IN THE SUPREME COURT, STATE OF WYOMING

2011 WY 42

OCTOBER TERM, A.D. 2010

March 9, 2011

SIERRA CLUB,

Appellant (Petitioner),

V.

No. S-10-0105

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY, and MEDICINE BOW FUEL & POWER, LLC,

Appellees (Respondents).

W.R.A.P. 12.09(b) Certification from the District Court of Laramie County The Honorable Peter G. Arnold, Judge

Representing Appellant:

Gay George, George Law, PC, Cheyenne, Wyoming; Andrea Issod, Sierra Club, San Francisco, California. Argument by Ms. Issod.

Representing Appellees:

Bruce A. Salzburg, Attorney General; Jay Jerde, Deputy Attorney General; Nancy Vehr, Senior Assistant Attorney General; John Coppede, Hickey & Evans, LLP, Cheyenne, Wyoming; Mary Throne, Throne Law Office, Cheyenne, Wyoming. Argument by Ms. Vehr and Ms. Throne.

Before KITE, C.J., and GOLDEN, HILL, VOIGT, and BURKE, JJ.

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BURKE, Justice.

[¶1] The Wyoming Department of Environmental Quality (DEQ) issued an air quality permit to Medicine Bow Fuel and Power LLC (Medicine Bow), authorizing the construction of a facility that will gasify and liquefy coal, and of an associated underground coal mine. The Sierra Club appealed the issuance of that permit to the Wyoming Environmental Quality Council (Council), which upheld the DEQ's decision. The Sierra Club appealed the Council's decision to the district court, which certified the appeal directly to this Court pursuant to W.R.A.P. 12.09(b). We will affirm the Council's decision.

ISSUES

[¶2] The Sierra Club states the issues for review as follows:

- 1. Whether the air permit for the Medicine Bow coal to liquids plant fails to consider significant sulfur dioxide emissions from flares in determining the Potential to Emit and fails to apply the Best Available Control Technology (BACT) to limit the flare emissions.
- 2. Whether the Medicine Bow permit fails to consider fine particulate matter $(PM_{2.5})$ emissions.
- 3. Whether the Department of Environmental Quality failed to include fugitive particulate emissions in its model to demonstrate compliance with 24-hour air quality standards.

FACTS

[¶3] On December 31, 2007, Medicine Bow applied for a permit to construct an industrial coal gasification and liquefaction plant to produce transportation fuels and other products, along with an underground mine that will supply the coal, all to be located approximately eleven miles southwest of Medicine Bow, Wyoming. DEQ completed its analysis of the permit application on June 19, 2008, and concluded that the Medicine Bow facility would comply with all requirements of the Wyoming Environmental Quality Act and of its implementing regulations, the Wyoming Air Quality Standards and Regulations (WAQSR). DEQ published a public notice of its proposed decision to issue the permit. During the public comment period that followed, DEQ received comments from many interested parties, including the Sierra Club. DEQ reviewed and analyzed the comments, along with additional information submitted by Medicine Bow, and issued the permit on March 4, 2009.

[¶4] The Sierra Club filed a petition for review with the Council, challenging DEQ's decision to issue the air quality permit to Medicine Bow. After discovery was completed, cross-motions for summary judgment were filed by the Sierra Club, DEQ, and Medicine Bow. The Council conducted a hearing on the motions on December 7, 2009. It denied the Sierra Club's motion, and granted summary judgment in favor of DEQ and Medicine Bow. The Sierra Club filed a timely Petition for Review with the district court, followed by an unopposed motion to certify the appeal directly to this Court. The district court granted the motion, and we accepted the certification.

STANDARD OF REVIEW

[¶5] We review the decisions of administrative agencies pursuant to Wyo. Stat. Ann. § 16-3-114 (LexisNexis 2009). The specific decision under review in this case is the Council's grant of summary judgment in favor of DEQ and Medicine Bow and against the Sierra Club. "[W]e review an agency's order granting a summary judgment in the same manner as in the civil context by employing our *de novo* standard of review and utilizing the same standards and reviewing the same materials as the agency." *Powder River Basin Resource Council v. Wyoming Dept. of Envtl. Quality*, 2010 WY 25, ¶ 33, 226 P.3d 809, 819 (Wyo. 2010), quoting *Rollins v. Wyoming Tribune-Eagle*, 2007 WY 28, ¶ 7, 152 P.3d 367, 370 (Wyo. 2007).

DISCUSSION

1. Sulfur Dioxide Emissions

[¶6] An application for an air quality permit must provide information on the proposed source's Potential to Emit, or PTE, which is defined by regulation as:

the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operations or the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the [e]ffect it would have on emissions is enforceable.

WAQSR ch. 6, § 4(a).

[¶7] Based on information provided by Medicine Bow during the permitting process, DEQ determined that the proposed facility's PTE for sulfur dioxide is approximately 37 tons per year. The Sierra Club claims that the facility's PTE should be much larger,

arguing that the DEQ improperly excluded from Medicine Bow's PTE emissions that will occur during malfunctions of the facility, and emissions resulting from "cold starts."¹ Cold starts are necessary after the facility has been shut down long enough that the equipment has cooled to ambient air temperature.

[¶8] The facts underlying this issue are not in dispute. Medicine Bow will perform a cold start when the facility first begins operations. Additional cold starts will be necessary to restart operations if the facility is shut down for major maintenance or repairs. Cold starts are estimated to occur once every three or four years. Medicine Bow also acknowledges that malfunctions will occur on occasion. The parties do not dispute the estimated emissions rates associated with cold starts and malfunctions. They disagree over whether, as a matter of law, these emissions must be included in Medicine Bow's PTE.

[¶9] When it issued the permit, DEQ explained that it has been the agency's "consistent practice" to make PTE determinations "based on consideration of a facility's routine operations." DEQ determined that emissions from malfunctions and cold starts did not result from the facility's routine operations, and so excluded them from Medicine Bow's PTE. This appears consistent with the regulatory definition of PTE. As explained in *United States v. Louisiana-Pacific Corp.*, 682 F. Supp. 1141, 1158 (D. Colo. 1988), PTE is meant to represent "the maximum emissions that can be generated while operating the source as it is intended to be operated and as it is normally operated." Malfunctions and cold starts do not represent the way the Medicine Bow facility is intended to be operated, or the way it will normally be operated.

[¶10] Significantly, DEQ drew a distinction between "cold starts" and "warm starts." Warm starts occur after planned regular maintenance activities, and will take place approximately once every 60 days. Because warm starts are planned and relatively frequent, DEQ considered them to be part of the facility's normal operations, and included those emissions in the facility's PTE. Cold starts, in contrast, are unplanned and irregular, and are estimated to occur only once every three to four years. DEQ did not consider cold starts to be part of the facility's normal operations, and excluded those emissions from Medicine Bow's PTE. Medicine Bow agrees with DEQ's position, emphasizing that the exclusion of emissions from cold starts and malfunctions is consistent with DEQ's long-standing interpretation of the PTE regulation.

[¶11] The Sierra Club's argument that DEQ failed to consider the emissions from cold

¹ Specifically, the Sierra Club contends that Medicine Bow's PTE should include an additional 165 tons per year for malfunctions, and an additional 257 tons per year from cold starts. However, as discussed below, cold starts are not expected annually, but estimated to occur only once every three or four years.

starts and malfunctions suggests that DEQ ignored these emissions. The record demonstrates otherwise. The permit limits Medicine Bow's sulfur dioxide emissions to the 37 tons per year, the same as its PTE. If emissions from malfunctions and cold starts exceed the limit of 37 tons per year, DEQ and Medicine Bow have recognized that these emissions will be considered excess emissions, and could subject Medicine Bow to enforcement action. *See* Wyo. Stat. Ann. §§ 35-11-201, -701, -801. As will be discussed in detail below, the permit issued by DEQ included several conditions intended to control and limit emissions from cold starts and malfunctions. As a practical matter, the Sierra Club has not pointed out any way in which emissions from cold starts and malfunctions would be regulated differently if they had been included in Medicine Bow's PTE.

[¶12] In addition, we note that the emissions from cold starts and malfunctions were included in computer models used to predict the air quality impacts of Medicine Bow's facility. DEQ reported that "[r]esults of the modeling were below the 3-hour and 24-hour WAAQS and NAAQS."² DEQ's inclusion of sulfur dioxide emissions in modeling is not determinative of whether such emissions must also be included in the facility's PTE. However, DEQ's inclusion of these emissions in the modeling demonstrates that DEQ did not overlook these emissions.

[¶13] The Sierra Club maintains that there is "a mountain of authorities" demonstrating that DEQ's interpretation is inconsistent with that of the federal Environmental Protection Agency (EPA). We have previously recognized that Wyoming's air quality regulatory program "is intended to be compatible with, and at least as stringent as, the federal Clean Air Act," and accordingly, "federal precedent and regulatory guidance is persuasive authority in Wyoming air quality cases." *Powder River Basin Resource Council*, ¶ 7, 226 P.3d at 813. Having reviewed the federal authorities cited by the Sierra Club, however, we find little support for its position.

[¶14] The Sierra Club quotes from *Louisiana-Pacific*, 682 F. Supp. at 1157, for "the concept [that] potential to emit refers to the maximum emissions a source can generate when being operated within the constraints of its design." But as we have already discussed, *Louisiana-Pacific* establishes that PTE includes only emissions that occur during normal operations:

² NAAQS (National Ambient Air Quality Standards) are "ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health." 42 U.S.C. § 7409(b)(1). WAAQS (Wyoming Ambient Air Quality Standards) are Wyoming's version of such standards. In broad terms, an air quality permit can be issued "only if the proposed source demonstrates that its emissions will not cause significant deterioration of ambient air quality. 6 WAQSR §§ 2 and 4." *Powder River Basin Resource Council*, ¶ 8, 226 P.3d at 813.

Any analysis of the definition of "potential to emit" must include a reference to the case of *Alabama Power Co. v. Costle*, 204 U.S. App. D.C. 51, 636 F.2d 323 (D.C.Cir. 1979) because the current definition above was promulgated in response to the D.C. Circuit's holding in that case....

The broad holding of *Alabama Power* is that potential to emit does not refer to the maximum emissions that can be generated by a source hypothesizing the worst conceivable operation. Rather, the concept contemplates the maximum emissions that can be generated *while operating the source as it is intended to be operated and as it is normally operated*.... *Alabama Power* stands for the proposition that hypothesizing the worst possible emissions from the worst possible operation is the wrong way to calculate potential to emit.

Louisiana-Pacific, 682 F. Supp. at 1157-58 (emphasis added). This discussion is more supportive of DEQ's interpretation than the Sierra Club's.

[¶15] The Sierra Club also relies on various EPA documents, but close reading of these documents reveals that they are distinguishable or, when put in context, do not further the Sierra Club's argument. For example, the Sierra Club quotes from an EPA guidance letter explaining that, "to determine PTE, a source must estimate its emissions based on the worst-case scenario taking into account startups, shutdowns and malfunctions." Letter from Steven C. Riva, EPA, to William O'Sullivan, New Jersey Dep't of Environmental Protection, February 14, 2006. On first reading, the quoted sentence would appear to support the Sierra Club's assertion that emissions from malfunctions and cold starts should be included in Medicine Bow's PTE. We note, however, that the letter's indication that PTE is based on a "worst-case scenario" seems inconsistent with the court's holding in *Louisiana-Pacific*, 682 F. Supp. at 1158, that PTE "does not refer to the maximum emissions that can be generated by a source hypothesizing the worst conceivable operation." Moreover, when the quoted sentence is read in context, it does not support the Sierra Club's position.

[¶16] In the quoted guidance letter, the EPA was answering a question from the New Jersey Department of Environmental Protection about how to deal with emissions from emergency generators when determining PTE. The answer given was that "EPA has no policy that specifically requires *exclusion* of 'emergency' (or malfunction) emissions." Letter from Steven C. Riva, *supra*. (Emphasis added.) By the same token, the letter did not set forth any policy that specifically requires *inclusion* of emergency or malfunction emissions in PTE. "Rather," the EPA said, "to determine PTE, a source must estimate its emissions based on the worst-case scenario *taking into account* startups, shutdowns and

malfunctions." Id. (Emphasis added.) Following this discussion, the EPA advised that

New Jersey should continue as they have and permit emergency units at some amount of operation sufficiently large to cover emergencies (i.e. 500 hours a year). Malfunctions that may require the operation of the emergency units and that may exceed the 500 hours/year limit could be handled through enforcement discretion on a case-by-case basis, as appropriate.

Id. We read this guidance letter to say that emissions from startups, shutdowns, and malfunctions are not automatically excluded from PTE, nor are they automatically included. They must be taken into account by including them in PTE if they fit within the regulatory definition, or excluding them if they do not.

[¶17] The Sierra Club's position that emissions from cold starts and malfunctions must be included in PTE is, therefore, inconsistent with the EPA's guidance that such emissions are not automatically included or excluded from PTE. In contrast, DEQ's decision in this case appears in accord with the guidance letter. As noted above, DEQ took into account emissions from cold starts, warm starts, and malfunctions. It determined that emissions from warm starts should be included in PTE, while emissions from cold starts and malfunctions should be excluded. With regard to the emissions excluded from Medicine Bow's PTE, DEQ also noted that excess emissions from cold starts and malfunctions may be handled through enforcement discretion, which is also consistent with the EPA's guidance letter.

[¶18] We conclude that DEQ's decision to exclude emissions from malfunctions and cold starts from Medicine Bow's PTE was not contrary to applicable Wyoming statutes and regulations. The Sierra Club has not demonstrated that it was inconsistent with federal authority or EPA guidance. The Council did not err in upholding DEQ's decision on Medicine Bow's PTE.

[¶19] As the second part of its sulfur dioxide issue, the Sierra Club asserts that DEQ did not require Medicine Bow to adopt the Best Available Control Technology (BACT) to control sulfur dioxide emissions from flares during cold starts and malfunctions. As discussed above, DEQ did not include these emissions within Medicine Bow's PTE. Nevertheless, Wyoming regulations provide that these emissions are still subject to BACT requirements. WAQSR ch. 6, § 2(c)(v). BACT is a term of art, and because different portions of the definition become significant in the discussion to follow, we set forth here the entire regulatory definition:

"Best available control technology" means an emission limitation (including a visible emission standard) based on the

maximum degree of reduction of each pollutant subject to regulation under these Standards and Regulations or regulation under the Federal Clean Air Act, which would be emitted from or which results [from] any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application [of] production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques 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. Application of BACT shall not result in emissions in excess of those allowed under Chapter 5, Section 2 or Section 3 of these regulations and any other new source performance standard of national emission standards for hazardous air pollutants promulgated by the EPA but not yet adopted by the State of Wyoming.

WAQSR ch. 6, § 4(a). The federal Clean Air Act includes an essentially identical definition of BACT. 42 U.S.C. § 7479(3). "In simplified terms, this regulation requires the DEQ to consider a broad range of available pollution control and reduction options, determine which can be achieved reasonably, and impose those as permit requirements." *Powder River Basin Resource Council*, ¶ 40, 226 P.3d at 821.

[¶20] The permit issued to Medicine Bow contains several conditions relating to emissions from the flares:

22. [Medicine Bow] shall monitor SO_2 emissions from the HP [heavy liquid] and LP [light liquid] flares. Monitoring of SO_2 emissions shall consist of installing flow monitoring equipment to the flares, and by either direct sampling of the flow to the flares or sampling of the coal. Records shall be

kept for a period of at least 5 years and shall be made available to [DEQ] upon request.

23. That the HP and LP flares shall be designed, constructed, operated and maintained to be smokeless, per Chapter 5, Section 2(m) of the WAQSR, with no visible emissions except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours as determined by Method 22 of 40 CFR part 60, Appendix A.

24. [Medicine Bow] shall maintain and operate the HP and LP flares during all period[s] of active operation such that the controls remain effective as viable emission control devices.

25. That the presence of a pilot flame shall be monitored using a thermocouple and continuous recording device or any other equivalent device to detect the presence of a flame on the HP and LP flares. [Medicine Bow] shall maintain records noting the date and duration of time during active operation when the pilot flame is not present in the HP and LP flares. Records shall be kept for a period of at least 5 years and shall be made available to [DEQ] upon request...

31. During periods of startup, [Medicine Bow] shall adhere to their procedures in their Startup/Shutdown Emission Minimization Plan, attached as Appendix A. This plan may be modified as deemed necessary by [Medicine Bow] without amending the permit, but revisions to the plan shall be approved by [DEQ] prior to implementation.³

As DEQ explains, in issuing the permit to Medicine Bow, it considered the available information regarding pollution control and reduction options for flares and, applying its engineering judgment and experience, determined which measures were reasonably available. Such measures were included as permit requirements meant to ensure that flare emissions would be minimized.

[\P 21] The Sierra Club's initial contention is that "BACT is an emissions limitation – a numerical limit that a source cannot exceed." This is simply incorrect. BACT need not

³ The plan referred to in this permit condition has been referred to by the parties as the "Startup/Shutdown Emission Minimization Plan" or "SSEM Plan." We will adopt their terminology.

be expressed as a numerical emissions limit. The regulation, quoted above, explicitly provides that BACT requirements may be satisfied by "a design, equipment, work practice or operational standard or combination thereof." WAQSR ch. 6, § 4(a). Corresponding EPA regulations also provide, in nearly identical language, that numerical emissions limitations are not the exclusive means of achieving BACT. 40 C.F.R. \S 51.166(b)(12); 52.21(b)(12).

[¶22] The Sierra Club nevertheless contends that a "work practice plan like the SSEM plan can be used for BACT only in 'limited circumstances' if a well-reasoned determination is made in the record that [a numerical] emission limit is technically infeasible and the plan is equivalent to BACT," citing a decision of the federal Environmental Appeals Board, *In re Indeck-Elwood, LLC*, PSD Appeal 03-04, 2006 WL 3073109 at *33 (E.A.B. 2006). The Sierra Club's contention that the agency's decision to impose a substitute for numerical emissions limitations must be documented by "a well reasoned determination . . . in the record" is an accurate paraphrase of *Indeck-Elwood*, in which the Environmental Appeals Board stated that BACT determinations must be "well documented in the administrative record." 2006 WL 3073109 at *54, n.97. However, the procedures by which the Environmental Appeals Board reviews permit decisions differ from those by which Wyoming's Environmental Quality Council reviews DEQ decisions. Because of these procedural differences, the Sierra Club's view of how BACT decisions must be documented "in the record" is not applicable in Wyoming.

[¶23] When the EPA reviews an application for an air quality permit, the agency must compile a record, as set forth in 40 C.F.R. § 124.9. The decision to issue or deny a permit is made by the Regional Administrator, and is based on the record compiled by the agency. 40 C.F.R. § 124.18. The Regional Administrator's decision may be appealed to the Environmental Appeals Board, which also bases its decision on the compiled record, and does not take new evidence from the parties. 40 C.F.R, § 124.19. *See generally*, Environmental Appeals Board website, available at www.epa.gov/eab.

[¶24] Wyoming has an EPA-approved air quality regulatory program. 40 C.F.R. part 52, subpart ZZ. DEQ, rather than the EPA, issues air quality permits in Wyoming. *See* Wyo. Stat. Ann. § 35-11-801, 42 U.S.C. § 7410(a). DEQ's permit decisions are reviewed by the Wyoming Environmental Quality Council. Wyo. Stat. Ann. §§ 35-11-112, -208, -802. Unlike the federal Environmental Appeals Board, the Council is not limited to reviewing the record compiled by DEQ prior to issuing a permit. Instead, the Council conducts a contested case hearing at which all parties are afforded the opportunity to present new evidence. *See generally*, DEQ Rules of Practice and Procedure Applicable to Hearings in Contested Cases, Chapter II; Wyo. Stat. Ann. § 16-3-107(j) (In a contested case hearing, "[o]pportunity shall be afforded all parties to respond and present evidence and argument on all issues involved."). Accordingly, the Council is allowed, even obligated, to consider new evidence presented to it on review.

[¶25] When the Council considered the parties' cross-motions for summary judgment, it was not limited to considering only the record previously compiled by the DEQ. As the Council correctly recited in its order granting summary judgment to DEQ and Medicine Bow, pursuant to W.R.C.P. 56(c), it was required to consider the pleadings, depositions, affidavits, and other supporting material presented by the parties in conjunction with their cross-motions for summary judgment, and to grant summary judgment if there were no genuine issues of material fact and the moving party was entitled to judgment as a matter of law. The Council's conclusions of law also included this accurate explanation:

8. On a summary judgment motion, the movant has the burden of establishing a *prima facie* case based on admissible evidence. The burden then shifts to the opposing party to establish through "specific facts" that a material question of fact remains. *Cornelius v. Powder River Energy*, 2007 WY 30, ¶ 10, 152 P.3d 387, 390 (Wyo. 2007).

9. The evidence opposing a *prima facie* case on a motion for summary judgment "must be competent and admissible, lest the rule permitting summary judgments be entirely eviscerated by plaintiffs proceeding to trial on the basis of mere conjecture or wishful speculation." Speculation, conjecture, the suggestion of a possibility, guesses, or even probability, are insufficient to establish an issue of material fact. *Jones v. Schabron*, 2005 WY 65, ¶ 11, 113 P.3d 34, 38 ([Wyo.] 2005).

[126] Our review of the record reveals that DEQ and Medicine Bow provided sufficient evidence to the Council to establish a prima facie case on the question of whether DEQ's substitution of Medicine Bow's SSEM Plan was justified because of the infeasibility of measuring emissions from the flares. In its decision document, DEQ's response to comments from the public explained that DEQ "did not establish emissions limits for the flares as emission limits would not be practically enforceable as these units cannot be tested using traditional EPA reference methods to determine compliance with emission limits." This information was presented to the Council as an exhibit to DEQ's motion for Medicine Bow provided additional support for the technical summary judgment. infeasibility of measuring emissions from the flares in the form of an affidavit from its expert witness confirming that numerical emissions limits for the flares could not be verified because there was no measurement methodology. This evidence was adequate to make the prima facie showing that, in the words of the regulation, "technological or economic limitations on the application of measurement methodology" rendered the imposition of a numeric emission standard "infeasible." WAQSR ch. $6, \S 4(a)$.

[¶27] At this point, the burden shifted to the Sierra Club to establish through "specific

facts" that a material question of fact remained to be answered. *Cornelius*, ¶ 10, 152 P.3d at 390. Because the Sierra Club was the party opposing summary judgment, the Council was required to view the evidence from the vantage point most favorable to the Sierra Club, and give the Sierra Club the benefit of all favorable inferences that could fairly be drawn from the evidence. On judicial review, we afford the Sierra Club the same favorable view of its evidence and the same benefit of fairly drawn favorable inferences. *Loya v. Wyoming Partners of Jackson Hole, Inc.*, 2001 WY 124, ¶ 8, 35 P.3d 1246, 1251 (Wyo. 2001).

[¶28] The Sierra Club offered no such evidence, either in support of its own motion for summary judgment, or in response to the motions of DEQ and Medicine Bow. Rather than offering any evidence to refute that offered by DEQ and Medicine Bow, the Sierra Club insisted before the Council, as it continues to argue before this Court, that the evidence presented by DEQ and Medicine Bow was not "in the record" compiled by DEQ before issuing the permit. It characterized the report attached to the affidavit of Medicine Bow's expert as "little more than classic post-hoc rationalization offered in an attempt to clean up after the lack of analysis done by DEQ."

[¶29] As discussed above, however, the Council was not limited to considering only the record compiled by DEQ prior to issuing the permit. The Council did not err in considering the evidence offered by DEQ and Medicine Bow. Through that evidence, DEQ and Medicine Bow established their *prima facie* cases that there were no genuine issues of material fact regarding the infeasibility of measuring emissions from the flares. The Sierra Club presented no evidence to dispute the evidence offered by DEQ and Medicine Bow, and accordingly, it failed to establish that any genuine issue of material fact remained to be decided.

[¶30] The Sierra Club's final contention with regard to the flares is that a work practices plan is acceptable as BACT only if it is demonstrated to be the equivalent of BACT, and that there was no determination in the record compiled by DEQ prior to issuing the permit that the SSEM Plan was equivalent to BACT. As previously discussed, the Council was not limited to the record compiled by DEQ prior to issuing the permit. Our review of the record on appeal indicates that DEQ supported its motion for summary judgment with factual evidence that it had reviewed the SSEM Plan using its engineering judgment and experience to ensure that flare emissions were minimized, and the result was a determination, supported by evidence, that the SSEM Plan was equivalent to BACT. Medicine Bow supported its motion for summary judgment with expert opinion that no feasible add-on emissions controls exist for flares, and that a work practices plan such as the SSEM Plan "can result in dramatic emission reductions and pollution prevention." Upon this showing by DEQ and Medicine Bow, the burden shifted to the Sierra Club to present evidence raising a genuine issue of material fact. It provided one paragraph in the affidavit of its expert, who quoted selectively from the SSEM Plan but ignored other permitting conditions for the flares. His opinion that the SSEM Plan was not equivalent to BACT was unsupported by any specific facts. Even viewing this evidence in the light most favorable to the Sierra Club, it is speculative, unsupported, and insufficient to counter the showings by DEQ and Medicine Bow.

[¶31] Considering all of the Sierra Club's sulfur dioxide claims, we conclude that the Council did not err in ruling against the Sierra Club and upholding DEQ's decision to grant Medicine Bow's air quality permit.

2. Fine Particulate Matter Emissions

[¶32] As its second issue, the Sierra Club claims that DEQ, in its decision to issue an air quality permit to Medicine Bow, failed to consider fine particulate matter emissions from the facility. DEQ asserts that it did consider fine particulates, but because emissions of fine particulates are difficult to measure, model, and control, the agency used measurements, models, and controls of coarse particles as a surrogate to determine that Medicine Bow also complied with requirements relating to fine particulates. Medicine Bow supports DEQ's position. The Sierra Club acknowledges that DEQ used coarse particles as a surrogate for the smaller particles, but argues that it was improper for DEQ to do so without making a case-specific determination that it was reasonable to use coarse particles as a surrogate for finer particles.

[¶33] A brief history of the regulation of particulate matter is needed as background for this issue. When the EPA first issued NAAQS for particulate matter, the standards applied to "a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes." 62 Fed. Reg. 38652, 38653 (July 18, 1997). Particulate matter was measured as total suspended particulates, which included particulates of all sizes. *Id.* Over time, the EPA considered evidence that smaller particles in the air present greater health risks than larger particles. In response, the EPA promulgated particulate matter standards measured in terms of PM₁₀, which refers to "particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers." *Id.* at 38654 n.1. Later, the EPA sharpened its focus on even smaller particles, and added particulate matter standards measured in terms of PM_{2.5}, or "particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers." *Id.*, n.5.

[¶34] When it promulgated the $PM_{2.5}$ standards in 1997, the EPA recognized that the methods needed to measure or calculate emissions of such small particles had not been established, that modeling techniques for projecting the ambient impacts of these fine particles were undeveloped, and that means of controlling $PM_{2.5}$ emissions were unproven. To help fill these gaps, the EPA issued guidance authorizing the use of PM_{10} as a "surrogate" in order to determine compliance with the $PM_{2.5}$ standards. Memorandum from John Seitz, EPA, to All Regions, on Interim Implementation of New Source Requirements for $PM_{2.5}$ (Oct. 13, 1997) (the Seitz Memorandum). See 73 Fed.

Reg. 28321, 28324 (May 16, 2008).

[¶35] In 2005, the EPA issued a guidance document reaffirming the continued use of PM_{10} as a surrogate to address the requirements of the $PM_{2.5}$ standards. Memorandum from Stephen D. Page, EPA, to Regional Administrators on Implementation of New Source Review Requirements in $PM_{2.5}$ Nonattainment Areas (April 5, 2005) (the Page Memorandum). *See* 73 Fed. Reg. at 28324. Then, in 2007, the EPA proposed additional rules relating to $PM_{2.5}$, and reconfirmed that states could continue using PM_{10} as a surrogate for $PM_{2.5}$ until their State Implementation Plans were approved by the EPA. 72 Fed. Reg. 54112, 54114 (Sept. 21, 2007).

[¶36] In May of 2008, the EPA approved a revision to Wyoming's SIP. In its approval, the EPA expressly stated that "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." 73 Fed. Reg. 26019, 26024 (May 8, 2008).

[¶37] Also in May of 2008, the EPA promulgated finalized regulations implementing the PM_{2.5} standards. 73 Fed. Reg. 28321 (May 16, 2008). In the preamble to these regulations, the EPA acknowledged that it had previously approved of using PM₁₀ as a surrogate for meeting PM_{2.5} requirements "until certain difficulties were resolved, primarily the lack of necessary tools to calculate the emissions of PM_{2.5} and related precursors, the lack of adequate modeling techniques to project ambient impacts, and the lack of PM_{2.5} monitoring sites." 73 Fed. Reg. at 28340. The EPA declared, however, that "these difficulties have largely been resolved." *Id.* Accordingly, the EPA planned a "transition" away from the use of PM₁₀ as a surrogate for PM_{2.5} and toward more direct enforcement of the PM_{2.5} standards. During this transition period, however, the EPA "elected to maintain our existing PM₁₀ surrogate policy." 73 Fed. Reg. at 28341. The transition period lasts for three years after promulgation of the finalized PM_{2.5} regulations, *i.e.*, "(until May 2011) or until the individual revised State . . . programs for PM_{2.5} are approved by EPA, whichever comes first." 75 Fed. Reg. 6827, 6831 (Feb. 11, 2010).

[¶38] DEQ has not yet received EPA approval for its $PM_{2.5}$ programs, and so Wyoming remains in the transition period. Citing the history reviewed above, DEQ and Medicine Bow assert that the EPA's PM_{10} policy expressly allows DEQ to continue using PM_{10} as a surrogate for $PM_{2.5}$ during this transition period. For that reason, DEQ and Medicine Bow assert that it was proper for DEQ to use PM_{10} as a surrogate for $PM_{2.5}$ when it analyzed Medicine Bow's permit application and issued the air quality permit.

[¶39] The Sierra Club does not seriously dispute DEQ's authority to use PM_{10} as a surrogate for $PM_{2.5}$, but claims that the surrogate policy must be justified in each case by a permit-specific determination that it is reasonable to use it. As support for its position, the Sierra Club relies on the EPA decision set forth in *In re Louisville Gas & Electric Co., Trimble County, Kentucky, Title V/PSD Air Quality Permit # V-02-043, Revisions 2 and*

3, Petition No. IV-2008-3 (August 12, 2009) ("*Trimble*"). In that case, the Kentucky Division for Air Quality had issued a permit for the construction of a new coal-fired boiler for an existing electric generating station. Pursuant to 42 U.S.C. § 7661d(b), the petitioners, including the Sierra Club, asked the EPA to object to this air quality permit. The EPA granted the petition and determined that it would object to the permit, on grounds including Kentucky's use of PM_{10} as a surrogate for $PM_{2.5}$. As the Sierra Club characterizes the EPA's decision in *Trimble*, a "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."

[¶40] As a first step in analyzing the Sierra Club's argument, we note that Medicine Bow submitted its permit application on December 31, 2007, and received the permit on March 4, 2009. *Trimble* was not issued until August 12, 2009. The Sierra Club asserts that the *Trimble* decision applies to Medicine Bow because it is an expression of the EPA's previously existing policy. DEQ and Medicine Bow argue that *Trimble* is a declaration of new policy, and does not apply retroactively. For a number of reasons, we believe that the *Trimble* decision reflects a change in the EPA's policy toward the use of PM₁₀ as a surrogate for PM_{2.5}, and conclude that it does not apply in Medicine Bow's case.⁴

[¶41] The *Trimble* decision observed that, "[w]hen the EPA issued the PM_{10} Surrogate Policy in 1997, the Agency did not identify criteria to be applied before the policy could be used for satisfying the $PM_{2.5}$ requirements." In a footnote, the EPA noted that, in 2007, it had "denied a petition requesting that EPA object to [an air quality permit] for failure to include a BACT limit for $PM_{2.5}$ emissions." The fact that the EPA made one decision in 2007, then reached a contrary result in *Trimble* in 2009, establishes that *Trimble* was meant to promulgate a change in EPA policy, not to confirm a previously existing policy. In fact, the EPA signaled that a change was being made when it explained that the decision in *Trimble* reflected "an evolving understanding of the technical and legal issues associated with the use of the PM_{10} Surrogate Policy."

[¶42] The change is also indicated by the EPA's legal analysis. In *Trimble*, the EPA

⁴ There is "well-established Wyoming law to the effect that statutes are not applied retroactively unless retroactivity is expressly provided for in the statute." *Edgcomb v. Lower Valley Power & Light*, 922 P.2d 850, 859 (Wyo. 1996). We have also decided a number of cases that "generally stand for the proposition that the retroactive application of either statutes or administrative rules and regulations [is] disfavored." *State ex rel. State Department of Revenue v. Union Pac. R.R. Co.*, 2003 WY 54, ¶ 33, 67 P.3d 1176, 1188 (Wyo. 2003) (collecting several such cases). The parties in this case seem to assume that these principles apply to the retroactive application of agency policy, as well as to the retroactive application of statutes and regulations. This assumption does not appear unreasonable, but the parties have failed to cite any legal authority to support it. We may adopt the parties' assumption for purposes of this case, but we will reserve any decision on the question until it is more directly presented to us.

reviewed four decisions from the United States Court of Appeals for the District of Columbia Circuit, all dealing with the use of surrogates in the air quality context. The EPA concluded that "the overarching legal principle from these decisions is that a surrogate may be used only after it has been shown to be reasonable." In finding this overarching legal principle, however, the EPA recognized that "these court decisions do not speak directly to the use of PM_{10} as a surrogate for PM_{25} ." In fact, none of the cases discussed the use of PM_{10} as a surrogate for $PM_{2.5}$. One dealt with the use of hydrocarbons as a surrogate for fine particulate matter. Bluewater Network v. Environmental Protection Agency, 370 F.3d 1, 18 (D.C. Cir. 2004). The other three dealt with the use of surrogates for hazardous air pollutants. National Lime Ass'n v. Environmental Protection Agency, 233 F.3d 625, 637 (D.C. Cir. 2000) ("The EPA may use a surrogate to regulate *hazardous pollutants* if it is 'reasonable' to do so.") (emphasis added); Sierra Club v. Environmental Protection Agency, 353 F.3d 976, 982-84 (D.C. Cir. 2004); Mossville Environmental Action Now v. Environmental Protection Agency, 370 F.3d 1232, 1242-43 (D.C. Cir. 2004). PM_{10} and $PM_{2.5}$ are criteria pollutants, not hazardous pollutants.⁵ In addition, none of the four considered whether a case-specific reasonableness determination was required for every individual permit decision. Instead, all four considered the determination of reasonableness the EPA must make to support the promulgation of a generally applicable regulation implementing a surrogate policy.

[¶43] One court that considered the impact of the ruling in *National Lime* noted the limitations of that decision. Contrary to the EPA's decision in *Trimble*, the court specifically concluded that *National Lime* did not mandate a permit-specific determination that the use of PM_{10} as a surrogate for $PM_{2.5}$ was reasonable:

[T]he *National Lime* test does not apply to the use of PM_{10} as a surrogate for $PM_{2.5}$ in PSD permits as is the issue in this case. Rather, *National Lime* involved the use of PM as a surrogate for hazardous air pollutants Accordingly, the case is inapposite to this issue.

Appalachian Voices v. State Air Pollution Control Board, 56 Va. App. 282, 297-98, 693 S.E.2d 295, 303 (2010). The point here is not that a court has disagreed with the EPA's *Trimble* decision. Our point is that the requirement of a permit-specific reasonableness determination is not immediately apparent from the holdings in the four court cases on which the EPA relied. The EPA first recognized this overarching principle in *Trimble*, signaling a change in the EPA's PM₁₀ surrogate policy, not a continuation of previously established policy.

⁵ See 42 U.S.C. § 7408 (criteria pollutants defined); 40 C.F.R. § 50.6 (PM₁₀); 40 C.F.R. §§ 50.7, 50.13 (PM_{2.5}); 42 U.S.C. § 7412(b) (list of hazardous air pollutants, not including PM₁₀ or PM_{2.5}).

[¶44] The Sierra Club has not cited any document in which the EPA imposed a permitspecific reasonableness requirement prior to the *Trimble* decision. The history of the EPA's PM₁₀ surrogate policy, as set forth by the DEQ, includes no expression of such a requirement by the EPA prior to the *Trimble* decision on August 12, 2009. By then, Medicine Bow had already received its air quality permit, and it was too late for retroactive application of the EPA's *Trimble* decision.

[¶45] When DEQ and Medicine Bow moved for summary judgment against the Sierra Club on this issue, they argued as a matter of law that no permit-specific reasonableness determination was required, but even if it were, as a matter of fact the use of the surrogate was reasonable. The Council ruled as a matter of law that the *Trimble* decision did require a permit-specific reasonableness determination, but that there were no genuine issues of fact that DEQ had made such a determination. We, on the other hand, conclude that the *Trimble* decision does not apply retroactively, so that no permit-specific reasonableness determination was required in Medicine Bow's case. The practical result of our decision is, however, the same as the Council's decision: a ruling against the Sierra Club's claim and in favor of DEQ and Medicine Bow. "[W]e can affirm an administrative agency's summary judgment decision on any basis apparent in the record." *Powder River Basin Resource Council*, ¶ 33, 226 P.3d at 819. Although we reach this conclusion on a basis different from the Council's, we conclude that the Council did not err when it rejected the Sierra Club's fine particulate matter claim and upheld DEQ's issuance of Medicine Bow's air quality permit.

3. Fugitive Particulate Emissions

[¶46] As its final issue, the Sierra Club contends that DEQ improperly failed to model, or require Medicine Bow to model, the impacts of fugitive emissions of particulate matter. Fugitive emissions are "emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening." WAQSR ch. 6, § 4(a). *See also* 40 C.F.R. § 52.21(b)(20). Examples might include dust blown by the wind from coal stockpiles or raised by vehicles travelling on unpaved roads. DEQ admits that it did not require modeling of the short term impacts of fugitive emissions, but asserts that it is not required to do so. Medicine Bow supports DEQ's assertion.

[¶47] Under Wyoming regulations, no air quality permit may be issued "unless the applicant shows, to the satisfaction of the Administrator of the Division of Air Quality" that "[t]he proposed facility will not cause significant deterioration of existing ambient air quality in the Region." WAQSR ch. 6, § 2(c)(iii). In addition, a proposed facility may not receive a permit unless it shows that the predicted impact of its emissions is less than the maximum allowed increment. *Id.*, § 4(b)(i)(A)(I). As explained by the Sierra Club, the permit applicant "must analyze the 'predicted impact' of the new source's emissions and prove that [the] impact is less than both the maximum allowable increment and the

ambient standard." The regulation continues,

An analysis of the predicted impact of emissions from the stationary source is required for all pollutants for which standards have been established . . . and which are emitted in significant amounts. An analysis of the impact of other pollutants may be required by the Administrator. Such analysis shall identify and quantify the impact on the air quality in the area of all emissions . . . The purpose of this analysis is to determine the *total* deterioration of air quality from the baseline concentrations; however, projections of deterioration due to general non-stationary source growth in the area predicted to occur after the date of application is not required.

WAQSR ch. 6, § 4(b)(i)(A)(I) (emphasis in original). As we recently observed, "To predict whether the impacts of a proposed source's emissions will exceed [these standards], one tool available to the DEQ is a computer model that estimates what the impacts will be." *Powder River Basin Resource Council*, ¶9, 226 P.3d at 814. The question presented to us now is whether DEQ is required to employ the computer modeling tool to predict the short term air quality impacts of fugitive particulate emissions.

[¶48] As noted above, DEQ admits that it did not model the short term impacts of fugitive particulate matter emissions. However, the analysis undertaken by DEQ in this case included modeling of the long term impacts of fugitive particulate matter, and of the short term impacts of particulate emissions from point sources. These models predicted no violations of the applicable standards. Instead of requiring modeling of the short term impacts of fugitive particulates, DEQ applied its expertise and experience to analyze various pertinent factors, including the fact that Medicine Bow's fugitive particulate emissions will be relatively smaller than other comparable operations in Wyoming. Based on this analysis, DEQ concluded that the predicted impact of emissions from the Medicine Bow facility will not exceed the applicable standards. This prediction will be verified by actual monitoring of the facility's air quality impacts once it has begun operations.

[¶49] DEQ explains that it does not require modeling of the short-term impacts of fugitive particulate emissions because such models "do not produce realistic results" and can significantly overestimate short-term impacts. DEQ cites a long history of technical difficulties in quantifying and modeling fugitive emissions, particularly when used to predict short-term impacts, and of the regulatory uncertainty about how to deal with these difficulties. *See, e.g.*, 48 Fed. Reg. 38742, 38743-47 (August 25, 1983). In 1990, at least in part because of these difficulties and uncertainties, the United States Congress

promulgated Section 234 of the federal Clean Air Act, known as the "Simpson Amendment," to address modeling issues relating to fugitive emissions:

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 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 [of the EPA] 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

Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 234 (1990). DEQ and Medicine Bow argue that this statutory provision expressly authorizes the use of alternative means to analyze the short-term impacts of fugitive particulate matter emissions.

[¶50] The Sierra Club suggests two reasons that this statute does not apply. First, it points out that the statute applies only to emissions from "surface coal mines," not to the underground coal mine proposed by Medicine Bow. Federal law, however, defines the term "surface coal mine" to include the "surface operations and surface impacts incident to an underground coal mine." 30 U.S.C. § 1291(28)(A). *See also* 30 U.S.C. § 1266(a) (authorizing the regulation of the "surface effects of underground coal mining operations"). This supports DEQ's interpretation of the statute as encompassing the surface impacts associated with Medicine Bow's underground mine. Second, the Sierra Club points out that the statute refers to the ISC Model, an older model that has been replaced by one called AERMOD. The Simpson Amendment expressly provides that "[u]ntil 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." DEQ contends that AERMOD still produces a "high degree of uncertainty in modeling short-term fugitive impacts." Accordingly, DEQ and Medicine Bow assert that the Simpson Amendment continues to authorize the use of

analytical techniques other than modeling to predict the short-term air quality impacts of fugitive particulate emissions. The Sierra Club has not cited any authority indicating that the EPA has revised either model so as, in the words of the Simpson Amendment, to "eliminate any significant over-prediction of air quality effect of fugitive particulate emissions from such sources."

[¶51] The DEQ also relies on a Memorandum of Agreement it made with the EPA in 1994, in which the two agencies agreed that monitoring could be substituted for short-term modeling of fugitive particulate emissions for mines in Wyoming's Powder River Basin. DEQ admits that the Medicine Bow facility will not be located in the Powder River Basin. However, DEQ also points out that the Memorandum of Agreement was made pursuant to the authority of the Simpson Amendment, which does not limit its scope to the Powder River Basin. Accordingly, DEQ argues that it is legally authorized to, and has, extended the policy of the Memorandum of Agreement to apply throughout Wyoming.

[¶52] In response to the arguments of DEQ and Medicine Bow, the Sierra Club posits that "[m]odels are required under Wyoming law to demonstrate compliance with air quality standards." After a close reading of the Sierra Club's brief, however, we conclude that it has failed to support this argument with reference to any statute, regulation, or policy, either in Wyoming law or from the EPA. The Sierra Club seems to rely on WAQSR ch. 6, § 4(b)(i)(A)(I), quoted above, which requires the permit applicant to analyze the predicted impact of the new source's emissions. However, the Sierra Club has not cited any statutory or regulatory definition equating the term "analyze" with "computer model," or any provision indicating that modeling is a required step in the analysis of predicted air quality impacts. As we recently observed, "To predict whether the impacts of a proposed source's emissions will exceed [applicable standards], one tool available to the DEQ is a computer model that estimates what the impacts will be." *Powder River Basin Resource Council*, ¶ 9, 226 P.3d at 814. Modeling is one tool, but the Sierra Club has not demonstrated that it is the only permissible tool.

[¶53] The Sierra Club also points to WAQSR ch. 6, § 4(b)(iv), which provides that "[a]ll applications of air quality modeling required under paragraph (b)(i) above shall be based on the applicable models, databases, and other requirements specified in Appendix W of 40 CFR part 51 (Guideline on Air Quality Models)." This regulation does not require modeling in every instance. It provides only that when modeling is done, it must meet certain standards.

[¶54] From Appendix W of 40 C.F.R. part 51, the Sierra Club points to language stating that "the impacts of new sources that do not yet exist can only be determined through modeling." 40 C.F.R. part 51, Appendix W, subsection 1.0.b. This language should not be read in isolation, however. The purpose of the subsection as a whole is to explain varying uses and limitations of modeling, monitoring, and measuring:

Due to limitations in the spatial and temporal coverage of air quality measurements, monitoring data normally are not sufficient as the sole basis for demonstrating the adequacy of emission limits for existing sources. Also, the impacts of new sources that do not yet exist can only be determined through modeling. Thus, models, while uniquely filling one program need, have become a primary analytical tool in most air quality assessments. Air quality measurements can be used in a complementary manner to dispersion models, with due regard for the strengths and weaknesses of both analysis techniques. Measurements are particularly useful in assessing the accuracy of model estimates. The use of air quality measurements alone however could be preferable, as detailed in a later section of this document, when models are found to be unacceptable and monitoring data with sufficient spatial and temporal coverage are available.

Id. The phrase cited by the Sierra Club, taken in context, presents the unremarkable observation that sources that do not exist cannot be measured or monitored. *See Powder River Basin Resource Council*, ¶ 13 n.1, 226 P.3d at 815 n.1 ("Because Dry Fork was not yet in operation, its actual emissions could not be documented."). The text recognizes modeling as "a primary analytical tool in most air quality assessments," but not as the exclusive analytical tool. Taken as a whole, this explanation of modeling does not create a mandate to employ modeling in every instance.

[¶55] In granting summary judgment to DEQ and Medicine Bow, the Council determined that DEQ's long-standing practice of not requiring modeling of fugitive particulate emissions to demonstrate compliance with the 24-hour standards is consistent with controlling law, and that the Sierra Club failed to show that DEQ's actions were contrary to the law or applicable DEQ rules and regulations. We agree, and conclude that the Council did not err in rejecting the Sierra Club's fugitive particulate emissions claim.

CONCLUSION

[¶56] We affirm the Council's grant of summary judgment in favor of DEQ and Medicine Bow and against the Sierra Club.