Mary A. Throne, Esq.
THRONE LAW OFFICE
720 E 19th ST
PO Box 828
Cheyenne WY 82003-0828
Ph: (307) 672-5858
and
John A. Coppede, Esq.
HICKEY & EVANS, LLP
1800 Carey Ave Ste 700
PO Box 467
Cheyenne WY 82003-0467
Ph: (307) 634-1525
Fx: (307) 638-7335
*Attorneys for Medicine Bow Fuel & Power, LLC*



**BEFORE THE**

**ENVIRONMENTAL QUALITY COUNCIL**

**STATE OF WYOMING**

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

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## MEDICINE BOW FUEL & POWER, LLC'S RULE 56.1 STATEMENT IN SUPPORT OF ITS MOTION FOR SUMMARY JUDGMENT

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Medicine Bow Fuel & Power, by and through its attorneys, and pursuant to Wyo. R. Civ. P. 56.1 hereby submits its statement of material facts as to which it contends there is no genuine issue of material fact to be tried in this matter:

1. On March 4, 2009, MBFP received Permit CT-5873 (Permit) from the WDEQ to construct commercial scale gasification and liquefaction facility (Facility) and the surface facilities associated with an underground coal mine in Carbon County, Wyoming. Using an unutilized underground coal resource, the Facility will produce gasoline for transportation fuel to

be sold into the regional market. The MBFP Facility, therefore, will enhance national energy security and contribute to energy independence by providing a domestic source of gasoline.

2. The underground mine (Saddleback Hills Mine) is expected to have a maximum production rate of 8,700 tons per day of coal or approximately 3.2 million tons per year of coal as feed to the Facility. The Mine will produce coal by using underground continuous and longwall miners (the latter of which consists of multiple coal shearers mounted on a series of self-advancing hydraulic ceiling supports). The coal will leave the Mine through the East Portal where it will be conveyed to a storage area before final conveyance to the Facility.

3. The coal will then be prepared into slurry, which will be pumped under high pressure into the Facility's gasifiers. The Facility will use five gasifiers with each gasifier sized to handle one-fourth of the Facility's total capacity. During normal operations, four gasifiers will be in operation with the fifth in hot standby. The gasifiers will be fueled by coal-water slurry consisting of coal, calcium carbonate, and 98% oxygen.

4. A raw syngas will leave the gasifiers and will be mixed with process condensate in order to prevent the build-up of solids and facilitate their removal in the syngas scrubber. From the syngas scrubber the syngas is sent to a low-temperature gas clean-up (LTGC) unit. There the syngas is cooled in a series of heat exchangers. The partially condensed syngas is then separated. Upon separation, the syngas is heated and split into two streams. The syngas will enter either a "shift reactor" which will convert carbon monoxide (CO) and $H_20$ to carbon dioxide ($CO_2$), $H_2$ and hydrolyze carbonyl-sulfide (COS), or a reactor where the COS will be hydrolyzed to hydrogen sulfide ($H_2S$) and $CO_2$. The syngas at that point will then be routed to carbon beds followed by a unit known as the SELEXOL® acid gas removal unit.

5. Condensate from the low-temperature gas clean-up unit will flow to a stripper which will remove all of the ammonia ($NH_3$), $H_2S$, and COS from the condensate, along with some dissolved $H_2$ and CO. The gas is then blended with sour flash gas and gases from the flash separators before being sent to the SELEXOL® unit.

6. The syngas will then enter an activated carbon bed for mercury removal. The syngas will then be mixed with recycled stripped gas where it will then flow to the SELEXOL® feed/product exchanger to be cooled. The gas will flow through two successive absorbers, the first of which will remove $H_2S$ and the second of which will remove $CO_2$. The treated syngas is then sent to a methanol synthesis unit. In the methanol synthesis unit the treated syngas will be compressed and preheated and then sent to a syngas purification vessel where any remaining impurities will be removed. The resulting clean gas will then enter methanol reactors. During normal operations, the methanol will be sent to the methanol-to-gasoline (MTG) unit to produce finished gasoline.

7. The facility will also recover $CO_2$. The $CO_2$ gas stream will exit the SELEXOL® unit where it will flow into a $CO_2$ recovery unit. The $CO_2$ will then be compressed in one of three parallel four-stage centrifugal compressor trains where it will be dried in the drying unit installed upstream of the third-stage compressor suction. Some of the $CO_2$ will be refrigerated to provide liquid coolant to the methanol synthesis and SELEXOL® units, and the remaining $CO_2$ will be compressed and sent to a pipeline customer.

8. The facility will also recover sulfur by having the acid gas (mostly $H_2S$ ) from the SELEXOL® unit enter a sulfur recovery unit (SRU) where the gas will be treated and sent to reactors to produce elemental sulfur. The gases leaving the reactor will then be cooled to

condense the elemental sulfur, which will flow to a below-ground concrete pit. Gases containing unconverted sulfur compounds will pass through a reactor that will reduce them to $H_2S$. The gas will then be recycled to the SELEXOL® unit or to a flare during an upset condition at the plant. Permit Analysis at 5.

9. To generate power, the facility will use a power block consisting of three GE 7EA gas turbines fueled by a mixture of fuel gas, LPG, syngas, and natural gas which will produce approximately 185 megawatts (MW). A heat recovery system on the gas turbine exhaust will superheat medium, low and high pressure steam. The superheated steam will flow to a single, three-stage steam turbine, producing approximately 215 MW of additional power, for a total of 400 MW. During startup, power will be supplied by three 1.6 mw Blackstart generators. These generators will fire natural gas and will be operated until the power block can supply sufficient power for the plant.

10. The facility will compress atmospheric air to approximately 100 pounds per square inch absolute (psia) using electric-driven compressors. The air will then be fed to an air separation unit where oxygen will be separated cryogenically. Following separation, the oxygen will be pumped to high pressure as a liquid and vaporized against a stream of condensing high pressure air. Most of the oxygen will be fed to the gasifiers with a small portion routed to the Sulfur Recovery Unit.

11. On June 19, 2007, MBFP submitted its original permit application under Chapter 6 of the Wyoming Air Quality Standards and Regulations (WAQSR) for a PSD permit to construct a major emitting facility. On December 31, 2007, MBFP submitted a revised application to reflect the change in process technology from production of diesel to production of

gasoline. The permit application was reviewed by the WDEQ which issued an analysis and draft permit on June 19, 2008.

12. Consistent with the requirements of WAQSR, Chapter 6, Section 2(m), the WDEQ made the draft permit available for public comment. A public hearing to accept public comment was held on August 4, 2008 in Medicine Bow, Wyoming. During the public comment process, WDEQ received many comments in favor of the permit as proposed, as well as those seeking modifications or rejection of the permit.

13. The WDEQ, Air Quality Division, carefully reviewed the public comments, sought additional information from MBFP, and developed responses to public comments over a period of approximately seven months. In response to the comments, WDEQ revised and added some conditions in the final Permit.

14. On March 4, 2009, the WDEQ issued Permit CT-5873 and an accompanying Decision Document, including its analysis and response to comments. Thus, the facility application received a thorough review over a period of nineteen months. The Decision Document includes responses to all the comments including those from Sierra Club and the EPA.

15. Section 801 of the Act imposes on the Director of the WDEQ a duty to issue permits following proof the applicant has met the requirements of the Act and the relevant regulations. Wyo. Stat. 35-11-801(a). Under Section of 201 of the Act, no person can allow the discharge of any contaminants into the air without first complying with the requirements of the WAQSR or in this case, obtaining a permit to construct. Wyo. Stat. 35-11-201. The construction permit requirements are found in Chapter 6 of the WAQSR, which is part of Wyoming's approved State Implementation Plan (SIP) under the Clean Air Act (CAA). Through

its State Implementation Plan, the WDEQ is the agency charged with developing and enforcing the requirements the CAA in Wyoming. The pre-construction permitting program is the key element in protecting air quality in Wyoming.

16. The CAA Amendments of 1977 established the PSD program, designed to protect areas of the country where air quality was cleaner than the requirements of the NAAQS from significant deterioration while still allowing economic development and use of the air resource. Wyoming's PSD program was first incorporated into Wyoming's SIP in 1979; 40 CFR § 2.2630. As such, the WDEQ has been evaluating, enforcing and issuing PSD permits since the program's inception. The specific requirements of the PSD program are contained in Chapter 6, Section 4 of the WAQSR, and work in conjunction with the general requirements of Wyoming's over all pre-construction requirements of its New Source Review program, found in Chapter 6, Section 2 of the WAQSR. In other words, PSD permits are issued pursuant to the requirements of both sections of Chapter 6. Wyoming's New Source Review regulations were first approved by the EPA in 1972. 40 CFR § 2.2620.

17. Under Wyoming's applicable regulations, MBFP's Facility is considered a "major stationary source" since it has the potential to emit at least 100 tpy of a criteria pollutant[1] and is a listed facility. In addition to determining the Facility, as a whole is "major," the regulations require the WDEQ to further consider whether the Facility is major for individual criteria pollutants, based on whether a Facility's potential to emit (PTE) of an individual pollutant meets

[1] Sections 108 and 109 of the CAA , 42 U.S.C. § 7408 , require EPA to establish national ambient air quality standards for criteria air pollutants. The criteria pollutants include ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Section 110 of the CAA, 42 U.S.C. § 7410, requires states to develop State Implementation Plans (SIPs) for the purpose of meeting and maintaining the NAAQS.

the significance thresholds in the regulations. The significance threshold for $SO_2$ is 40 tpy. WAQSR Ch. 6, § 4(a).

18. Under the WAQSR, whether a facility is subject to PSD or not, for criteria pollutants the permit applicant must demonstrate it will use Best Available Control Technology (BACT), to limit the emissions of pollutants. WAQSR Ch. 6, Sec. 2; WAQSR Ch. 6, Sec. 4. Both Section 2 and Section 4 require an applicant to use Best Available Control Technology taking into account the technical practicability and economic reasonableness of reducing or eliminating emissions. Thus, BACT determinations are reached through a process that is intended to be technology forcing.

19. A Facility may also be a major or minor source for HAPs under the Act, the WAQSR and Section 112 of the CAA. A source is major for HAPs if it has "the potential to emit ten (10) tons per year of any single hazardous air pollutant or twenty-five (25) tons per year of any combination of hazardous air pollutants," as defined in the CAA. Wyo. Stat. 35-11-203(a)(i)(B). A source that is major for HAPs may be required to apply maximum achievable control technology (MACT), depending on the source category.

20. The Director of the WDEQ may not propose to issue a PSD permit unless the applicant can demonstrate compliance with the WAAQS and the allowable PSD increments, as wells complying with Chapter 6, Section 2 requirements and the obligation to use BACT. WAQSR, Ch. 6, Sec 4(b). Once the Director determines the standards have been met, the draft permit goes to public notice for 30 days of public comment and the opportunity for a hearing. WAQSR Ch. 6, Sec. 2(m).

21. Following public comment and a public hearing, the WDEQ compiled public comments, requested additional information from MBFP and produced a decision document responding to public comments. In response to comments and supplemental information, the WDEQ made some revisions and additions to the Permit, prior to issuance on March 4, 2009.

22. The Environmental Quality Council is charged with hearing the appeal of any challenge to the issuance of a permit. Wyo. Stat. 35-11-112. The WDEQ, however, is the agency charged under the CAA and the Act for administering air quality requirements in Wyoming and its interpretations of its regulations are entitled to deference. *Printher v. Department of Administration and Information*, 866 P.2d 1300, 1302 (Wyo. 1994).

23. WDEQ's calculation of the Facility's Potential to Emit (PTE) for $SO_2$ included the emissions from all routine and foreseeable activities from the operations of the Facility, including planned maintenance activities, finding that the Facility's PTE for $SO_2$ is 36.6 tons per year(tpy). Thus, the WDEQ found that the Facility is not a major source for $SO_2$, as defined in the PSD regulations, which establishes a threshold of 40 tpy to trigger PSD review (cite WAQSR).

24. WDEQ states in its Decision Document that although it did not find that the Facility is a major source of $SO_2$ for purposes of the PSD program, the Startup, Shutdown, Minimization plan represents BACT for purposes of controlling the emissions from the flares.

25. The primary purpose of the flares is to serve as emission control devices that safely combust syngas that would otherwise vent to the atmosphere when the processing facilities cannot accommodate the syngas, primarily during periods of startup or malfunction.

The flare is a control device for both Volatile Organic Compounds (VOCs) and Hydrogen Sulfide ($H_2S$).

26. The WDEQ's permit analysis describes the use of the flares for plant safety. The permit contains conditions mandating the proper operations of the flare, in order to insure the flare functions properly as a control device. See Permit Conditions 22 through 25.

27. The Facility's estimated $SO_2$ emissions are described in the application for periods of routine or normal operations, with the combustion turbines being the primary source of $SO_2$. The application also estimates emissions from malfunctions that may occur at the facility and from cold start ups of the facility. A cold start for the MBFP facility will occur with the initial commissioning of the facility and may occur every three to four years when major maintenance requires a full plant shutdown.

28. A cold start occurs when equipment is at ambient temperature and each piece of equipment is brought up to operating temperatures. The application estimates a total of cold start up emissions and normal emissions of approximately 256.69 tpy of $SO_2$ in the initial cold start year due to the flow of syngas to the flares. However, it is anticipated that any cold starts following the initial year will result in reduced emissions.

29. The WDEQ evaluated the application prior to issuing the draft permit for public comment and determined that the Potential to Emit (PTE) for $SO_2$ was 32.9 tpy for normal operations of the facility. The DEQ permit analysis discusses cold start emissions, although they are excluded from the PTE as not representative of the normal operating conditions of the facility.

30. Following the public comment period, the WDEQ requested additional information from MBFP regarding its emission estimates for $SO_2$ and asked MBFP to consider whether the PTE presented in the draft permit included emissions that could result from normal start up events.

31. In response, MBFP provided information on October 14, 2008 and a clarification on November 11, 2008. MBFP determined that planned maintenance activities on the gasifiers would result in additional normal start up emissions not included in the applications' estimation of routine emissions, but included in the application's estimate of malfunction. The result of this analysis was the addition of 3.64 tpy of $SO_2$ to the PTE, bringing the total to 36.6 tpy, still below the PSD threshold of 40 tpy.

32. In its Decision Document providing the response to comments in support of the issuance of the Permit, WDEQ explained that "[i]t has been the Division's consistent practice to make applicability determinations based on consideration of a facility's routine operations." Decision Document at III.1, DEQ 001434. Relying on its longstanding practice and its analysis of the supplemental information provided by MBFP, the WDEQ determined that neither the cold start emissions, nor the malfunction emissions were part of the facility's "routine" emissions.

33. The underlying premise of Sierra Club's Claim I is that all of the cold start and malfunction emissions should have been included in the PTE for $SO_2$.

34. Potential to Emit is defined in the WAQSR as:

> ***"Potential to emit"*** means 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 operation or the type or amount of material combusted, stored, or processed, shall be treated as part of its design if

> the limitation or the affect it would have on emissions is enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

WAQSR Ch. 6, § 4(a).

35. The WDEQ's interpretation of this provision is entitled to deference. *Printher v. Department of Administration and Information*, 866 P.2d at 1302 (court gives deference to an administrative agency's construction of its rules unless clearly erroneous).

36. Whether the Facility is deemed "major" for $SO_2$ for purposes of PSD is irrelevant because that the WDEQ has imposed BACT for the Facility's sources of $SO_2$. Under the WAQSR, Chapter 6, Section 2, minor sources of emissions must undergo a BACT review. Accordingly, the Application and WDEQ analysis identify control technologies for the primary source of normal $SO_2$ emissions—the combustion turbines. Permit Application Analysis at 23-27; DEQ 000528. See also Application at § 4.3.2, DEQ Exhibit 15. In addition, consistent with the definition of BACT found in Chapter 6, Section 4 of the WAQSR, the permit imposes a work practice standard on the emissions from the flares through the Startup, Shutdown Minimization Plan, included as an enforceable requirement of the permit.

37. The Sierra Club does not take issue with the BACT determination for the combustion turbines. Rather, without any evidence to support the position and despite the obvious impractibility, the Sierra Club asserts that the WDEQ was required to establish a numerical emission limit for the flares at the Facility. This demand is contrary to the regulatory requirements found in the BACT determination.

38. Under Chapter 6, Section 4, a work practice standard is appropriate in lieu of an emissions standard under the following circumstances:

> 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.
> WAQSR Ch.6, § 4(a).

In short the regulation recognizes that a numerical limit without a reliable process for measuring compliance is a meaningless exercise. See Winborn Report at 10-11.

39. The WDEQ applied this principle and the record in this case demonstrates a work practice standard is the only rational choice for the emergency flares for the MBFP Facility. The decision document summarizes the rationale for the WDEQ's determination that the Startup, Shutdown, Minimization plan represents BACT. In response to a public comment requesting an emission limit for the flares, the WDEQ stated:

> The Division did not establish emission 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. However, the Division considered the SSM plan to represent BACT for the flares during startup/shutdown operations. DKRW has also indicated that the SSM plan for the facility will continuously be evaluated for improvements to minimize emissions. It should be noted that any revisions to the SSM plan by DKRW are subject to approval by the Division.

Decision Document at IV.35, DEQ 001448.

40. The Permit also contains additional operational requirements as permit conditions, designed to insure that the flares are operated efficiently to convert $H_2S$ and COS to $SO_2$, as well as destruct other pollutants. Also in Section IV.35, the WDEQ explained some of the additional control requirements for the flares:

> The Division agrees that the flares need to be monitored to ensure compliance, and has included conditions in the permit requiring monitoring and recordkeeping for the presence of a pilot flame, along with provisions requiring the flares to smokeless as defined in Chapter 5, Section 2(m) of the WAQSR.

41. The WDEQ further explained that "The Division will require monitoring of the $SO_2$ emissions as part of the permit. DKRW has indicated that this can be accomplished by

installing flow monitoring equipment and by direct sampling of the flows to the flares and of sampling of the coal which can then be used to calculate $SO_2$ emissions during flaring." DEQ Decision Document at IV.6, DEQ 001440. The various requirements for insuring the proper operation of the flares are found in Conditions 22-25 of the Permit. These basic operational requirements are in addition to SSM plan, attached as an appendix to the permit and required by Condition 31 of the Permit. See the Permit, Exhibit __.

42. WDEQ has met its obligations to require BACT for $SO_2$ emissions from the flares, as well as other sources of emission, regardless of whether the facility is deemed a major or minor source of $SO_2$, the Permit requires BACT.

43. In Claims II and III, Sierra Club asserts that the WDEQ and MBFP miscalculated the emissions of volatile organic compounds (VOCs) from emission leaks, erroneously concluded the Facility is a minor source of Hazardous Air Pollutants (HAPs) and failed to require MACT for the emissions. There is ample support in the record MBFP supplied the necessary information in its application and WDEQ implemented the appropriate terms in the Permit to regulate the HAPs from the facility.

44. The primary source of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs), as well as hydrogen sulfide, from the Facility will be leaking process equipment, located downstream from the coal preparation and gasification portions of the facility. (App. Section 4.7). The number of components at issue, comprised of pumps, valves, flanges and similar equipment, is approximately 4000. See Appendix B to Application, B42, DEQ Exhibit 15. At this stage of the design of the Facility, it is impossible to know an exact count, much less to have selected a vendor for these types of equipment for the facility.

45. The emission estimates for VOCs and HAPS resulting from equipment leaks have been refined from initial submission of the application until final permit issuance. It is necessary to understand the sequence of events to comprehend fully the attention given to the emission estimates by both the applicant and the WDEQ.

46. The emission estimates in the application are stated for both controlled and uncontrolled emissions from equipment leaks. The controlled emission estimates assume the implementation of a Leak Detection and Repair (LDAR) program. The original application assumed a leak detection level of 10,000 ppm from piping, meaning leaks would not be repaired until detected at this level. Basing estimates on a higher leak detection level, resulted in a higher estimate of emissions. The WDEQ questioned this leak detection level and required MBFP to base its estimates and control option on a leak detection level of 500 ppm for valves and connectors and 2000 ppm for pumps in VOC service. As a result of this reduction in leak detection levels, the estimate of HAPs emissions was also reduced.

47. The application contains a detailed discussion of the estimates of the HAP emissions, as revised on May 12, 2008, following the reduction of the leak detection levels. The application explains that equipment leak estimates were calculated in accordance with EPA's "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017). Reliance on emission factors is appropriate and an accepted EPA permitting protocol for estimating emissions resulting from equipment leaks.

48. As a first step, the applicant needs to provide a component count, based on design information available at the permitting stage of a facility. MBFP provided this information in Appendix B of the application. When using average emission factors, it is necessary to select the right type of emission factors for the facility in question and the process stream. Section 3.2.6.3

describes the selection of the emission factors. The choice was essentially between refinery emission factors and the factors for the Synthetic Organic Chemical Manufacturing Industry (SOCMI), with SOCMI the final selection. MBFP is not a refinery. MBFP therefore reasoned in the Application that since the facility uses a chemical synthesis process rather than a refinery process and since SOCMI is recommended for all industries, except refineries, the choice was justified. This decision at the application stage was confirmed by WDEQ's decision, as reflected in Permit Condition No. 38, requiring the Facility to comply with NSPS for SOCMI, 40 C.F.R. Part 60, VVa.

49. Appendix B of the Application contains detailed calculations based on the process streams of the plant and the number of each of the components, conservatively assuming that all process streams contain material full time for the year or 8,760 hr/yr. As explained in more detail by Katrina Winborn in her expert report, all of the available information to understand the basis for the calculations and to verify them is set forth in Appendix B of the Application. Each calculation page identifies the process stream type, the composition of the process stream, the number of components for each stream type and the emission factor used with footnotes to the EPA reference. The WDEQ found this level of detail sufficient for its review purposes and consistent with their experience. See Deposition of Andrew Keyfauver at 62.

50. When the draft permit was issued, the total HAPs emissions estimate was 24.8 tons per year, below the major source threshold for total HAPs under 40 U.S.C. 112 and the WAQSR, but the individual emissions of methanol were 10.2 tpy, making the facility a major source under the same provision. Following the public comment period, WDEQ requested additional information from MBFP regarding the applicability of Section 112 of the CAA to which MBFP responded on September 30, 2008 with new calculations for methanol emissions,

based on updated engineering design information from Davy Process Technology, the vendor for the methanol synthesis process. See September 30, 2008 letter from DKRW to WDEQ.

51. The August package from Davy showed six traditional sampling lines, replacing them with 6 closed-loop sampling lines. With this design change, less methanol would be vented to the atmosphere since in a traditional sampling process, the sampling line is purged to atmosphere prior to taking the sample, while in a closed-loop system, the sample is taken without venting to the atmosphere. As a result of this change and the elimination of two other traditional sampling lines, the component count for sampling connections for methanol found on page B-42 of the application, was reduced from 28 to 20. See September 30, 2008 letter from DKRW to WDEQ. See also Affidavit of James Knox.

52. As a result of this change, the methanol emissions were reduced from 10.3 tpy to 9.2 tpy. WDEQ reviewed the information and incorporated the change into the decision document. See Decision Document at II.14.

53. MBFP is bound under the permit to construct the facility to maintain its status as a minor source of HAPs and to demonstrate this status prior to start up, facing a likely permit revision if the facility is found to be major. (Permit Condition No. 19). In addition, MBFP is bound under Condition 2 of the permit to all the substantive commitments made in the application, including its commitments regarding fugitive emission leaks. As noted by Ms. Winborn, and WDEQ's engineer, Mr. Keyfauver, the compliance burden for maintaining the minor source status is enforceable and rest with MBFP. See Winborn Report at 14 and Depo. of Andrew Keyfauver at 69. The company has every incentive to insure that its facility once in final design and constructed will not have HAP emissions that exceed major source thresholds.

54. In the face of the evidence in the application, the decision document, the expert report of Ms. Winborn and the deposition of Andrew Keyfauver all providing detailed support to bolster the WDEQ's minor source determination, the Sierra Club has a substantial burden to meet to establish that the WDEQ permit decision was in error. Based on the evidence in the record, they cannot meet this burden. There is also redundancy in the permit to insure the facility, once constructed, remains a minor source of HAPs. There is no validity to the Sierra Club's assertion the facility is a major source of emissions of hazardous air pollutants.

55. The Leak Detection and Repair Program is BACT for equipment leaks.

The definition of BACT is found in WAQSR, Ch. 6, Sec. 4(a) and states, in part:

> [A]n 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 for 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 or production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

WAQSR, Ch. 6, Sec. 4(a)

56. The application summarizes the "top-down" BACT review process, required by EPA, as follows:

> The "top-down" process involves the identification of all potentially applicable emission control technologies according to control effectiveness. Evaluation begins with the top or most stringent emission control alternative. If the most stringent control technology is shown to be technically or economically infeasible, or if environmental when conducting a top-down BACT analysis, required by EPA guidance, the first step is to "Identify all available control technologies with practical potential for application to the specific emission unit for the regulated pollutant under evaluation."

Application, Sec. 4.1 (citing EPA guidance).

57. The EPA developed a five-step process for identifying BACT in its "New Source Review Workshop Manual," Draft October 1990, EPA Office of Air Quality Planning and Standards. The first step in the process is:

> Identify all available control technologies with ***practical potential*** for application to the specific emissions unit for the regulated pollutant under evaluation.

Application, Sec. 4.1

58. As explained in the application, the BACT analysis for equipment leaks did not need to proceed past this first step since "the only available control technology for comprehensively addressing equipment leak fugitive emissions is a structured Leak Detection and Repair (LDAR) program in which certain piping components and equipment are routinely inspected for leaks, and components found to be leaking in excess of stated thresholds are repaired in a timely manner." Application at Sec. 4.7; Winborn Report at 19-20.

59. For the equipment leaks BACT analysis, the top-down process was truncated by the availability of only one viable control for equipment leaks. Winborn Report at 19-20. The selection of LDAR as the only viable control option is further supported by review of the EPA Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emission Rate Clearinghouse database which demonstrated that "LDAR programs are established as BACT in many recent RBLC determinations." Application at Sec. 4.7; Winborn Report at 19-20; Keyfauver Deposition at 72-74.

60. WDEQ, although it concurred in the selection of LDAR as BACT, it nonetheless scrutinized the details of the implementation of the LDAR program at the facility. First, as discussed above, WDEQ required MBFP to reduce the leak detection levels from 10,000 ppm to 500 ppm for valves and 2000 ppm for pumps to improve the effectiveness of the control

technology. Then, in response to public comment, the WDEQ asked MBFP to consider even lower leak detection limits for its LDAR program.

61. MBFP considered lower levels and concluded that they would not lead to lower emissions, based on EPA's consideration of lower leak standards and its conclusion that "'data gathered from 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.'" September 30, 2008 MBFP letter to WDEQ (quoting EPA Docket ID No. EPA-HQ-OAR-2006-0699-0094); Winborn Report at 22.

62. Ultimately, WDEQ agreed and did not further reduce the leak detection levels. Decision Document at IV.4. In its attempts to find fault with WDEQ's analysis, Sierra Club contends the agency and the applicant erred by failing to consider leakless valves as a control option. However, leakless valves were never identified as a technically feasible option for the facility's 4000 components and the Sierra Club has no evidence to the contrary. As explained in detail in Ms. Winborn's report, EPA considered leakless technology in developing the requirements for equipment leaks, "'[w] e could not identify any new ''leakless'' technologies that could be applied in all applications. Therefore, requiring ''leakless'' equipment is not technically feasible. ... '" Winborn Report at 20-21 (quoting 72 Fed. Reg. 64864). WDEQ also agreed that there is not another technically-feasible option for controlling emission leaks. Keyfauver Deposition at 72; lines 18-20.

63. The application, the WDEQ Decision document, the expert report of Ms. Winborn and the deposition of Mr. Keyfauver all support the WDEQ's decision finding that LDAR is BACT to control fugitive emission leaks. This record is sufficient to support summary judgment for the respondents.

64. Claim V alleges WDEQ failed to require modeling of fugitive emissions of particulate matter. The WDEQ permit analysis, however, unequivocally contains a detailed discussion of the modeling for particulate matter, including fugitives. (DEQ Permit Analysis at 37, Winborn Designation). Consistent with other permitting decisions, the WDEQ did not require inclusion of fugitive emissions in the modeling to demonstrate compliance with the short-term or 24-hr standard for particulate matter. Fugitive emissions were included in the modeling to demonstrate compliance with the long-term standard for particulate matter.

65. WDEQ explained its position in its Decision Document:

> Current Division policy does not endorse short-term (24-hour) modeling for predicting impacts from fugitive particulate sources because of the uncertainties in the performance of the recommended EPA models. The State and EPA Region VIII entered into a Memorandum of Agreement in 1994 which allows the Division to conduct monitoring in lieu of short-term modeling for coal mine particulate concentration in the Powder River Basin, and this practice has been applied to modeling of $PM_{10}$ fugitive emissions in other parts of the state.

Decision Document at III.14

66. The Agency's position is based, in addition, on what is commonly referred to as the Simpson Amendment, § 234 of the Clean Air Act Amendments of 1990. (PL 101-549). The Amendment allows states to use other tools for assessing the impacts of fugitive emissions of particulate from coal mines, pending the development of a more accurate model for short-term emissions modeling.

67. The Sierra Club has no expert testimony to support this claim. Their expert admitted during his deposition that he is not a modeler and has not done any modeling for several years. In fact, the last time he conducted any modeling, he used the ISCST model, which is not the model used currently by the agency or at issue in this permitting action. See Deposition of Ranajit Sahu at 100-101. The Sierra Club's discovery responses to both WDEQ

and MBFP, indicate that their only support for this claim would be R. Sahu's testimony. R. Sahu's opinions do not and cannot support this claim. Modeling was conducted by the permit consultant and WDEQ during its evaluation of the application, both well qualified modelers.

68. The WDEQ did not require MBFP to evaluate separately $PM_{2.5}$ emissions and instead used $PM_{10}$ as a surrogate for determining compliance and establishing emission controls. WDEQ's reliance on the surrogacy policy has been the agency practice since 1997 and its use is required as part of its State Implementation Plan. 73 Fed. Reg. 26019 (May 8, 2008). The state of $PM_{2.5}$ rulemaking and the ongoing use of the surrogacy policy are in flux at the federal level, as outlined in the briefs filed in support and in opposition to the Motion for Dismissal of Claim VII.

69. Whatever the state of EPA rulemaking or guidance development, it is clear under EPA directives in place at the time this permit application was under review, there was no question the surrogacy policy was still appropriate in SIP states, such as Wyoming. 73 Fed. Reg. 26019 (May 8, 2008).

70. Using $PM_{10}$ as a surrogate for this Facility was reasonable in light of the fact that most of the particulate generated will be from gas-fired turbines and fugitive emissions from haul roads. The particulate from the gas-fired turbines is more likely than not comprised of smaller particulate matter and thus, as concluded by Ms. Winborn, "calculated PM emissions from turbines can be used to estimate $PM_{10}$ and $PM_{2.5}$." Winborn Report at 31.

71. The fugitive emissions from coal handling, including haul road emissions and the like, present a different situation, but also justify the use of the surrogacy policy. In the situation of the fugitive particulate emissions, it is more likely that the majority of particulate is larger in size and that $PM_{2.5}$ comprises a much smaller component of these emissions. In this situation,

$PM_{10}$ emissions as a surrogate are likely to over-estimate the $PM_{2.5}$ emissions or more than account for them. (Winborn at 31-32)

72. The primary factor in assessing the reasonableness of using a surrogate should be the degree to which the emission controls for $PM_{10}$ would also control $PM_{2.5}$. In the case of the gas-fired turbines, due to the size of the particulate matter, the emission controls selected are the only available option, whether the emissions are characterized as $PM_{10}$ or $PM_{2.5}$. In some cases, "the emission controls to be employed for $PM_{10}$ and $PM_{2.5}$ can be, or must be, the same technology. That is the case for the proposed MBFP facility, and this fact supports the use of the Surrogate Policy for $PM_{2.5}$." Winborn Report at 32. The selected control for the turbines is good combustion practices in combination with use of fuels that have a low particulate potential. This selected control technology would be no different if the emissions had been analyzed as $PM_{2.5}$ rather than the larger-sized particle.

73. Both baghouses and electrostatic precipitation were considered for control and found to be infeasible, "as it was found that neither technology could provide a lower particulate emission rate than the baseline emission rate." Due to the small size of the particle, these controls could provide no additional reductions and as a result, the control technologies selected was the only possible alternative. [Winborn Report at 33]; See also WDEQ Decision document.

74. Similarly, the control options remain the same for reducing fugitive emissions from coal-handling activities whether the analysis is for $PM_{10}$ or $PM_{2.5}$:

> However, the same set of emission control techniques are applied for fugitive particulate emissions regardless of the size of the particulate matter, and irrespective of varying proportions due to meteorological conditions. EPA's AP-42 document describes techniques such as watering and the use of chemical wetting agents as primary means of controlling dust emissions. No differentiation between $PM_{10}$ and $PM_{2.5}$ exists for these types of controls. Therefore, regardless of the amount of $PM_{10}$ and $PM_{2.5}$ in the MBFP fugitive emission inventory, the

selected control technologies for the MBFP facility will remain the same. Thus, use of the Surrogate Policy for $PM_{2.5}$ is justified.
Winborn Report at 33-34.

75. Permit Condition No. 47 requires application of water and chemical suppressants to all haul roads to control emissions of particulate or dust from the roads. This condition would be not different if there were a separate speciation or calculation of the amount of $PM_{2.5}$ generated by the haul roads. Thus, the use of the surrogacy policy was appropriate.

DATED this 16th day of November 2009.

MEDICINE BOW FUEL & POWER, LLC
*Permittee*

By: _____

Mary A. Throne, Esq.
THRONE LAW OFFICE
720 East 19th Street
PO Box 828
Cheyenne WY 82003-0828
Ph: (307) 672-5858

and

John A. Coppede, Esq.
HICKEY & EVANS, LLP
1800 Carey Ave, Ste 700
PO Box 467
Cheyenne WY 82003-0467
Ph: (307) 634-1525
Fx: (307) 638-7335

*Attorneys for Permittee*

## CERTIFICATE OF SERVICE

I, John A. Coppede, hereby certify that on this 16th day of November 2009 a true and correct copy of the foregoing **MEDICINE BOW FUEL & POWER, LLC'S RULE 56.1 STATEMENT IN SUPPORT OF ITS MOTION FOR SUMMARY JUDGMENT** was served by regular mail and electronic mail to:

Dennis M. Boal, Chairman
Environmental Quality Council
122 West 25th Street
Herschler Building, Room 1714
Cheyenne, WY 82002
Email: Jim Ruby, Executive Secretary,
jruby@wyo.gov
Email: Kim Waring, Executive Assistant,
kwarin@wyo.gov
jgirar@wyo.gov

John Corra, Director
Department of Environmental Quality
122 West 25th Street
Herschler Building, 2nd Floor East
Cheyenne, WY 82002
deqwyo@wyo.gov

David Finley, Administrator
DEQ Air Quality Division
122 West 25th Street
Herschler Building, 2nd Floor East
Cheyenne, WY 82002
dfinle@wyo.gov

Shannon R. Anderson
Powder River Basin Resource Council
934 North Main Street
Sheridan, WY 82801
sanderson@powderriverbasin.org

Nancy Vehr
Assistant Attorney General
Attorney General's Office
123 Capitol
200 West 24th Street
Cheyenne, WY 82002
nvehr@state.wy.us

Patrick Gallagher
Andrea Issod
Sierra Club Environmental Law Program
85 Second Street, 2nd Floor
San Francisco, CA 94105-3441
pat.gallagher@sierraclub.org
andrea.issod@sierraclub.org

Daniel Galpern
David Bahr
Western Environmental Law Center
1216 Lincoln Street
Eugene, OR 97401
galpern@westernlaw.org
bahr@westernlaw.org

John A. Coppede
HICKEY & EVANS, LLP