



Montana Department of  
**ENVIRONMENTAL QUALITY**

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March 26, 2010

Julie Swander  
Saga Petroleum, LLC  
600 17<sup>th</sup> Street, Suite 1700N  
Denver, CO 80202

Dear Ms. Swander:

Montana Air Quality Permit #2770-08 is deemed final as of March 26, 2010, by the Department of Environmental Quality (Department). This permit is for a natural gas compressor station. 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,

Vickie Walsh  
Air Permitting Program Supervisor  
Air Resources Management Bureau  
(406) 444-9741

Karen Gillespie  
Environmental Engineer Intern  
Air Resources Management Bureau  
(406) 782-2689 ext. 207

VW:KG  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #2770-08

Saga Petroleum, LLC  
600 17<sup>th</sup> Street, Suite 1700N  
Denver, CO 80202

March 26, 2010



## Montana Air Quality Permit

Issued To: Saga Petroleum, LLC  
Big Coulee Field, Station 057  
600 17<sup>th</sup> St., Suite 1700N  
Denver, Colorado 80202

MAQP: #2770-08  
Administrative Amendment (AA) Request  
Received: 8/16/2009  
Department's Decision on AA: 3/10/2010  
Permit Final: 3/26/2010  
AFS #: 037-0001

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Saga Petroleum, LLC (Saga), - Big Coulee Field, Station 057, pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### Section I: Permitted Facilities

#### A. Plant Location

The Saga natural gas compressor station and associated equipment is located in the SE $\frac{1}{4}$  of the SE $\frac{1}{4}$  of Section 25, Township 5 North, Range 19 East, in Golden Valley County, Montana. This facility is known as the Big Coulee Field, Station 057. A listing of the permitted equipment can be found in Section I.A. of the permit analysis.

#### B. Current Permit Action

On September 16, 2009, the Department of Environmental Quality – Air Resources Management Bureau (Department) received a request to change the mailing address for Saga from 410 17<sup>th</sup> Street, Suite 1520 to 600 17<sup>th</sup> Street, Suite 1700N. Also, on December 28, 2009, the Department received a request to remove the BS&B Boiler from the permit as the equipment is no longer at the site. The current permit action changes the mailing address, removes the BS&B Boiler from the permitted equipment, and updates the permit to reflect the current format and rule references used by the Department.

### Section II: Conditions and Limitations

#### A. Emission Limitations

1. Emissions from each 360 brake-horsepower (bhp) White Superior compressor engine shall not exceed the following (ARM 17.8.749):

NO <sub>x</sub> <sup>1</sup>	11.9 lb/hr
CO	1.43 lb/hr
VOC	0.16 lb/hr

2. Saga shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

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<sup>1</sup> NO<sub>x</sub> reported as NO<sub>2</sub>

3. Saga 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 (ARM 17.8.308).
4. Saga shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749 and ARM 17.8.752).
5. Saga shall be limited to operating the two White Superior compressor engines a maximum combined total of 16,550 hours during any rolling 12-month period (ARM 17.8.749 and ARM 17.8.1204).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of 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 Requirement

1. Saga 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 to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Saga 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(1)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by Saga as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. Saga shall document, by month, the hours of operation of the two White Superior compressor engines. By the 25<sup>th</sup> day of each month, Saga shall total the hours of operation of the two White Superior compressor engines for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.5. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

5. Saga shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

### Section III: General Conditions

- A. Inspection - Saga 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 (Continuous Emission Monitoring System (CEMS), Continuous Emission Rate Monitoring System (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 Saga fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Saga 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 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 therefore, 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 Fees - Pursuant to Section 75-2-220, MCA, failure to pay annual operation fees by Saga may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction of installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis  
Saga Petroleum, LLC  
Big Coulee Field, Station 057  
MAQP #2770-08

I. Introduction/Process Description

Saga Petroleum, LLC (Saga) owns and operates a natural gas compressor station and associated equipment. The facility is located in the SE¼ of the SE¼ of Section 25, Township 5 North, Range 19 East, in Golden Valley County, Montana, and is know as the Big Coulee Field, Station 057.

A. Permitted Equipment

Saga owns Big Coulee Field, Station 057. This facility includes, but is not limited to, the following equipment:

- One 1969 360 brake-horsepower (bhp) White Superior compressor engine;
- One 1973 360 bhp White Superior compressor engine;
- One 150 thousand British thermal units per hour (MBtu/hr) NATCO Dehydrator;
- TEG Dehydrator Vent Emissions;
- Various Building Heaters <1-million British thermal units per hour (MMBtu/hr); and
- Pneumatic Valves.

B. Source Description

The first White Superior compressor engine was installed at the Big Coulee Field, Station 057 compressor station in 1969, and the second White Superior compressor engine was installed in 1973.

The complex has two primary purposes. The first is to pump the field gas up to the required pressure in the natural gas transmission system. Compression of the gas is accomplished using both compressor engines described above. The boiler provides heat to the various station facilities.

The second purpose of the complex is to "dry" the gas as it is being processed. The gas contains some moisture, which must be removed from the system prior to being sent into the transmission system. This is accomplished with a dehydrator, also commonly called a reboiler or glycol unit.

The gas is treated with a glycol solution, which absorbs the water in the gas stream. The glycol solution is then heated to about 300 degrees Fahrenheit (°F) to drive off the water and return the glycol. Burning natural gas in the dehydrator reboiler generates the heat necessary for this activity. This unit will have a heat input of approximately 150 MBtu/hr. The reboiler is small by industrial standards, having a size approximately equivalent to a typical natural gas-fired small office heating system.

C. Permit History

On June 22, 1993, the Montana Power Company, Big Coulee Field, Station 057 (Montana Power - Station 057), was issued **MAQP #2770-00** for the operation of their compressor station and associated equipment, located in the SE¼ of the SE¼ of Section 25, Township 5 North, Range 19 East, Golden Valley County near Ryegate, Montana. The station was identified as the Big Coulee Field, Station 057.

A Best Available Control Technology (BACT) determination was not required for the two 360-bhp White Superior compressor engines, since they were operating at the same location prior to March 16, 1979.

Montana Power - Station 057 tested each 360-bhp White Superior compressor engine for nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO), concurrently, and demonstrated compliance with the emission limits contained in the permit in November of 1993.

**MAQP #2770-01** was issued to Montana Power - Station 057 to revise the emission limitation units from grams per brake horsepower-hour (g/bhp-hr) to pounds per hour (lb/hr). The revision allowed flexibility to account for varying parameters such as engine revolutions per minute (rpm), operating load (bhp), ambient air temperature, gas temperature, site, elevation, fuel gas quality, air/fuel ratio (AFR), field gas conditions, etc. Rather than limit the engines to a g/bhp-hr limit, an hourly emission limit allowed additional operational flexibility. Also, to clarify NO<sub>x</sub> mass emission calculations, NO<sub>x</sub> emission limitations were identified as nitrogen dioxide (NO<sub>2</sub>). **MAQP #2770-01** replaced **MAQP #2770-00** and on March 7, 1994, **MAQP #2770-01** became final.

**MAQP #2770-01** was altered to include an hourly operational limit that allowed Montana Power - Station 057 to stay below the Title V Operating Permit threshold. In addition, this permit change updated the rule references in the permit. **MAQP #2770-02** replaced **MAQP #2770-01**. On September 7, 1997, **MAQP #2770-02** became final.

**MAQP #2770-02** was amended to address a name change from Montana Power Company to the Montana Power Gas Company. The appropriate references in the permit were changed to reflect the name change. In addition, the permit was updated to reflect the current format used for writing permits. **MAQP #2770-03** replaced **MAQP #2770-02** and on March 24, 1999, **MAQP #2770-03** became final.

On January 22, 2002, the Department of Environmental Quality (Department) received a notice of corporate merger and name change from the Montana Power Gas Company to PanCanadian Energy Resources, Inc. (PanCanadian). The letter notified the Department that Montana Power Gas Company, Xeno, Inc., and Entech Gas Ventures, Inc., merged into North American Resources Company (NARCO) as of January 1, 2002. The letter also stated that at the same time, NARCO changed its corporate name to PanCanadian. In addition, on April 18, 2002, the Department received a letter from PanCanadian requesting a name change from PanCanadian to EnCana. This permit action transferred the permit from PanCanadian to EnCana and updated the permit with current permit language and rule references used by the Department. **MAQP #2770-04** replaced **MAQP #2770-03** and on August 22, 2002, **MAQP #2770-04** became final.

On June 5, 2003, the Department received a letter from Aspen Consulting & Engineering, Inc., on behalf of EnCana requesting the Department change the corporate name on **MAQP #2770-04** from EnCana Energy Resources, Inc. to EnCana Gathering Services (USA), Inc. This permitting action changed the name from EnCana Energy Resources, Inc., to EnCana Gathering Services (USA), Inc., and updated the permit to reflect current permit language and rule references used by the Department. **MAQP #2770-05** replaced **MAQP #2770-04** and on August 16, 2003, **MAQP #2770-05** became final.

On April 13, 2005, the Department received a letter from Buys & Associates, Inc., on behalf of EnCana requesting the Department change the corporate name from EnCana Gathering Services (USA), Inc., to EnCana, and update the mailing address. Additionally, EnCana requested that the Department modify Section II.A.5. of **MAQP #2770-05** to allow for

continuous operation of one compressor engine while keeping the combined hourly operational limit of the two compressor engines the same. This permit action changed the corporate name on MAQP #2770-05, modified Section II.A.5., and updated the emission inventory to reflect the modification to Section II.A.5. and the most appropriate emissions factors. In addition, MAQP #2770-05 was updated to reflect the current permit language and rule references used by the Department. **MAQP #2770-06** replaced MAQP #2770-05 and on July 10, 2005, MAQP #2770-06 became final.

On October 17, 2005, the Department received an administrative amendment request for the transfer of ownership of MAQP #2770-06 from EnCana Oil and Gas (USA), Inc. (EnCana) to Saga. Further, Saga submitted additional information on the replacement of the dehydrator unit, and submitted this information on November 18, 2005, in response to the Department incompleteness letter. The new dehydrator was reported to have a process rate of 150 MBtu/hr value. In addition, MAQP #2770-06 was updated to reflect the current permit language and rule references used by the Department. **MAQP #2922-07** replaced MAQP #2922-06 and on January 7, 2006, MAQP #2770-07 became final.

#### D. Current Permit Action

On September 16, 2009, the Department received a request to change the mailing address for Saga from 410 17<sup>th</sup> Street, Suite 1520 to 600 17<sup>th</sup> Street, Suite 1700N. Also, on December 28, 2009, the Department received a request to remove the BS&B Boiler from the permit as the equipment is no longer at the site. The current permit action changes the mailing address, removes the BS&B Boiler from the permitted equipment, and updates the permit to reflect the current format and rule references used by the Department. **MAQP #2770-08** replaces MAQP #2770-07.

#### E. Additional Information

Additional information, such as applicable rules and regulations, 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 the location 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 (including instruments and sensing devices) 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).

Saga 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 the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

Saga 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 less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Saga 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, allow, or permit to be discharged into the atmosphere particulate

matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions–Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (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. Saga uses natural gas in its fuel burning equipment, which meets this limitation.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing 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 a natural gas processing plant as defined in 40 CFR 60, Subpart KKK.
7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
  - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart listed below:
  - b. 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63 shall comply with the applicable provisions of 40 CFR 63, Subpart HH. In order for a natural gas production facility to be subject to 40 CFR 63, Subpart HH requirements, certain criteria must be met. First, a facility must either process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. Second, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR 63, Subpart HH. Finally if the criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR 63, Subpart HH. The facility can be either a major or area source of HAPs. For area sources, the affected source includes each TEG dehydration unit.

Based on previous information provided by Saga, the Big Coulee Field, Station 057 facility is considered an area source of HAPs that is subject to 40 CFR 63, Subpart HH because of the existence of the TEG dehydration unit.

- c. 40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR 63, Subpart HHH. In order for a natural gas transmission and storage facility to be subject to 40 CFR 63, Subpart HHH requirements, certain criteria must be met. First, the

facility must transport or store natural gas prior to the gas entering the pipeline to a local distribution company or to a final end user if there is no local distribution company. In addition, the facility must be a major source of HAPs as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or paragraphs (a)(2) and (a)(3) of 40 CFR 63, Subpart HHH. Second, a facility must contain an affected source (glycol dehydration unit) as defined in paragraph (b) of 40 CFR 63, Subpart HHH. Finally, if the first two criteria are met, and the exemptions contained in paragraph (f) of 40 CFR 63, Subpart HHH, do not apply, the facility is subject to the applicable provisions of 40 CFR 63, Subpart HHH. Based on the information submitted by Saga, the Big Coulee Field, Station 057 facility is not subject to the provisions of 40 CFR 63, Subpart HHH because the facility is not a major source of HAPs.

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. Saga was not required to submit an application fee for the current permitting action because it 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. This 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 prorate 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 person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Saga has an uncontrolled PTE greater than 25 tons per year of NO<sub>x</sub>; 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 do not require a permit under 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. Saga was not required to submit an application for the current permitting action because it is an Administrative Amendment. (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 permitting action because it is an Administrative Amendment.
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, 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 Saga 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 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. 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 modified 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.
13. 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 Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

14. 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.
15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if a 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 Modifications--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 FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 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 source having:
  - a. PTE greater than 100 tons/year of any pollutant;
  - b. PTE greater than 10 tons/year of any one HAP, PTE greater than 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
  - c. PTE greater than 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) in a serious PM<sub>10</sub> nonattainment area.
2. ARM 17.8.1204, Air Quality Operating Permit Program. (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 #2770-08 for Saga, 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 less than 10 tons/year of any one HAP and less than 25 tons/year of all HAPs.
- c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
- d. This facility is not subject to any current NSPS.
- e. This facility is subject to area source provisions of a current NESHAP standard (40 CFR 63, Subpart HH).
- f. This source is not a Title IV affected source, nor a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.
- h. As allowed by ARM 17.8.1204(3), the Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.
  - i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
  - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

Saga has taken federally enforceable permit limits to keep potential emission below major source permitting thresholds. Therefore, the facility is not a major source and, thus a Title V operating permit is not required.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness

Saga shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

III. BACT Determination

A BACT determination is required for each new or modified source. Saga shall install on the new or modified 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

Source	Tons/Year						
	PM	PM <sub>10</sub>	NO <sub>x</sub>	VOC	CO	SO <sub>x</sub>	CH <sub>2</sub> O
360 bhp White Superior Compressor Engine	0.14	0.14	46.38	0.62	5.57	0.01	0.24
360 bhp White Superior Compressor Engine	0.16	0.16	52.17	0.70	6.26	0.01	0.27
NATCO Dehy Reboiler 150 MBtu/hr	0.01	0.01	0.08	0.00	0.07	0.001	
TEG Dehy Vent Emissions				10.12			
Various Buliding Heaters < 1 MMBtu/hr	0.04	0.04	0.53	0.03	0.44	0.003	
Pneumatic Valves				0.55			
<b>Total</b>	<b>0.35</b>	<b>0.35</b>	<b>99.16</b>	<b>12.02</b>	<b>12.34</b>	<b>0.024</b>	<b>0.51</b>

#### (SOURCE #01)

#### 360 bhp White Superior Compressor Engine

Brake Horsepower: 360 bhp @ 900 rpm  
 Hours of Operation: 7,790 hr/yr  
 Fuel Heating Value: 842.30 Btu/scf {Company Information}  
 or 0.0012 MMscf/MMBtu  
 Max Fuel Combustion Rate:  $8.50 \text{ MBtu/bhp-hr} * 360 \text{ bhp} * 1 \text{ MMBtu}/1000 \text{ MBtu}$   
 $= 3.06 \text{ MMBtu/hr}$   
 $3.06 \text{ MMBtu/hr} * 0.0012 \text{ MMscf/MMBtu} = 0.0037 \text{ MMscf/hr}$

#### PM Emissions

Emission Factor: 10.00 lb/MMscf {FIRE, PC Version, 1/95, 2-02-002-02}  
 Hourly Calculations:  $10.00 \text{ lb/MMscf} * 0.0037 \text{ MMscf/hr} = 0.037 \text{ lb/hr}$   
 Daily Calculations:  $0.037 \text{ lb/hr} * 21.34 \text{ hr/day} = 0.79 \text{ lb/day}$   
 Annual Calculations:  $0.037 \text{ lb/hr} * 7790 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.14 \text{ ton/yr}$

#### PM<sub>10</sub> Emissions

Emission Factor: 10.00 lb/MMscf {FIRE, PC Version, 1/95, 2-02-002-02}  
 Hourly Calculations:  $10.00 \text{ lb/MMscf} * 0.0037 \text{ MMscf/hr} = 0.037 \text{ lb/hr}$   
 Daily Calculations:  $0.037 \text{ lb/hr} * 21.34 \text{ hr/day} = 0.79 \text{ lb/day}$   
 Annual Calculations:  $0.037 \text{ lb/hr} * 7790 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.14 \text{ ton/yr}$

#### NO<sub>x</sub> Emissions

Emission Factor: 15.00 gram/bhp-hr {Manufacturer's Data}  
 Hourly Calculations:  $15.00 \text{ gram/bhp-hr} * 360 \text{ Bhp} * 0.002205 \text{ lb/gram} = 11.91 \text{ lb/hr}$   
 Daily Calculations:  $11.91 \text{ lb/hr} * 21.34 \text{ hr/day} = 254.10 \text{ lb/day}$   
 Annual Calculations:  $11.91 \text{ lb/hr} * 7790 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 46.38 \text{ ton/yr}$

#### VOC Emissions

Emission Factor: 0.20 gram/bhp-hr {Manufacturer's Data}  
 Hourly Calculations:  $0.20 \text{ gram/bhp-hr} * 360 \text{ Bhp} * 0.002205 \text{ lb/gram} = 0.16 \text{ lb/hr}$   
 Daily Calculations:  $0.16 \text{ lb/hr} * 21.34 \text{ hr/day} = 3.39 \text{ lb/day}$   
 Annual Calculations:  $0.16 \text{ lb/hr} * 7790 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.62 \text{ ton/yr}$

#### CO Emissions

Emission Factor: 1.80 gram/bhp-hr {Manufacturer's Data}  
 Hourly Calculations:  $1.80 \text{ gram/bhp-hr} * 360 \text{ Bhp} * 0.002205 \text{ lb/gram} = 1.43 \text{ lb/hr}$   
 Daily Calculations:  $1.43 \text{ lb/hr} * 21.34 \text{ hr/day} = 30.49 \text{ lb/day}$   
 Annual Calculations:  $1.43 \text{ lb/hr} * 7790 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 5.57 \text{ ton/yr}$

#### SO<sub>x</sub> Emissions

Emission Factor: 0.6000 lb/MMscf {FIRE, PC Version, 1/95, 2-02-002-02}  
Hourly Calculations:  $0.6000 \text{ lb/MMscf} * 0.0012 \text{ MMscf/MMBtu} * 3.06 \text{ MMBtu/hr}$   
 $= 0.0022 \text{ lb/hr}$   
Daily Calculations:  $0.0022 \text{ lb/hr} * 21.34 \text{ hr/day} = 0.047 \text{ lb/day}$   
Annual Calculations:  $0.0022 \text{ lb/hr} * 7790 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

#### Formaldehyde Emissions

Emission Factor: 0.02050 lb/MMBtu {AP-42, 3.2-3}  
Hourly Calculations:  $0.02050 \text{ lb/MMscf} * 3.06 \text{ MMBtu/hr} = 0.0627 \text{ lb/hr}$   
Daily Calculations:  $0.0627 \text{ lb/hr} * 21.34 \text{ hr/day} = 1.34 \text{ lb/day}$   
Annual Calculations:  $0.0627 \text{ lb/hr} * 7790 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.24 \text{ ton/yr}$

#### (SOURCE #02)

#### 360 bhp White Superior Compressor Engine

Brake Horsepower: 360 bhp @ 900 rpm  
Hours of Operation: 8,760 hr/yr  
Fuel Heating Value: 842.30 Btu/scf {Company Information}  
or 0.0012 MMscf/MMBtu  
Max Fuel Combustion Rate:  $8.50 \text{ MBtu/bhp-hr} * 360 \text{ bhp} * 1 \text{ MMBtu/1000 MBtu}$   
 $= 3.06 \text{ Btu/hr}$   
 $3.06 \text{ MMBtu/hr} * 0.0012 \text{ MMscf/MMBtu} = 0.0037 \text{ MMscf/hr}$

#### PM Emissions

Emission Factor: 10.00 lb/MMscf {FIRE, PC Version, 1/95, 2-02-002-02}  
Hourly Calculations:  $10.00 \text{ lb/MMscf} * 0.0037 \text{ MMscf/hr} = 0.037 \text{ lb/hr}$   
Daily Calculations:  $0.037 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.88 \text{ lb/day}$   
Annual Calculations:  $0.037 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.16 \text{ ton/yr}$

#### PM<sub>10</sub> Emissions

Emission Factor: 10.00 lb/MMscf {FIRE, PC Version, 1/95, 2-02-002-02}  
Hourly Calculations:  $10.00 \text{ lb/MMscf} * 0.0037 \text{ MMscf/hr} = 0.037 \text{ lb/hr}$   
Daily Calculations:  $0.037 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.89 \text{ lb/day}$   
Annual Calculations:  $0.037 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.16 \text{ ton/yr}$

#### NO<sub>x</sub> Emissions

Emission Factor: 15.00 gram/bhp-hr {Manufacturer's Data}  
Hourly Calculations:  $15.00 \text{ gram/bhp-hr} * 360 \text{ Bhp} * 0.002205 \text{ lb/gram} = 11.91 \text{ lb/hr}$   
Daily Calculations:  $11.91 \text{ lb/hr} * 24.00 \text{ hr/day} = 285.77 \text{ lb/day}$   
Annual Calculations:  $11.91 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 52.17 \text{ ton/yr}$

#### VOC Emissions

Emission Factor: 0.20 gram/bhp-hr {Manufacturer's Data}  
Hourly Calculations:  $0.20 \text{ gram/bhp-hr} * 360 \text{ Bhp} * 0.002205 \text{ lb/gram} = 0.16 \text{ lb/hr}$   
Daily Calculations:  $0.16 \text{ lb/hr} * 24.00 \text{ hr/day} = 3.81 \text{ lb/day}$   
Annual Calculations:  $0.16 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.70 \text{ ton/yr}$

#### CO Emissions

Emission Factor: 1.80 gram/bhp-hr {Manufacturer's Data}  
Hourly Calculations:  $1.80 \text{ gram/bhp-hr} * 360 \text{ Bhp} * 0.002205 \text{ lb/gram} = 1.43 \text{ lb/hr}$   
Daily Calculations:  $1.43 \text{ lb/hr} * 24.00 \text{ hr/day} = 34.29 \text{ lb/day}$   
Annual Calculations:  $1.43 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 6.26 \text{ ton/yr}$

#### SO<sub>x</sub> Emissions

Emission Factor: 0.6000 lb/MMscf {FIRE, PC Version, 1/95, 2-02-002-02}  
Hourly Calculations:  $0.6000 \text{ lb/MMscf} * 0.0012 \text{ MMscf/MMBtu} * 3.06 \text{ MMBtu/hr}$   
 $= 0.0022 \text{ lb/hr}$   
Daily Calculations:  $0.0022 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.0528 \text{ lb/day}$   
Annual Calculations:  $0.0022 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

#### Formaldehyde Emissions

Emission Factor: 0.02050 lb/MMBtu {AP-42, 3.2-3}  
Hourly Calculations:  $0.02050 \text{ lb/MMscf} * 3.06 \text{ MMBtu/hr} = 0.0627 \text{ lb/hr}$   
Daily Calculations:  $0.0627 \text{ lb/hr} * 24.00 \text{ hr/day} = 1.51 \text{ lb/day}$   
Annual Calculations:  $0.0627 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.27 \text{ ton/yr}$

#### (SOURCE #03)

#### NATCO Dehy Reboiler 150 MBtu/hr

Hours of Operation: 8,760 hr/yr  
Fuel Heating Value: 842.30 Btu/scf {Company Information}  
or 0.0012 MMscf/MMBtu  
Max Fuel Combustion Rate: 0.150 MMBtu/hr {Company Information}  
 $0.150 \text{ MMBtu/hr} * 0.0012 \text{ MMscf/MMBtu} = 0.00018 \text{ MMscf/hr}$

#### PM Emissions

Emission Factor: 7.60 lb/MMscf {AP-42, 1.4-2}  
Hourly Calculations:  $7.60 \text{ lb/MMscf} * 0.00018 \text{ MMscf/hr} = 0.0014 \text{ lb/hr}$   
Daily Calculations:  $0.0014 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.04 \text{ lb/day}$   
Annual Calculations:  $0.0014 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

#### PM<sub>10</sub> Emissions

Emission Factor: 7.60 lb/MMscf {AP-42, 1.4-2}  
Hourly Calculations:  $7.60 \text{ lb/MMscf} * 0.00018 \text{ MMscf/hr} = 0.0014 \text{ lb/hr}$   
Daily Calculations:  $0.0014 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.04 \text{ lb/day}$   
Annual Calculations:  $0.0014 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

#### NO<sub>x</sub> Emissions

Emission Factor: 100.000 lb/MMscf {AP-42, 1.4-1, 7/98}  
Hourly Calculations:  $100.000 \text{ lb/MMscf} * 0.00018 \text{ MMscf/hr} = 0.018 \text{ lb/hr}$   
Daily Calculations:  $0.018 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.43 \text{ lb/day}$   
Annual Calculations:  $0.018 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.08 \text{ ton/yr}$

#### VOC Emissions

Emission Factor: 5.500 lb/MMscf {AP-42, 1.4-2, 7/98}  
Hourly Calculations:  $5.500 \text{ lb/MMscf} * 0.00018 \text{ MMscf/hr} = 0.001 \text{ lb/hr}$   
Daily Calculations:  $0.001 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.03 \text{ lb/day}$   
Annual Calculations:  $0.001 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.004 \text{ ton/yr}$

#### CO Emissions

Emission Factor: 84.000 lb/MMscf {AP-42, 1.4-1, 7/98}  
Hourly Calculations:  $84.000 \text{ lb/MMscf} * 0.00018 \text{ MMscf/hr} = 0.0151 \text{ lb/hr}$   
Daily Calculations:  $0.0151 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.36 \text{ lb/day}$   
Annual Calculations:  $0.0151 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.07 \text{ ton/yr}$

#### SO<sub>x</sub> Emissions

Emission Factor: 0.6000 lb/MMscf {AP-42, 1.4-2, 7/98}  
Hourly Calculations: 0.6000 lb/MMscf \* 0.00018 MMscf/hr = 0.0001 lb/hr  
Daily Calculations: 0.0001 lb/hr \* 24.00 hr/day = 0.003 lb/day  
Annual Calculations: 0.0001 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.0004 ton/yr

#### (SOURCE #04)

##### Dehy Vent Emissions

The emissions were calculated using the GRI-GLYCalc program.  
Uncontrolled Regenerator Emissions - VOC: 10.13 ton/yr

Hours of operation: 8760 hr/yr

##### Dehydrator Still Vent

##### VOC Emissions

Emission Factor: 2.31 lb/hr (GRI-GLYCalc, Version 4.0)  
Calculations: 2.31 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 10.12 ton/yr

#### (Source #05)

##### Various Building Heaters <1 MMBtu/hr

Hours of Operation: 8,760 hr/yr or 24 hr/day  
Fuel Heating Value: 842.30 Btu/scf {Company Information}  
or 0.0012 MMscf/MMBtu  
Max Fuel Combustion Rate: 1.00 MMBtu/hr {Company Information}  
1.000 MM Btu/hr \* 0.0012 MMscf/MMBtu = 0.0012 MMscf/hr

##### PM Emissions

Emission Factor: 7.60 lb/MM scf {AP-42, 1.4-2, 7/98}  
Hourly Calculations: 7.60 lb/MM scf \* 0.0012 MM scf/hr = 0.009 lb/hr  
Daily Calculations: 0.009 lb/hr \* 24.00 hr/day = 0.22 lb/day  
Annual Calculations: 0.009 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.04 ton/yr

##### PM<sub>10</sub> Emissions

Emission Factor: 7.60 lb/MMscf {AP-42, 1.4-2, 7/98}  
Hourly Calculations: 7.60 lb/MMscf \* 0.0012 MMscf/hr = 0.009 lb/hr  
Daily Calculations: 0.009 lb/hr \* 24.00 hr/day = 0.22 lb/day  
Annual Calculations: 0.009 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.04 ton/yr

##### NO<sub>x</sub> Emissions

Emission Factor: 100.000 lb/MMscf {AP-42, 1.4-1}  
Hourly Calculations: 100.000 lb/MMscf \* 0.0012 MMscf/hr = 0.12 lb/hr  
Daily Calculations: 0.12 lb/hr \* 24.00 hr/day = 2.88 lb/day  
Annual Calculations: 0.12 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.53 ton/yr

##### VOC Emissions

Emission Factor: 5.500 lb/MMscf {AP-42, 1.4-1}  
Hourly Calculations: 5.500 lb/MMscf \* 0.0012 MMscf/hr = 0.007 lb/hr  
Daily Calculations: 0.007 lb/hr \* 24.00 hr/day = 0.16 lb/day  
Annual Calculations: 0.007 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.03 ton/yr

#### CO Emissions

Emission Factor: 84.000 lb/MMscf { AP-42, 1.4-1 }  
Hourly Calculations:  $84.000 \text{ lb/MMscf} * 0.0012 \text{ MMscf/hr} = 0.1008 \text{ lb/hr}$   
Daily Calculations:  $0.1008 \text{ lb/hr} * 24.00 \text{ hr/day} = 2.42 \text{ lb/day}$   
Annual Calculations:  $0.1008 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.44 \text{ ton/yr}$

#### SO<sub>x</sub> Emissions

Emission Factor: 0.6000 lb/MMscf { AP-42, 1.4-1 }  
Hourly Calculations:  $0.6000 \text{ lb/MMscf} * 0.0012 \text{ MMscf/hr} = 0.0007 \text{ lb/hr}$   
Daily Calculations:  $0.0007 \text{ lb/hr} * 24.00 \text{ hr/day} = 0.02 \text{ lb/day}$   
Annual Calculations:  $0.0007 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.003 \text{ ton/yr}$

#### (Source #06)

##### Pneumatic Valves

Hours of Operation: 8,760 hr/yr or 24 hr/day  
Fuel Usage: 90 scf/hr { Company Information }  
Weight % of VOC in Gas Stream: 2.9380 { Company Information }  
Relative Mole Weight: 18.106 lb/lb-mol { Company Information }

#### VOC Emissions

Hourly Calculations:  $90.00 \text{ scf/hr} * 1/379 \text{ scf/lb-mole} * 18.1060 \text{ lb/lb-mole} * 0.02938$   
 $= 0.126 \text{ lb/hr}$   
Daily Calculations:  $0.126 \text{ lb/hr} * 24.00 \text{ hr/day} = 3.03 \text{ lb/day}$   
Annual Calculations:  $0.126 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.55 \text{ ton/yr}$

#### V. Existing Air Quality

The current permit action is an Administrative Amendment to Permit #2770-07 and will not increase emissions from this source. In the view of the Department, Saga will continue to operate in compliance with all applicable rules and regulations that apply to the facility.

#### VI. Ambient Air Impact Analysis

Ambient air modeling was not required for the current permit action because the permit change is considered an administrative permit change.

## VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department has 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.

## VIII. Environmental Assessment

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

MAQP Analysis Prepared By: Karen Gillespie  
Date: March 10, 2010