lawfully accepted their use in Medicine Bow’s PTE estimates, which, of necessity, should represent the *maximum* potential for fugitive

VOC and HAP emissions from the facility. DEQ's arguments miss the point because DEQ fails to specify *which* emission factors it asserts may be used for *what* purpose. Sahu Aff., exhibit A, at ¶ 25 ("The proper choice of emission factors is critical in the determination of projected actual or potential to emit mass emissions from any source").

In purported support of its acceptance of Medicine Bow's use of emission factors in its PTE calculations, DEQ cites as authority an EPA Advanced Notice of Proposed Rulemaking (ANPRM) that concededly discusses the "appropriateness of using emission factors." DEQ Memo at 29. However, the EPA ANPRM strongly conflicts with DEQ's position, particularly to the extent DEQ attempts to cite it for the use of emission factors in permitting – an activity for which, as EPA noted, the emissions factors were not developed. 74 Fed. Reg. 52723, 52723 (Oct. 14, 2009). The EPA's ANPRM proceeds to outline plans to "develop a process that, at the end of the emissions factors development, will result in high quality emissions factors," *Id.* at 52725, i.e. "one that is objective (more science based) and designed to reduce the variability associated with manual emissions factor development." *Id.* at 52726.

DEQ asserts that Medicine Bow's decision "to use EPA approved SO2MI emission factors for the HAP emission calculations was reasonable and appropriate," DEQ Memo at 30, but DEQ provides no reason to accept that assertion. First, use of EPA's emission factors is acceptable, if at all, only where no more accurate data is available. Sahu Aff., exhibit A, at ¶ 26.

Second, the record fails to support DEQ's approval of Medicine Bow's decision to use Synthetic Organic Chemical Manufacturing Industry (SOCMI) *average* emissions factors. Sahu Aff., exhibit A, at ¶ 25 (failure to support choice of *average* emission factors as opposed to other SOCMI factors that are more appropriate for the estimation of PTE at the Medicine Bow facility).

DEQ asserts that "Medicine Bow's fugitive emission calculations were conservative estimates because the emissions were based on all connections and pumps leaking at 500 ppm (valves/flanges) and 2000 ppm (pumps)." DEQ Memo at 31. In fact, however, connections and pumps can leak at rates several times their LDAR detection thresholds. Sahu Aff., exhibit A, at ¶ 29.

DEQ recites a point from its earlier decision document in this matter that "the 500 ppm /2000 ppm LDAR BACT levels were consistent with NSPS and NESHAP." DEQ Memo at 31. DEQ fails here to provide pinpoint citations to NSPS and NESHAP provisions that could be deemed "consistent" with Medicine Bow's use of its selected leak definitions. Further, DEQ's decision document to which DEQ's Memo referred offered the "consistency" point to justify its acceptance of these detection levels for use in Medicine Bow's proposed LDAR program, DEQ Decision Document at 16 (AR 45), *not* with respect to Medicine Bow's use of those detection levels in its PTE calculation. DEQ's out-of-context appropriation of its earlier point makes no sense here. In any event, DEQ's implicit approval of Medicine Bow's LDAR control efficiency assumption was erroneous given the highly unrealistic assumptions

upon which is was based. Sahu Aff., exhibit A, at ¶ 29. Further, the LDAR-derived control efficiencies not cure the unwarranted selection of the SOCFI average values for use in the PTE calculations. *Id.*

Also in support of its conclusion that “review, analysis and decision” on Medicine Bow’s fugitive emissions calculations “was proper,” DEQ points to its requirement that Medicine Bow “annually calculate actual fugitive HAP emissions using the application methodology and the previous year's average measured leak detection rate.” DEQ Memo at 31-32. However, the specified requirement is entirely immaterial to the issue, for the simple reason that the post-construction annual exercise cannot substitute for DEQ’s fulfillment of its obligation to ensure the accuracy of pre-construction PTE calculations. Sierra Club also disputes that the “application methodology” is the appropriate one, and so questions whether the post-construction measurements even will yield accurate data as to actual HAP emissions during any year of operation. Sahu Aff., exhibit A, at ¶ 25 and 29. Finally, DEQ offers no logical connection between its point that a Permit term requires Medicine Bow to assess actual emissions in operation and the facility’s maximum potential to emit. Accordingly, Sierra Club disputes the unstated implication that, for example, even several years worth of operating data could establish that the facility is a minor source based on its *potential* to emit.

For the reasons above, the Council must reject DEQ’s motion for summary judgment on the issue of whether DEQ erroneously approved Medicine

Bow's calculations of fugitive VOC and HAP emissions. Even if the Council does not rule strictly on the basis of the law, the allegedly material facts raised by DEQ are disputed by the Sierra Club expert and so cannot form the basis of summary judgment in favor of DEQ.

For similar reasons, the Council must reject DEQ's assertion that it is entitled to summary judgment on the question of whether it erred in determining Medicine Bow to be a minor source of HAP emissions. First, DEQ's errors discussed above, including its acceptance of Medicine Bow's assumptions that underlie its PTE calculations, tend toward the underestimation of what will be the facility's actual HAP emissions. Sahu Aff., exhibit A, at ¶ 30. Given the closeness of Medicine Bow's final HAP emissions estimates to the major source threshold, it is more likely than not that the facility will be a major source of HAP emissions, again based on its potential to emit. *Id.*

Second, DEQ accepted Medicine Bow's decision to not include in its PTE for HAPs those emissions stemming from flares during shutdown or startup for major maintenance or repair and from malfunctions. Sahu Aff., exhibit A, at ¶ 30. DEQ Memo at 10. Such shutdowns are predictable, unavoidable, and expected. There is no reason to exclude them from any realistic consideration of the facility's maximum potential to emit. Similarly, the claim that Medicine Bow will be only a minor source of HAP emissions depends on assumptions about the efficiency of VOC destruction of the flares that are, at best, questionable in fact. Sahu Aff., exhibit A, at ¶ 32.

For these reasons, then, the Council must reject DEQ's motion for summary judgment on the issue of whether DEQ properly determined that the facility will be a minor source of HAP emissions.

Medicine Bow's motion for summary judgment on the same issue – whether DEQ erroneously approved Medicine Bow's PTE calculations and so erroneously determined that the facility will be a minor source of HAPs – repeats most of DEQ's arguments and assertions, and so is subject to Sierra Club's same arguments in refutation provided above.

Medicine Bow offers two different points requiring separate consideration here. First, Medicine Bow offers a “sequence of events to [enable the Council to] comprehend fully the attention given to the emission estimates by both the applicant and the WDEQ.” Medicine Bow Memo at 20. The only material information imparted in that sequence, however, is that Medicine Bow initially set its LDAR leak detection rate at a level many times less stringent than the final detection level established in the LDAR program for leaking components. That fact, however, is not relevant to whether DEQ properly accepted the HAP PTE calculations. Just because Medicine Bow lowered its initially high (i.e., lax) definitions does not mean that it properly calculated control effectiveness, that its emission factors were proper, or that PTE estimates were reasonable. Sahu Aff., exhibit A, at ¶¶ 29-31.

Second, Medicine Bow points out that its revised estimates of total HAP emissions was a consequence of the more stringent leak detection levels



that it adopted following DEQ's prompting, Medicine Bow Memo at 20, while its reduced methanol emissions estimate followed receipt of revised engineering information, again upon prompting from DEQ as to whether the facility indeed should be subject to stricter requirements. *Id.* at 22 ("WDEQ requested additional information from MBFP regarding the applicability of Section 112 of the CAA to which MBFP responded . . . with new calculations"). Sierra Club does not deny that Medicine Bow and DEQ engaged in a prolonged and intricate minuet over a myriad of issues related to the permit.

Again, just because DEQ asked questions (or forwarded questions from the public to Medicine Bow) does not mean that DEQ undertook a proper determination in approving Medicine Bow's calculations, including requiring information and data without which any reasonable verification of accuracy was impossible. Sahu Aff., exhibit A, at ¶¶24 (no documentation on numbers and characteristics of components in record), 25 (no support for choice of SOCFI average factors), 26 (no attempt to obtain accurate emissions data from vendors or similar facilities), 29 (leak thresholds for flanges not specified), 30 (lack of basis for methanol composition assuming in the calculation), 31 (estimates of HAP PTE from startups, shutdowns, and malfunctions unsupported), 32 (degree of VOC and HAP destruction in flares unsupported), 34 (no basis for rejection of more stringent LDAR leak detection thresholds and leadless technologies).

Accordingly, the Council should reject Medicine Bow's motion for

summary judgment on this issue as well. Its assertions, to the extent they are deemed material, are disputed by Sierra Club's expert and so not a suitable basis for summary judgment.

**B. The Council Must Deny Motions for Summary Judgment by DEQ and Medicine Bow Regarding DEQ's Determination That Medicine Bow's Particular LDAR Program is BACT for Limiting Fugitive VOCs and HAPs**

Similar to their motions on DEQ's HAP determinations, both DEQ and Medicine Bow provide specious arguments to seek summary judgment on the question whether DEQ erroneously approved Medicine Bow's LDAR program as BACT for VOCs and HAPs.

Sierra Club agrees that a well-designed and implemented LDAR program with appropriate leak detection definitions can assist in controlling emissions. But Sierra Club disputes, to the extent that DEQ's citation to EPA's document at 72 Fed. Reg. 64860, 64864, DEQ Memo at 32, implies or is advanced for the proposition, that Medicine Bow's proposed LDAR is BACT. Sahu Aff., exhibit A, at ¶ 33. Sierra Club also disputes that DEQ's cited authority supports its acceptance of Medicine Bow's proposed LDAR program as BACT for fugitive VOC/HAP leaks. In particular, that authority describes EPA's development process for SOCFI VOC leak performance standards that markedly differs from the BACT analysis that was required of DEQ and Medicine Bow – but not undertaken. 72 Fed. Reg. 64860, 64864.

DEQ observes that BACT “cannot be less stringent than the NSPS and NESHAP requirements.” DEQ Memo at 32. That is correct. As Sierra Club stressed in its supporting memorandum on this issue, the NSPS and NESHAP rules merely establish the floor for BACT. Sierra Club Memo at 44-46. DEQ proceeds to state that the Medicine Bow LDAR is more stringent than the new source standards. DEQ Memo at 33. That point however, even if true, fails to establish that the LDAR is BACT, contrary to DEQ’s motion. DEQ Memo at 34. One step removed from the floor does not establish Medicine Bow’s LDAR as the best available. Indeed, the existence of more stringent LDAR programs, utilizing lower leak detection levels and more frequent monitoring requirements, establishes that the one DEQ selected is not BACT. Sahu Aff., exhibit A, at ¶ 34.

DEQ’s motion proceeds to describe, in summary form, the already-truncated process by which DEQ and Medicine Bow decided on the facility’s LDAR program. DEQ Memo at 33-34. The description, however, fails to justify the determination. DEQ notes that Medicine Bow “identified LDAR as the only available control option for fugitive component leaks at the Facility.” DEQ Memo at 33. But because Medicine Bow’s “identification” was not the result of a proper top-down BACT analysis, Keyfauver Depo., exhibit 1, at 76:6-77:2, the statement provides no support for DEQ’s subsequent approval of Medicine Bow’s LDAR program as “representative” of BACT. *See In re*

*Indeck*, 2006 WL 3073109 at n. 116 (BACT requires consideration of all potentially available control options); Sahu Aff., exhibit A, at ¶ 33.

Further, any implied assertion that the particular LDAR program was “the only available control option” ignores the fact that DEQ failed to consider leakless component technology as a means of controlling fugitive VOC and HAP emissions. Keyfauver Depo., exhibit 1, at 80:14-17. Sahu Aff., exhibit A, at ¶ 33.

In addition, DEQ failed to require Medicine Bow to consider, as part of a top-down BACT analysis, a range of different LDAR programs that incorporate leak detection rates to control fugitive emissions for valves and connectors to less than 200ppm. MARAMA Model Rule for Enhanced LDAR, exhibit 20, at 2-3. *See also* Sierra Club Memo at 46-47; Sahu Aff., exhibit A, at ¶ 34.

Medicine Bow, similarly, offers a range of purported facts that fail to amount to any sound argument in favor of its position.

As with DEQ, Medicine Bow asserts, without explanation, that it truncated the standard top-down BACT process because “only one viable control for equipment leaks” existed – an LDAR program. Medicine Bow Memo at 24. As for the potential use of leakless components, citing and reprising with approval from the inadmissible report of its own expert, DEQ argues that because leakless technology may not be available “in all applications,” requiring its use is “therefore” not technically feasible. Medicine Bow Memo at 25. The Council should reject flatly this absurd all-

or-nothing *non sequiter* on its face, for its defiance of basic engineering judgment and logic. Sahu Aff., exhibit A, at ¶¶ 34-35.

Similarly, Medicine Bow appears to take leave of reason when it claims to have rejected lower leak detection thresholds as BACT because of an EPA study that found that “facilities making a first attempt at repair on valves with leaks above 100 or 200 ppm suggests that these attempts do not always reduce emissions.” Medicine Bow Memo at 25. The failure to achieve perfect success at first-attempt repairs provides no reason to reject use of lower leak detection thresholds that would lead to the identification of additional leaking components in need of repair or replacement. No reason, that is, unless Medicine Bow or DEQ could show that components leaking at rates lower than the thresholds adopted in Medicine Bow’s LDAR are either irreparable or irreplaceable. No such showing was even attempted by Medicine Bow, or DEQ. Sahu Aff., exhibit A, at ¶¶ 34-35

Medicine Bow also offers the curious argument that because LDAR programs are “established as BACT in many recent . . . determinations” reported in the RACT/ BACT/LAER database, that provides further support for “[t]he selection of LDAR as the only viable control option.” Medicine Bow Memo at 25, 24. This argument again begs the question of “what kind,” of LDAR program is BACT, and again ignores that other design considerations – including use of leakless components – can be part of the package of tech-

nologies adopted as BACT to limit VOC and HAP emissions from the particular facility under consideration. Sahu Aff., exhibit A, at ¶¶ 34-35.

The balance of Medicine Bow's arguments repeat those that DEQ advanced, and that Sierra Club refuted, above.

For the reasons stated above, the Council must deny the motions for summary judgment by DEQ and Medicine Bow. As Sierra Club has shown, the asserted facts advanced by DEQ and Medicine Bow in support of their motion on this claim are either unsupported in the record or not material in fact. Nevertheless, they are disputed by Sierra Club's expert and, for that reason, even if they are considered, cannot form the basis for summary judgment on this claim in favor of DEQ or Medicine Bow.

#### **IV. Neither DEQ Nor Medicine Bow is Entitled to Summary Judgment on Sierra Club's Modeling of Fugitive Particulate Matter Fugitive Claims**

##### **A. DEQ Failed to Properly Model Fugitive Emissions of Particulate Matter**

DEQ and Medicine Bow misstate Sierra Club's argument regarding short term modeling of fugitive particulates. *See* DEQ Memo at 26; Medicine Bow Memo at 36 (explaining Sierra Club's argument as DEQ failed to require modeling of all fugitives of particulate matter). Sierra Club's claim is that DEQ failed to model fugitive emissions of particulate matter using a 24-hour standard as required by law. DEQ Decision at 14, III.14 (AR 43); *see also* 40 C.F.R. §50.6, 50.7 (requiring 24-hour standard for PM<sub>10</sub> and PM<sub>2.5</sub>); 40 C.F.R.

§51.165(a)(ix), §51.166(b)(1)(iii) (requiring fugitive emissions to be included when determining net emission increase). DEQ asserts that its decision to not require short term fugitive particulate modeling is consistent with other permitting decisions, *see* DEQ Memo at 26, but permitting agencies, including the DEQ itself, regularly include short term modeling of fugitive emissions in analyses of projected particulate matter emissions. *E.g.*, Dry Fork Generating Station, Gillette, Wyoming, Basin Electric Power Cooperative DEIS prepared in August 2007 (PM<sub>10</sub> modeling on page 4-26), *available at* [http://www.usda.gov/rus/water/ees/pdf/Basin\\_DF\\_DEIS/Basin%20Dry%20For%20DEIS%20Ch4-7%200907.pdf](http://www.usda.gov/rus/water/ees/pdf/Basin_DF_DEIS/Basin%20Dry%20For%20DEIS%20Ch4-7%200907.pdf) (describing the 24 hour PM<sub>10</sub> impact including fugitive emissions).<sup>4</sup>

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<sup>4</sup> Other permitting authorities that have included 24 hour PM fugitive modeling in their analysis include: Highwood Generating Station, Great Falls, Montana, Southern Montana Electric Cooperative Inc. Final EIS prepared in January 2007, *available at* [http://www.deq.mt.gov/eis/HighwoodGeneratingStation/Voll/H%20-%20FEIS%20Vol.%20I%20-%20Chapter%204\\_Environmental%20Consequences.pdf](http://www.deq.mt.gov/eis/HighwoodGeneratingStation/Voll/H%20-%20FEIS%20Vol.%20I%20-%20Chapter%204_Environmental%20Consequences.pdf); Ely Energy Center, Ely, Nevada. Sierra Pacific Resources. Appendix 9 – Air Quality Impact Analysis prepared in October 2007, *available at* <http://ndep.nv.gov/bapc/download/ely/A9.pdf>; White Pine Energy Station, Ely, Nevada. White Pine Energy Associates/LS Power. Appendix 8 – Environmental Evaluation and Dispersion Modeling Files prepared in December 2006, *available at* <http://ndep.nv.gov/bapc/download/ls/app8.pdf>; Plant Washington, Sandersville, Georgia Power/Georgia, LLC. PSD Permit Application prepared in January 2008. *available at* <http://www.air.dnr.state.ga.us/airpermit/downloads/permits/psd/dockets/plantwashington/facilitydocs/30300051app.pdf>; Longleaf Energy Station, Hilton, Georgia. LS Power. PSD Permit Application prepared in November 2004, *available at* [http://www.air.dnr.state.ga.us/airpermit/downloads/permits/psd/dockets/longleaf/facilitydocs/Longleaf\\_PSD\\_Applic.pdf](http://www.air.dnr.state.ga.us/airpermit/downloads/permits/psd/dockets/longleaf/facilitydocs/Longleaf_PSD_Applic.pdf); Hyperion Energy Center, Union County, South Dakota. Hyperion Refining LLC. PSD Permit Application prepared in December 2007, *available at* [http://www.hyperionec.com/files/HEC\\_SD\\_PSD\\_App.pdf](http://www.hyperionec.com/files/HEC_SD_PSD_App.pdf); Kentucky NewGas, Central City, Kentucky. Kentucky SynGas, LLC. Air Permit Application – Volume 2 Air Modeling Report prepared in December 2008; Advanced Supercritical Pulverized Coal (ASCPC) Project, Essexville, Michigan. Consumers Energy. PSD Permit Application – Section 6 Ambient Impact Analysis. prepared in October 2007, *available at*

In justifying its failure to utilize the required short term modeling standard, DEQ and Medicine Bow rely on §234 of the Clean Air Act of 1990 (Simpson Amendment) and a 1994 Memorandum of Understanding between the EPA and DEQ. DEQ Memo at 26-7; Medicine Bow Memo at 37-8. However, both the Simpson Amendment and the 1994 Memorandum of Understanding (also referred to as Memorandum of Agreement) are completely irrelevant to this case. Sierra Club, not DEQ or Medicine Bow, must be awarded summary judgment on this claim as a matter of law. *See* Sierra Club Memo at 47-56.

**B. The Simpson Amendment is Irrelevant to this Case**

The Simpson Amendment does not apply to this case, as DEQ and Medicine Bow argue, Medicine Bow Memo at 26-7; DEQ Memo at 37-8, because the facility would incorporate an underground mine and the amendment's three year period of applicability expired approximately sixteen years ago.

The Simpson Amendment, by its clear terms, does not apply to facilities of the type at issue in this case. Section 234 of the Clean Air Act of 1990, the so-called "Simpson Amendment,"<sup>5</sup> gave the EPA Administrator the au-

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<http://www.deq.state.mi.us/aps/downloads/permits/CFPP/2007/341-07/Section%206%20-%20Ambient%20Impact%20Analysis.pdf>; Virginia City Hybrid Energy Center, Wise County, Virginia. Virginia Dominion Power. PSD Permit Application Volume II Class II Air Quality Modeling. Prepared in February 2007 and updated in August 2007 (including fugitive particulate matter emissions using a 24 hour standard in the modeling analysis).

<sup>5</sup> The full text of § 234 of the Clean Air Act is as follows:



thority to analyze the accuracy of the Industrial Source Complex Model and issue any necessary revisions to prevent the over-prediction of fugitive emissions of particulate matter in a 24-hour modeling analysis. Its scope was expressly limited to *surface coal mines*. The proposed Medicine Bow facility would involve an *underground coal mine*. See, e.g., Application at 1-1 (AR 78-22). (“(MBFP) is proposing to construct an underground coal mine. . .”).

Moreover, the Administrator’s authority to issue revisions expired three years after the enactment of the Clean Air Act Amendments of 1990. *Id.* In the three-year period between the 1990 Clean Air Act’s enactment and the potential forthcoming revisions, states were permitted to use alternative modeling. *Id.* Sixteen years later, however, this limited-duration provision does not provide an exemption from regulations requiring compliance with the 24-hour NAAQS standard. *Id.* 2 WAQSR §2(a), (b) (requiring PM measurement and providing 24-hour standards); 6 WAQSR §4(c)(ii)(A) Table (pro-

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Prior to any use of the Industrial Source Complex (ISC) Model using AP-42 Compilation of Air Pollutant Emission Factors to determine the effect on air quality of fugitive particulate emissions from *surface coal mines*, for purposes of new source review or for purposes of demonstrating compliance with the national ambient air quality standards for particulate matter applicable to periods of 24 hours or less, under section 110 or parts C or D of title I of the Clean Air Act, the Administrator shall analyze the accuracy of such model and emission factors and make revisions as may be necessary to eliminate any significant over-prediction of air quality effect of fugitive particulate emissions from such sources. *Such revisions shall be completed not later than 3 years* after the date of enactment of the Clean Air Act Amendments of 1990. *Until such time* as the Administrator develops a revised model for *surface mine* fugitive emissions, the State may use alternative empirical based modeling approaches pursuant to guidelines issued by the Administrator. Section 234 of the Clean Air Act of 1990 (emphasis added).

viding the concentration of particulate matter must not exceed 5 µg/m<sup>3</sup> measured as a 24-hour average); *see also* 40 C.F.R. §50.6, 50.7 (requiring 24-hour standard for PM<sub>10</sub> and PM<sub>2.5</sub>); 40 C.F.R. §51.165(a)(iv)(C) (requiring inclusion of fugitive emissions).

**C. The 1994 EPA Memorandum of Agreement is Irrelevant to this Case**

DEQ and Medicine Bow also rely on a 1994 Memorandum of Agreement between the EPA and DEQ. Medicine Bow Memo at 26; DEQ Memo at 38. However, the 1994 Memorandum of Agreement is inapplicable to the present proceeding because by its own terms, the Memorandum does not apply to any other area or region other than the Powder River Basin.

DEQ's reliance on the 1994 Memorandum of Agreement to avoid using 24-hour modeling is inadequate for two reasons. First – and most obviously – as a threshold matter, geographically, the Memorandum does not even apply to the proposed Medicine Bow facility's location. The 1994 Memorandum of Agreement governed the PM<sub>10</sub> policy only in the Powder River Basin. Memorandum of Agreement on Procedures for Protecting PM<sub>10</sub> NAAQS in the Powder River Basin at 2 (AR 3571). The Agreement expressly states “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 PM<sub>10</sub> *within the Powder River Basin in Wyoming.*” *Id.* (emphasis added). Because the proposed site of the Medicine Bow facility is located approximately 100 miles southwest of the Powder River Basin, on

its face, the Memorandum of Agreement does not apply to its PSD permit. The Memorandum specifically applied to the Powder River Basin because a review of PM<sub>10</sub> ambient monitoring in the Basin was found to be successful for maintaining the NAAQS of that area. *Id.* That reasoning does not apply to the present case because no study was performed by DEQ to determine that a 24-hour standard is not necessary in order to successfully maintain the NAAQS of particulate matter in Carbon County.

Second, the EPA and DEQ never had the authority to enter into the Memorandum of Agreement because it is clearly inconsistent with federal and state law, which requires facilities to include fugitive emissions in their modeling analysis. An agencies' interpretation of the Clean Air Act must be consistent with the law. *See 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.). The Memorandum of Agreement is contrary to the law because both federal and state law require 24-hour modeling of particulate matter to determine compliance with the national and state ambient air quality standards. 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 µg/m<sup>3</sup> measured as a 24-hour average); 40 C.F.R. §§50.6, 50.7 (requiring 24-hour standard for PM<sub>10</sub> and PM<sub>2.5</sub>); *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* 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); 40 C.F.R. §51.165(a)(ix), §51.166(b)(1)(iii) (requiring fugitive emissions to be included when determining net emission increase).

#### **D. CONCLUSION**

In order to obtain a valid PSD permit under federal and state law, emissions of particulate matter must be modeled using a 24-hour standard, and fugitive emissions must be included. *See* 2 WAQSR §2 (providing the necessary 24 hour average concentration for ambient air standard for PM<sub>10</sub>); 6 WAQSR §4(b)(i)(D) (requiring fugitive emissions to be considered in calculating the potential to emit for PSD permit). DEQ admits that it did not model fugitive emissions of particulate matter using a 24-hour standard. DEQ Decision at 14, III.14 (AR 43).

By neglecting to model impacts from its fugitive PM emissions, DEQ did not comply with the legal requirements for a PSD permit application.

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

The record is clear that DEQ failed to perform any reasonableness analysis before using PM10 as a surrogate for fulfilling PM2.5 requirements, failed to apply BACT to flares or to fugitive VOC and HAP emissions from components, and failed to model fugitive particulate emissions on a short-term basis. These are all straightforward questions of law, and the law commands that Sierra Club, not DEQ or Medicine Bow, be awarded summary judgment on these claims. DEQ also failed to consider significant sulfur dioxide emissions from flares in determining Medicine Bow's potential to emit (PTE). Further, DEQ erroneously approved Medicine Bow's PTE for hazardous air pollutant emissions, and that error led DEQ to erroneously determine that Medicine Bow is a "minor source" of hazardous air pollutants. If the Council declines to rule for Sierra Club as a matter of law on these claims, there are at least questions of facts that preclude judgment for DEQ and Medicine Bow. The Council must therefore deny DEQ's and Medicine Bow's motions for summary judgment in their entirety.

Respectfully submitted, this 30<sup>th</sup> day of November, 2009.

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## CERTIFICATE OF SERVICE

I hereby certify that I have caused to be served a true and correct copy of the forgoing *Sierra Club's Response to Medicine Bow's and DEQ's Motions for Summary Judgment* and associated documents via electronic mail on this the 30<sup>TH</sup> day of November, 2009 to the following:

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