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**BEFORE THE
ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING**

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

PRE-HEARING MEMORANDUM OF MEDICINE BOW FUEL & POWER, LLC

COMES NOW the Permittee, Medicine Bow Fuel & Power, LLC (MBFP), by and through its attorneys, and hereby respectfully submits the following Pre-Hearing Memorandum:

A. NATURE OF THE CASE

On March 4, 2009, the Wyoming Department of Environmental Quality, Air Quality Division (WDEQ) issued Air Permit CT-5873 (Permit) to Medicine Bow Fuel & Power, LLC (MBFP or Permittee), authorizing construction of a coal-to-liquids Facility, including an

industrial gasification and liquefaction plant and underground coal mine (Facility), 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.

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. 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.

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. 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.

WDEQ's calculation of the Facility's Potential to Emit (PTE) for SO₂ 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 SO₂ is 36.6 tons per year (tpy). The WDEQ found that the Facility is not a major source for SO₂, as defined in the PSD regulations, which establishes a threshold of 40 tpy to trigger PSD review. WDEQ stated in its Decision Document that although it did not find the Facility to be a major source of SO₂ for purposes of the PSD program, the Startup, Shutdown, Minimization (SSM) plan represented BACT for purposes of controlling the emissions from the flares.

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 (H₂S). 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 ensure the flare functions properly as a control device. See Permit Conditions 22 through 25.

The Facility's estimated SO₂ emissions are described in the application for periods of routine or normal operations with the combustion turbines being the primary source of SO₂.

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.

The WDEQ evaluated the application prior to issuing the draft permit for public comment and determined that the Potential to Emit (PTE) for SO₂ 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. Following the public comment period, the WDEQ requested additional information from MBFP regarding its emission estimates for SO₂ and asked MBFP to consider whether the PTE presented in the draft permit included emissions that could result from normal start up events related to routine maintenance. 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 application's estimation of routine emissions, but which were included in the application's estimate of malfunction. The result of this analysis was the addition of 3.64 tpy of SO₂ to the PTE, bringing the total to 36.6 tpy, still below the PSD threshold of 40 tpy.

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. The WDEQ determined that neither the cold start emissions, nor the malfunction emissions were part of the Facility's "routine" emissions.

WDEQ has met its obligations to require BACT for SO₂ emissions from the flares, as well as other sources of emission, regardless of whether the Facility is deemed a major or minor source of SO₂, the Permit requires BACT. The Application and WDEQ analysis identify control technologies for the primary source of normal SO₂ emissions—the combustion turbines. Permit Application Analysis at 23-27; DEQ 000528. See also Application at § 4.3.2, DEQ Exhibit 15. The permit imposes a work practice standard on the emissions from the flares through the SSM plan, included as an enforceable requirement of the permit. The WDEQ determined that a work practice standard was the only rational choice for the emergency flares for the MBFP Facility.

More specifically, the Decision Document summarizes the rationale for the WDEQ's determination that the SSM 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.

In Section IV.35, the WDEQ also explained some of the additional control requirements for the flares:

The Division agrees 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 be smokeless as defined in Chapter 5, Section 2(m) of the WAQSR.

The WDEQ further explained that: “The Division will require monitoring of the SO₂ emissions as part of the permit. DKRW has indicated this can be accomplished by installing flow monitoring equipment and by direct sampling of the flows to the flares and of sampling the coal, which can then be used to calculate SO₂ emissions during flaring.” DEQ Decision Document at IV.6, DEQ 001440. The various requirements for ensuring proper operation of the flares, found in Conditions 22-25 of the Permit, are in addition to the SSEM plan, attached as an appendix to the permit and required by Condition 31 of the Permit

The primary source of volatile organic compounds (VOCs) and hazardous airpollutants (HAPs), as well as hydrogen sulfide, from the Facility will be the 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. At this stage of the design of the Facility it is impossible to know an exact count. The emission estimates for VOCs and HAPs resulting from equipment leaks were refined from initial submission of the application until final permit issuance.

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. 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.

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.

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 SOCM I 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 SOCM I, 40 C.F.R. Part 60, VVa.

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. Appendix B of the Application sets forth all of the available information needed to understand the basis for the calculations and to verify them. 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.

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. The August package from Davy reduced the traditional sampling lines, replacing them with some 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. 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.

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). MBFP is also bound under Condition 2 of the Permit to all the substantive commitments made in the Application, including its commitments regarding fugitive emission leaks. The compliance burden for maintaining the minor source status is enforceable and rests with MBFP. The company has every incentive to ensure that its Facility, once in final design and constructed, will not have

HAP emissions that exceed major source thresholds.

The LDAR program is BACT for equipment leaks. 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).

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

The BACT analysis for equipment leaks did not need to proceed past this first step because the only available control technology for comprehensively addressing equipment leak fugitive emissions is a structured (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. Thus, for the equipment leaks BACT

analysis, the top-down process, was truncated by the availability of only one viable control for equipment leaks.

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

MBFP considered lower levels and concluded 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). WDEQ agreed and did not further reduce the leak detection levels. Decision Document at IV.4.

The WDEQ permit analysis contains a detailed discussion of the modeling for particulate matter, including fugitives. (DEQ Permit Analysis at 37. 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 and will rely on monitoring. Fugitive emissions were included in the modeling to demonstrate compliance with the long-term standard for particulate matter.

As 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 PM₁₀ fugitive emissions in other parts of the state.

Decision Document at III. 14.

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), which 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.

The WDEQ did not require MBFP to evaluate separately PM_{2.5} emissions and instead used PM₁₀ as a surrogate for determining compliance and establishing emission controls. 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 particulate matter smaller than PM_{2.5}. The particulate from coal handling, including haul road emissions, is more likely than not comprised larger particles and consequently a smaller portion of PM_{2.5}. This can vary depending on weather conditions.

The BACT for both the turbines' emissions of particulate and the fugitive emissions of particulates would not change if PM_{2.5} were evaluated separately. 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.” 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. The control is the same whether the haul road emissions are considered small or larger particulate.

There are no EPA approved methods available for implementing the PM_{2.5} standard directly in a PSD permit. Some of the basic tools missing include, emissions factors, modeling significance levels and PSD increments. In addition, there is no final test method approved for PM_{2.5} that would allow a determination of compliance even if standards were placed in a permit.

On May 5, 2009, the Sierra Club filed a Protest and Petition for Hearing (Petition), alleging eight claims of error in the permit issuance. The Environmental Quality Council (Council) dismissed Claim VIII, related to greenhouse gas emissions on November 2, 2009. The Sierra Club filed a Notice of Dismissal of Claims IV and VI on November 10, 2009. For the reasons set forth below, MBFP seeks summary judgment on the remaining claims.

The WDEQ issued the Permit to MBFP following public comment and hearing on the draft permit, and six months of review of the public comment. With its notice of the draft permit, the WDEQ included detailed permit analysis. A Decision Document, containing the agency’s rationale for final permit issuance and its response to public comments accompanied the Permit. In response to the WDEQ’s analysis and the other information in

the WDEQ record, the Sierra Club filed its Petition.

Claim I, containing two parts, alleges the WDEQ failed to properly calculate the Potential to Emit (PTE) for Sulfur Dioxide (SO₂) and as a result, the agency failed to find that the Facility is major for purposes of PSD analysis. In the second prong of Claim I, Sierra Club asserts the agency did not require MBFP to use Best Available Control Technology (BACT). MBFP contends that Sierra Club is wrong on both accounts. However, even if the Sierra Club were correct on the question of the PTE calculation, the claim still fails, because pursuant to the requirements of Wyoming's minor source BACT requirements, SO₂ emissions from the Facility are regulated, as if the Facility were major for PSD purposes.

Sierra Club's Claims II and III are related and also appear to claim a sub-issue. In Claims II and III, the Petition asserts generally, the calculations for the fugitive emissions of volatile organic compounds (VOCs) are underestimated and more specifically, claims the emissions of methanol, a hazardous air pollutant (HAP), are also underestimated leading to an incorrect finding that the Facility is a minor source of HAPs under Section 112 of the Clean Air Act (CAA) and the WAQSR. In addition, the Sierra Club challenges the finding by the WDEQ that Leak Detection and Repair (LDAR) represent BACT for fugitive emissions of VOCs and HAPs from equipment leaks. The Permit application and supplemental information provided by MBFP, however, fully supports the WDEQ's minor source determination for HAPs, as well as the calculation of VOC emissions. Sierra Club has no evidence to the contrary.

The Permit further requires verification of the minor source status prior to start up of the Facility, providing a redundancy of protection. LDAR is the only viable option for controlling fugitive emissions from equipment leaks, as demonstrated by the evidence produced in this matter. MBFP, therefore, contends that Sierra Club's Claims II and III must also fail.

Claim V challenges the WDEQ's longstanding policy of requiring monitoring when operational and not requiring permit applicants to conduct modeling to determine compliance with the short-term (24-hr) National Ambient Air Quality Standard (NAAQS) for fugitive particulate matter. There is nothing in the record to support Sierra Club's assertion that this Council should disregard WDEQ's expertise and determination that available short-term models are an inherently unreliable indicator of compliance with the short-term NAAQS for fugitive emissions. Thus, this claim also fails.

Finally, in Claim VII Sierra Club asks the Council to ignore the law and facts to conclude that it was improper for the WDEQ to rely on the Surrogacy Policy for $PM_{2.5}$, in using PM_{10} as a surrogate for $PM_{2.5}$. First, the surrogacy policy is included in Wyoming's State Implementation Plan (SIP) and as a result, is binding on the WDEQ. Second, WDEQ has regulated the precursors of $PM_{2.5}$ in the permit, PM_{10} is a reasonable surrogate for emissions from gas-fired turbines and the emissions controls would be the same for $PM_{2.5}$ as they are for PM_{10} , justifying the use of the Surrogacy Policy. There is nothing in the record to counter this conclusion and thus, this claim fails.

MBFP demonstrated to the satisfaction of the Director of the WDEQ that it is entitled to a permit. The WDEQ's decision to issue the Permit meets the requirements of the WAQSR and the PSD permitting requirements. MBFP contends that Sierra Club cannot prove otherwise, and accordingly, MBFP has moved for summary judgment in its favor on all claims. MBFP further contends that Sierra Club does not have standing to challenge the WDEQ's decision.

MBFP contends that the air quality appeal process is not simply another opportunity for a third party to comment on a now, final permit. Sierra Club participated in the public comment process and cannot use this appeal to raise allegations that should have been brought forward at the draft permit stage. Nor should the Sierra Club be allowed to use this process to simply reiterate their public comments or comments by others and ask this Council to revisit issues resolved by the WDEQ by its responses to the public comments. It is not sufficient for the Sierra Club to rely on WDEQ's alleged failure to agree with its public comments or those of other entities.

B. UNCONTESTED ISSUES OF FACT

MBFP believes the following facts are largely uncontested:

1. On March 4, 2009, MBFP received Permit CT-5873 (Permit) from the WDEQ to construct a commercial scale gasification and liquefaction Facility (Facility) and the surface facilities associated with an underground coal mine in Carbon County, Wyoming.
2. 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.

3. 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.

4. 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.

5. 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. The 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 H₂O to carbon dioxide (CO₂), hydrogen (H₂) and hydrolyze carbonyl-sulfide (COS), or a reactor where the COS will be hydrolyzed to hydrogen sulfide (H₂S) and CO₂. The syngas at that point will then be cooled in a series of heat exchangers and routed to carbon beds followed by a unit known as the SELEXOL® acid gas removal unit.

6. Condensate from the LTGC unit will flow to a stripper, which will remove all of the ammonia (NH₃), H₂S, and COS from the condensate, along with some dissolved H₂ and CO. The gas is then blended with sour flash gas and gases from the flash separators before being sent to the SRU unit.

7. The syngas will flow through two successive absorbers, the first of which will remove H₂S and the second of which will remove CO₂. 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.

8. The Facility will also recover CO₂. The CO₂ gas stream will exit the SELEXOL® unit where it will flow into a CO₂ recovery unit. The CO₂ 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. The compressed CO₂ will be compressed and sent to a pipeline customer.

9. The Facility will also recover sulfur by having the acid gas (mostly H₂S) 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 H₂S. 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.

10. 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.

11. 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.

C. ISSUES ON APPEAL

1. Whether Sierra Club can prove the WDEQ's decision to issue the Permit fails to meet the requirements of the WAQSR and the PSD permitting requirements? MBFP contends that Sierra Club cannot prove the WDEQ's decision to issue the Permit fails to meet the requirements of the WAQSR and the PSD permitting requirements.

2. Whether Sierra Club has standing in this matter.

D. SUMMARY OF LAW

1. The Wyoming Environmental Quality Act (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).

2. Under 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.

3. The Wyoming Environmental Quality Act (the Act) and the Wyoming Air Quality Standards and Regulations (WAQSR) create the permitting framework in the state of Wyoming.

4. 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 federal Clean Air Act (CAA).

5. 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).

6. Once issued, the permits remain in effect even if appealed to the Council. *In re Basin Electric*, EQC Dkt. No. 07-2801 (August 21, 2008 Order Denying Protestants Motion to Suspend).

7. Through its State Implementation Plan, the WDEQ is the agency charged with developing and enforcing the requirements of the federal Clean Air Act in Wyoming. The pre-construction permitting program is the key element in protecting air quality in Wyoming.

8. The CAA Amendments of 1977 established the Prevention of Significant Deterioration Program (PSD), 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.

9. 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.

10. 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 overall pre-construction requirements of its New Source Review (NSR) program, found in Chapter 6, Section 2 of the WAQSR.

11. PSD permits are issued pursuant to the requirements of both sections of Chapter 6.

12. The Facility is a major source under Chapter 6, Section 4 of the Wyoming Air Quality Standards and Regulations (WAQSR) and thus, subject to the requirements of the Prevention of Significant Deterioration (PSD) program.

13. The PSD permitting program authorizes the construction of “major sources,” such as the MBFP Facility, provided that such facilities utilize Best Available Control Technology (BACT) to control the emissions of pollutants from the Facility, meet the NAAQS, and will not exceed any applicable increment. 42 U.S.C. § 7475.

14. 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.

15. Under the WAQSR, Chapter 6, Section 2, minor sources of emissions must undergo a BACT review.

16. Wyoming has a SIP authorizing it to implement the PSD permitting program in Wyoming. SIPs are enforceable as federal law, once approved by the Environmental Protection Agency (EPA).

17. EPA's role is one of oversight rather than direct issuance of permits or regulation of individual permitting actions.

18. If EPA is dissatisfied with the manner in which a state is implementing its program, including PSD permitting programs, it can seek revocation of a SIP.

19. If EPA has major objections to a specific permit, it has the authority to take the drastic step of objecting to a permit.

20. Unlike with operating permits issued under Title V, third parties have no ability to simply file objections to PSD permits with EPA and must seek available remedies through state court in accordance with state law.

21. 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 the significance thresholds in the regulations.

22. The significance threshold for SO₂ is 40 tpy. WAQSR Ch. 6, § 4(a).

23. Potential to Emit is defined in the WAQSR Ch. 6, § 4(a) as follows:

"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.

24. 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.

25. Both Section 2 and Section 4 of Chapter 6 of WAQSR require an applicant to use Best Available Control Technology taking into account the technical practicability and economic reasonableness of reducing or eliminating emissions.

26. Under WAQSR Ch.6, § 4(a), 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.

27. A Facility may also be a major or minor source for Hazardous Air Pollutants (HAPs) under the Act, the WAQSR and Section 112 of the CAA.

28. 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).

29. A source that is major for HAPs may be required to apply maximum achievable

control technology (MACT), depending on the source category.

30. WDEQ's reliance on the surrogacy policy for particulate matter 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).

31. The state of PM_{2.5} rulemaking and the ongoing use of the surrogacy policy are in flux at the federal level.

32. 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).

33. 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).

34. Once the Director determines theses 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).

35. The Environmental Quality Council is charged with hearing the appeal of any challenge to the issuance of a permit. Wyo. Stat. 35-11-112.

36. The WDEQ 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.

37. Under the DEQ Rules of Practice and Procedure, the hearing is a contested case proceeding requiring each party to produce evidence to support its position consistent with the contested case requirements of the Wyoming Administrative Procedure Act.

38. Sierra Club bears the burden of demonstrating that the WDEQ decision to issue the Permit is contrary to the Act and the WAQSR.

39. Under the Wyoming APA, the person or entity seeking revocation of a permit or license bears the burden of establishing grounds for this drastic result. Wyo. Stat. 16-3-113.

40. The actions of an agency are “presumed to be correct,” with the burden falling on the challenger or the appellant to demonstrate non-compliance with the law.

41. The Sierra Club has the burden of coming forward with initial evidence to challenge the validity of the Permit, and the ultimate burden of persuasion that the Permit issuance was in violation of the relevant air quality standards.

42. Sierra Club must prove with credible evidence that the WDEQ’s decision to issue the Permit failed to comply with the Wyoming Environmental Quality Act (the Act) and the requirements of the WAQSR, in order to prevail.

F. WITNESSES

The following witnesses will be called to testify at the hearing in this matter:

1. Katrina Winborn, 8181 East Tufts Avenue, Denver, Colorado 80237; Tel. No. (303) 694-2770. Ms. Winborn will be called to testify as an expert witness and a fact witness. As an expert witness Ms. Winborn will testify about her qualifications, education and work experience and otherwise in accordance with her resume filed in this matter as part of her expert witness designation. She will testify about her opinions and the bases for those opinions contained in her written report of September 15, 2009, filed in this matter as part of her expert witness designation. She may testify about those subjects contained in her Affidavit filed in this matter. She may also testify about those subjects on which she testified in her November 5, 2009 deposition given in this matter. She may also testify about the work she did on behalf of Medicine Bow Fuel & Power as a consulting engineer in connection with obtaining air permit ct-5873 at issue in this matter.

2. Jude Rolfes, Two Riverway, Suite 1780, Houston, TX 77056; Tel. No. (713) 425-6526. Mr. Rolfes is the senior vice president of DKRW Advanced Fuels LLC who will be called as witness in this matter. If called, Mr. Rolf will testify about his education and work experience. He will testify about Medicine Bow Fuel & Power relationship with DKRW Advanced Fuels LLC and that fact that it is owned by DKRW. He will testify about the project in general, including a description of the facility, and his role in connection with obtaining the March 4, 2009 the Medicine Bow Fuel & Power permit and the air permit ct-5873 at issue in this matter.

3. James Knox, Two Riverway, Suite 1780, Houston, TX 77056; Tel. No. (713) 425-6526. Mr. Knox is Vice President of Engineering for DKRW, and will be called as witness in this matter. He will testify about his education, his work experience, his role in the permitting process and the engineering of the project. He will testify in detail about those subjects contained in his November 16, 2009 affidavit filed in this matter

4. Robert Moss, Two Riverway, Suite 1780, Houston TX 77056; Tel. No. (713) 425-6526. Mr. Moss is Senior Environmental and Permits Engineer for DKRW. He may be called to testify regarding his education, his experience and his role in obtaining the air permit for the MBFP facility.

5. Gregg Bierrei, Thunder Basin Coal Co., PO Box 406, Wright, WY 82732; Tel. No. (307) 464-1548. Mr. Bierrei may be called as a witness to testify regarding Arch's participation in the project and the underground coal mine.

Medicine Bow reserves the right to call any witness listed by any other party to this matter, as well as all witnesses required for rebuttal and to lay foundation for any exhibit. Medicine Bow reserves the right to supplement this list as identity of additional witnesses may become known or discovered upon reasonable notice to the parties.

E. EXHIBITS

A copy of MBFP's Exhibit List is attached hereto as Exhibit 1.

Medicine Bow reserves the right to use any exhibit for demonstrative purposes. Medicine Bow may offer any or all of the exhibits designated by any other party, and

specifically reserves the right to offer any exhibit required for rebuttal purposes. Medicine Bow reserves the right to supplement its list of exhibits upon reasonable notice to the parties hereto.

Dated this 3rd day of December 2009.

MEDICINE BOW FUEL & POWER, LLC
Permittee

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CERTIFICATE OF SERVICE

I, John A. Coppede, hereby certify that on this 3rd day of December 2009 a true and correct copy of the foregoing **PRE-HEARING MEMORANDUM OF MEDICINE BOW FUEL & POWER, LLC** was served by regular mail and electronic mail to:

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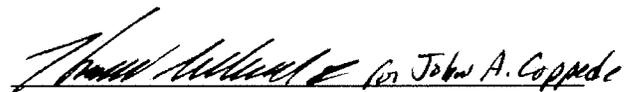
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