

March 25, 2021

Jonathan Hufman
Lubrizol Life Science, Inc.
1131 North US Highway 93
Victor, MT 59875

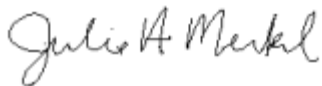
Dear Mr. Hufman:

Montana Air Quality Permit #3237-02 is deemed final as of March 23, 2021, by the Department of Environmental Quality (Department). This permit is for a Silicon based device production facility.

All conditions of the Department's Decision remain the same.

Enclosed is a copy of your permit with the final date indicated.

For the Department,



Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626



John P. Proulx
Air Quality Specialist
Air Quality Bureau
(406) 444-5391

JM:JPP
Enclosure

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #3237-02

Lubrizol Life Science, Inc.
1131 North U.S. Highway 93
Victor, MT 59875

March 23, 2021



MONTANA AIR QUALITY PERMIT

Issued To: Lubrizol Life Science, Inc.
1131 North U.S. Highway 93
Victor, MT 59875

MAQP: #3237-02
Administrative Amendment (AA)
Request Received: 02/04/2021
Department's Decision on AA: 03/05/2021
Permit Final: 03/23/2021

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Lubrizol Life Science, Inc. (LLS), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

LLS is located in the Southwest ¼ of Section 31, Township 7 North, Range 20 West, in Ravalli County. The physical address is 1131 North U.S. Highway 93, Victor, Montana.

LLS operates a manufacturing facility that produces silicon-based devices used in medical procedures. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Current Permit Action

On February 4, 2021, the Department received a request from Lubrizol Life Science, Inc. for an Administrative Amendment to change the owner from SSP-SiMatrix Inc. to Lubrizol Life Science, Inc.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Volatile Organic Compound (VOC) emissions from the facility shall be limited to 52.3 tons during any rolling 12-month time period (ARM 17.8.749).
2. LLS shall not cause or authorize to be discharged into the atmosphere from any sources, stack emissions that exhibit 20% opacity or greater averaged over 6-consecutive minutes (ARM 17.8.304).

B. Testing Requirements

1. All compliance source tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. LLS shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. LLS shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
3. LLS shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by LLS as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. LLS shall document, by month, the VOC emissions from the facility. By the 25th day of each month, LLS shall total the VOC emission for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1.

The calculation of VOC emissions is based on the amount (percentage) of VOCs in each of the process raw materials as shown in the Material Safety Data Sheets included in the application. All VOCs in the raw materials are assumed to be emitted to the ambient air during the process operations.

Any change in the raw materials or VOC contents must be documented by LLS with new or updated Material Safety Data Sheets submitted as necessary. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection – LLS shall allow the Department’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if LLS fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving LLS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, et seq. (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, et seq., MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by LLS may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Lubrizol Life Science, Inc.
MAQP #3237-02

I. Introduction/Process Description

A. Permitted Equipment

Lubrizol Life Science, Inc. (LLS) owns and operates a manufacturing facility. The facility is located in the Southwest ¼ of Section 31, Township 7 North, Range 20 West in Ravalli County, Montana. The physical address is 1131 North U.S. Highway 93, Victor, Montana.

Equipment used at the facility includes, but is not limited to the following:

- Two curing ovens
- Natural Gas Heaters – Five with a combined heat rate 0.56 million British thermal units per hour (MMBtu/hr)
- Natural Gas Boilers – Two with combined heat rate 0.60 MMBtu/hr and one boiler added in 2003 @ 1.2 MMBtu/hr
- Alcohol fume hoods – two hoods
- Paint hood – one hood
- Dunham Busch Air Handler
- Wash Basin

B. Source Description

The facility includes two process buildings where silicon-based devices used in medical procedures such as plastic surgery are produced. Volatile Organic Compound (VOC) emissions, primarily xylene and some ethyl benzene, result from the product manufacturing process. Xylene and ethyl benzene are listed Hazardous Air Pollutants (HAPs). Mandrels are dipped in a xylene/silicon mixture and allowed to partially dry. The process is repeated until the desired product thickness is obtained. Formed products are then placed in curing ovens to complete the drying process. Isopropyl alcohol is used to clean the products. A spray paint hood is used for product coating on an as-needed basis. Both buildings contain natural gas-fired heating equipment.

C. Permit History

On April 12, 2003, the Department of Environmental Quality (Department) issued a permit to Specialty Surgical Products, Inc. for the operation of a manufacturing facility that produces silicon-based devices used in medical procedures. This permit was assigned **MAQP #3237-00**.

On April 18, 2008, the Department received a request from SSP for an Administrative Amendment to change the owner from Specialty Surgical Products, Inc. to SSP-SiMatrix, Inc. The permit was amended to include the de minimis changes requested by Specialty Surgical Products, Inc. in 2003. **MAQP #3237-01** replaced MAQP #3237-00.

D. Current Permit Action

On February 4, 2021, the Department received a request from Lubrizol Life Science, Inc. for an Administrative Amendment to change the owner from SSP-SiMatrix, Inc. to Lubrizol Life Science, Inc. **MAQP #3237-02** replaces MAQP #3237-01.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

LLS shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.213 Ambient Air Quality Standard for Ozone
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
6. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

LLS must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, LLS shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS-affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. No fee was required for this permitting action since the action is an administrative amendment
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department; the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a facility to obtain an air quality permit or permit modification if they construct, alter or use any air contaminant sources that have the potential to emit greater than 25 tons per year of any pollutant. LLS has the potential to emit more than 25 tons per year of VOCs; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that are not subject to the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana (Act), and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving LLS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
 12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Act, the Federal Clean Air Act (FCAA), rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
 13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, subchapters 8, 9, and 10.
 14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since it is not a listed source and the facility's potential to emit is less than 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

- a. Potential to Emit (PTE) > 100 tons/year of any pollutant;
- b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
- c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #3237-02 for LLS, the following conclusions were made.

- a. The facility's PTE is less than 100 tons/year for any pollutant.
- b. The facility's PTE is greater than 10 tons/year for any one HAP and greater than 25 tons/year of all HAPs.
- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. This facility is not subject to a current NSPS.
- e. This facility is not subject to any current National Emission Standards for Hazardous Air Pollutants (NESHAP).
- f. This source is not a Title IV affected source.
- g. This source is not a solid waste combustion unit.
- h. This source is not an EPA designated Title V source.

LLS's facility is subject to Title V Operating Permit requirements because the source's potential HAP emissions are above the major source threshold. LLS submitted a Title V Operating Permit renewal application was received on May 4, 2020.

III. Best Available Control Technology (BACT) Determination

A BACT determination is required for each new or altered source. LLS shall install on the new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized. A BACT analysis was not required for the current permit action because the current permit action is considered an administrative permit action.

IV. Emission Inventory

Tons/Year (based on 8760 operating hours per year)

Source	PM	PM ₁₀	NO _x	VOC	CO	SO _x
Exhaust Fans/Fume Hoods	0	0	0	51.80	0	0
Despatch Cure Ovens (2)	0	0	0	0.03	0	0
Fugitive Emissions	0	0	0	0.20	0	0
5 Nat Gas Heaters (Total 0.56 MMBtu/hr)	0.02	0.02	0.24	0.01	0.21	0
3 Nat Gas Boilers (Total 1.8 MMBtu/hr)	0.06	0.06	0.77	0.04	0.65	0.01
Total	0.08	0.08	1.01	52.09	0.85	0.01

- The VOC column includes HAPs totaling 50.1 tons per year of total xylenes (P-xylene, M-xylene and O-xylene) and 2.2 tons per year of ethyl-benzene. Emissions are calculated on the assumption that all VOCs contained in purchased raw materials are emitted as shown in the table below.
- A complete emission inventory is included in the application and is on file with the Department.

HAP EMISSION CALCULATIONS - The material usage (gallons per year) shown in this table is based on 4437 operating hours per year (the current actual hours). The final total extrapolates the emissions to 8760 hours per year reflecting the potential to emit (PTE) consistent with the table above.

Raw Material	% Xylene	tpy	% Ethyl-benzene	tpy	%Isopropyl Alcohol	tpy
50011 2-Part Si Suspension (Med 10 6400) -7580 gallons, Sp. Gr. 1	66	20.5	0	0	0	0
50012 2 Part Si Suspension (Med 6400) -140 gallons, Sp. Gr. 1	66	0.4	0	0	0	0
1-Part Si Suspension (AA001-OEM) -940 gallons, Sp. Gr. 0.87	51	1.8	13	0.4	0	0
Xylene, Electronics Grade (50014) -655 gallons, Sp. Gr. 0.87	79	1.9	21	0.5	0	0
Xylene, Electronics Grade	79	0.8	21	0.2	0	0

(50014- OEM) -270 gallons, Sp. Gr. 0.87						
70% Isopropyl Alcohol (20001) -414 gallons, Sp. Gr. 0.85	0	0	0	0	70	1.0
100% Isopropyl Alcohol (20023) -197 gallons, Sp. Gr. 0.786	0	0	0	0	100	0.6
<hr/>						
Total - 4437 operating hour/yr	25.4				1.1	
Total - 8760 operating hour/yr	50.1				2.2	

3.2

CRITERIA POLLUTANT EMISSION CALCULATIONS

Natural Gas Fuel Combustion

--Heaters

Heat Input Value: 0.56 MMBtu/hr (Company Information) Combined value for 6 heaters

Hours of Operation: 8760 hr/yr

Fuel Heating Value: 0.001 MMScf/MMBtu

PM Emissions:

All PM emissions assumed to be PM₁₀ emissions (AP-42, Table 1.4-2, 07/98)

PM₁₀ Emissions:

Emission Factor: 7.6 lb/MMScf (AP42, Table 1.4-2, 07/98)

Calculations: $7.6 \text{ lb/MMScf} * 0.56 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.0004 \text{ lb/hr}$
 $0.0004 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.019 \text{ ton/yr}$

NO_x Emissions:

Emission Factor: 100 lb/MMScf (AP42, Table 1.4-1, 07/98)

Calculations: $100 \text{ lb/MMScf} * 0.56 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.056 \text{ lb/hr}$
 $0.056 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.244 \text{ ton/yr}$

VOC Emissions:

Emission Factor: 5.5 lb/MMScf (AP42, Table 1.4-2, 07/98)

Calculations: $5.5 \text{ lb/MMScf} * 0.56 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.0003 \text{ lb/hr}$
 $0.0003 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.0013 \text{ ton/yr}$

CO Emissions:

Emission Factor: 84 lb/MMScf (AP42, Table 1.4-1, 07/98)

Calculations: $84 \text{ lb/MMScf} * 0.56 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.0468 \text{ lb/hr}$
 $0.0468 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.205 \text{ ton/yr}$

SO_x Emissions:

Emission Factor: 0.6 lb/MMScf (AP42, Table 1.4-2, 07/98)

Calculations: $0.6 \text{ lb/MMScf} * 0.56 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.0001 \text{ lb/hr}$
 $0.0001 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.004 \text{ ton/yr}$

--Boilers

Heat Input Value: 1.8 MMBtu/hr (Company Information) Combined value for 3 boilers

Hours of Operation: 8760 hr/yr

Fuel Heating Value: 0.001 MMScf/MMBtu

PM Emissions:

All PM emissions assumed to be PM₁₀ emissions (AP-42, Table 1.4-2, 07/98)

PM₁₀ Emissions:

Emission Factor: 7.6 lb/MMScf (AP42, Table 1.4-2, 07/98)

Calculations: $7.6 \text{ lb/MMScf} * 1.8 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.013 \text{ lb/hr}$
 $0.013 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.06 \text{ ton/yr}$

NO_x Emissions:

Emission Factor: 100 lb/MMScf (AP42, Table 1.4-1, 07/98)

Calculations: $100 \text{ lb/MMScf} * 1.8 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBTU} = 0.18 \text{ lb/hr}$
 $0.18 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.77 \text{ ton/yr}$

VOC Emissions:

Emission Factor: 5.5 lb/MMScf (AP42, Table 1.4-2, 07/98)

Calculations: $5.5 \text{ lb/MMScf} * 1.8 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.01 \text{ lb/hr}$
 $0.01 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.04 \text{ ton/yr}$

CO Emissions:

Emission Factor: 84 lb/MMScf (AP42, Table 1.4-1, 07/98)

Calculations: $84 \text{ lb/MMScf} * 1.8 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.15 \text{ lb/hr}$
 $0.15 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.65 \text{ ton/yr}$

SO_x Emissions:

Emission Factor: 0.6 lb/MMScf (AP42, Table 1.4-2, 07/98)

Calculations: $0.6 \text{ lb/MMScf} * 1.8 \text{ MMBtu/hr} * 0.001 \text{ MMScf/MMBtu} = 0.001 \text{ lb/hr}$
 $0.001 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.005 \text{ ton/yr}$

V. Air Quality Impacts

The amount of emissions generated by the operation will not exceed any ambient standard.

VI. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VII. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an Environmental Assessment is not required.

Analysis Prepared By: John P. Proulx
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