



Montana Department of  
**ENVIRONMENTAL QUALITY**

Brian Schweitzer, Governor

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July 2, 2010

Mr. Jeff Casey  
CHS, Inc.  
803 Highway 212 South  
P.O. Box 909  
Laurel, MT 59044

Dear Mr. Casey:

Montana Air Quality Permit #3901-01 is deemed final as of July 2, 2010, by the Department of Environmental Quality (Department). This permit is for a Bulk Biodiesel and Petroleum Products Terminal. 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

Shawn Juers  
Environmental Engineer  
Air Resources Management Bureau  
(406) 444-2049

VW:SJ  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #3901-01

CHS, Inc.  
803 Highway 212 South  
P.O. Box 909  
Laurel, MT 59044

July 2, 2010



## MONTANA AIR QUALITY PERMIT

Issued To: CHS, Inc.  
803 Highway 212 South  
P.O. Box 909  
Laurel, MT 59044

MAQP: #3901-01  
Administrative Amendment (AA)  
Request Received: 4/22/2010  
Department Decision on AA: 6/15/2010  
Permit Final: 7/2/2010  
AFS #: 031-0020

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to CHS, Inc. (CHS), pursuant to Sections 75-2-204, 211, and 215 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 terminal is located between Interstate 90 and Frontage Road 205 in Logan, Montana. The legal description for the facility is the Northwest  $\frac{1}{4}$  of Section 35, Township 2 North, Range 2 East, in Gallatin County, Montana.

#### B. Current Permit Action

On April 22, 2010, the Department of Environmental Quality – Air Resources Management Bureau (Department) received a de minimis request from Bison Engineering, Inc., on behalf of CHS, to add one 1,000-oil barrel (barrel) gasoline tank, one 1,000 barrel ethanol tank, and one 1,000 barrel diesel tank to the CHS Logan Bulk Terminal. In that correspondence, inconsistencies between the originally determined potential to emit of the permitted facility, and the potential to emit of the facility as-built, was demonstrated. The facility as-built was shown to have lower potential emissions than originally assumed. In a letter dated May 3, 2010, the Department responded to the request. The May 3<sup>rd</sup> correspondence outlined the Department's analysis of the matter, leading to this permitting action.

The addition of the three new tanks qualified as a de minimis exclusion from the requirements of a permit modification, with a potential to emit less than 5 tons per year of volatile organic compounds (VOC). This permitting action is an administrative action which updates the permit to include the three new tanks.

This permitting action also updates the permit to clarify conditions of Section III.A.2, to update the emissions inventory and equipment list, and to update the permit to the current format and rule references used by the Department.

### SECTION II: Tank Truck Loading Rack

#### A. Conditions and Limitations

1. CHS shall operate one tank truck loading rack with up to two bays, having a total of no more than four loading arms (ARM 17.8.749).

2. CHS shall be limited to 12,500,000 barrels of product throughput for the truck loadout operation during any rolling 12-month period (ARM 17.8.749).
3. Loading of tank trucks shall be restricted to the use of submerged fill (ARM 17.8.749).
4. CHS shall install, operate, and maintain a vapor collection system to collect Volatile Organic Compound (VOC) emissions from the tank truck loading rack during product loading, and vent those emissions to a vapor combustor unit (VCU). In the event that the VCU is inoperable, CHS may load diesel fuel (only) into trucks in dedicated diesel service (ARM 17.8.340; 40 CFR 60, Subpart XX; ARM 17.8.752; and ARM 17.8.749).
5. CHS shall ensure that loading of product tank trucks at the loading racks are made only into tank trucks with vapor collection systems compatible with the terminal's vapor collection system, and that the systems are connected during each loading of product (ARM 17.8.340; 40 CFR 60, Subpart XX; and ARM 17.8.749).
6. The vapor recovery system shall be designed to prevent any VOC vapors collected at one loading rack from passing to another loading rack (ARM 17.8.340; 40 CFR 60, Subpart XX; and ARM 17.8.749).
7. No pressure-vacuum vent in the vapor collection system shall begin to open at a system pressure less than 4,500 Pascal (Pa) (450 millimeters [mm] of water) (ARM 17.8.340 and 40 CFR 60, Subpart XX).
8. The vapor collection system and liquid loading equipment shall be designed and operated to prevent gauge pressure in the gasoline tank truck from exceeding 4,500 Pa (450 mm of water) during product loading. This level shall not be exceeded when measured by the procedures specified 40 CFR 60.503(d) (ARM 17.8.340 and 40 CFR 60, Subpart XX).
9. Loading of product into gasoline tank trucks shall be limited to vapor-tight tank trucks using the procedures listed under 40 CFR 60.502(e) (ARM 17.8.340 and 40 CFR 60, Subpart XX).
  - a. CHS shall obtain the vapor tightness documentation described in EPA Method 27, or another method approved by the Department, for each gasoline tank truck that is loaded at the loading racks;
  - b. CHS shall require the tank truck identification number to be recorded as each gasoline tank truck is loaded at the terminal; and
  - c. CHS shall take the necessary steps to ensure that any non-vapor-tight gasoline tank truck will not be loaded at the loading racks until vapor tightness documentation for that tank truck is obtained.
10. CHS shall not cause or authorize to be discharged into the atmosphere from the truck loading rack VCU:
  - a. VOC emissions greater than 10.0 mg/L of product loaded (ARM 17.8.752).
  - b. Carbon Monoxide (CO) emissions greater than 10.0 mg/L of product loaded (ARM 17.8.752).

c. Nitrogen Oxides (NO<sub>x</sub>) emissions greater than 4.0 mg/L of product loaded (ARM 17.8.752).

11. The VCU shall be operated with a flame present at all times that product is being loaded into tank trucks, except as identified under Section II.A.4. CHS shall install and continuously operate a thermocouple, an ultraviolet flame detector, or any other equivalent device to detect the presence of a flame, and an associated relay system that will render the loading rack inoperable if a flame is not present at the VCU flare tip (ARM 17.8.752).
12. If CHS decides to use an alternative VCU or flare, other than the proposed John Zink VCU, CHS shall provide written notification to the Department, certify that the alternative control has equivalent emission guarantees and is of similar design to the John Zink VCU, and submit manufacturer specifications and design drawings of the alternative control device (ARM 17.8.749).
13. CHS shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements of 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS), Subpart A – General Provisions, and Subpart XX – Standards of Performance for Bulk Gasoline Terminals (ARM 17.8.340 and 40 CFR 60, Subparts A and XX).

#### B. Testing Requirements

1. The flare shall be initially tested for VOC, and compliance demonstrated with the emission limitation contained in Section II.A.10 within 180 days of initial startup and every 4 years after the initial test (ARM 17.8.105).
2. Compliance with the vapor recovery and liquid loading equipment gauge pressure limits contained in Section II.A.7 & 8 shall be demonstrated every 5 years, or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105).
3. All compliance source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
4. The Department may require further testing (ARM 17.8.105).

#### C. Inspection and Repair Requirements

1. Each calendar month, the vapor recovery system, the VCU, and each loading rack handling gasoline shall be inspected during the loading of gasoline or ethanol tank trucks for total organic compounds liquid or vapor leaks. In addition, all valves, flanges, pump seals, and open-ended lines shall be inspected for total organic compound leaks each calendar month. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.749).
2. CHS shall (ARM 17.8.749):
  - a. Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and
  - b. Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Section II.C.3. below.

3. Delay of repair of equipment for which a leak has been detected will be allowed if repair is technically infeasible without a source shutdown. Such equipment shall be repaired before the end of the first source shutdown after detection of the leak (ARM 17.8.749).

D. Recordkeeping Requirements

1. CHS shall document, by month, the product throughput for the truck loading rack. By the 25<sup>th</sup> day of each month, CHS shall total the amount of throughput for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2. A written summary of the monthly product throughputs and 12-month rolling averages for the last calendar year shall be submitted along with annual emission inventory (ARM 17.8.749).
2. The tank truck vapor tightness documentation required in Section II.A.9. of this permit shall be kept on file at the terminal in a permanent form, available for inspection. The documentation file for each gasoline and gasoline/ethanol blend truck shall be updated at least once per year to reflect current test results. The documentation shall include the information listed in 40 CFR 60.505(b) (ARM 17.8.340 and 40 CFR 60, Subpart XX).
3. CHS shall document, by month, the amount of time that the VCU did not operate while product was loaded into the tank trucks at the racks (ARM 17.8.749).
4. A record of each monthly leak inspection required under Section II.C. of this permit shall be kept on file at the terminal. Inspection records shall include, at a minimum, the following information (ARM 17.8.340 and 40 CFR 60, Subpart XX):
  - a. Date of inspection
  - b. Findings (may indicate no leaks discovered or location, nature, and severity of each leak)
  - c. Leak determination method
  - d. Corrective action (date each leak repaired and reasons for any repair interval in excess of 15 calendar days)
  - e. Inspector's name and signature
5. All records compiled in accordance with this permit must be maintained by CHS 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).

E. Notification

CHS shall notify the Department in the event the VCU becomes inoperable (ARM 17.8.749).

## SECTION III: Storage Tanks

### A. Conditions and Limitations

1. CHS shall use submerged loading (submerged fill or bottom loading) to control VOC emissions from diesel tank filling operations while transferring product from the pipeline or railcars into the diesel storage tanks (ARM 17.8.752).
2. CHS shall use floating roofs to control VOC emissions from each of the gasoline, transmix, and ethanol storage tanks. CHS shall maintain the tank such that there are no visible holes, tears, or other openings in the seal or any seal fabric or material. The floating roof design shall be in compliance with the requirements of 40 CFR 60, Subpart Kb (ARM 17.8.752, ARM 17.8.324, ARM 17.8.340, and 40 CFR 60, Subpart Kb).
3. CHS shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements of 40 CFR 60, NSPS, Subpart A – General Provisions, and Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (ARM 17.8.340 and 40 CFR 60, Subparts A and Kb).

### B. Inspection and Testing Requirements for Tanks with External Floating Roofs

1. CHS shall visually inspect the external floating roof, the seals, and the fittings each time the storage vessel (tank) is emptied and degassed (ARM 17.8.340 and 40 CFR 60, Subpart Kb).
2. CHS shall determine the gap areas and maximum gap widths between the (a) primary seal and wall of the storage vessel and (b) between the secondary seal and the wall of the storage vessel, using the procedures and reporting requirements from 40 CFR 60, Subpart Kb or use other methods approved by the Department (ARM 17.8.340 and 40 CFR 60, Subpart Kb):
  - a. Measurements of gaps between the tank wall and primary seal shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with volatile organic liquid and at least once every 5 years thereafter.
  - b. Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with volatile organic liquid and at least once per year thereafter.
  - c. If any tank ceases to store volatile organic liquid for a period of 1 year or more, subsequent reintroduction of volatile organic liquid into the tank shall be determined an initial fill.

### C. Recordkeeping and Reporting Requirements

1. CHS shall record any change in products stored in the permitted storage tanks (ARM 17.8.749).
2. CHS shall notify the Department of the date of an inspection or testing at least 30 days prior to the inspection or test required by Section III.B. If the inspection is not planned and CHS could not have known about the inspection in advance, then CHS shall notify the Department at least 7 days prior to the refilling of the storage vessel (ARM 17.8.105 and 40 CFR 60, Subpart Kb).

3. CHS shall submit records of inspection or testing required in Section III.B. to the Department within 30 days of the date of inspection if a gap exceeding the limitations is detected or 60 days if no gap exceedence was measured (ARM 17.8.340 and 40 CFR 60, Subpart Kb).

#### D. Notification

CHS shall furnish the Department with a report that describes the control equipment for tanks subject to 40 CFR 60, Subpart Kb, and certify that the control equipment meets 40 CFR 60, Subpart Kb. CHS shall submit this report with the notification report required in Section IV.C.2. (ARM 17.8.340 and 40 CFR 60, Subpart Kb).

### Section IV: Facility-Wide

#### A. Limitations and Conditions

1. CHS shall ensure that any open-ended line shall be sealed with a valve (ARM 17.8.749).
2. CHS 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).
3. CHS 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. CHS 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 IV.A.3 (ARM 17.8.749).

#### B. Operational Reporting Requirements

1. CHS 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).

CHS shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. The type of petroleum liquid stored in each tank
- b. The average true vapor pressure of the petroleum liquid stored in each tank
- c. The estimated annual throughput of petroleum liquids for each tank



- d. The annual throughput of each type of petroleum liquids (gasoline, diesel, ethanol, etc.) for the truck loading rack
- e. The annual VOC facility-wide emissions for each month, on a 12-month rolling basis

For reporting purposes, the tanks shall be identified using the tank numbers contained in Section I.A. of the permit analysis.

2. All records compiled in accordance with this permit must be maintained by CHS 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).

#### C. Notification

1. CHS shall provide the Department with written notification of commencement of construction within 30 days after commencement of construction (ARM 17.8.749 and 40 CFR 60.7).
2. CHS shall notify the Department of the initial start-up of the bulk terminal within 15 days after the actual start-up of the facility (ARM 17.8.749 and 40 CFR 60.7).
3. CHS shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a 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 or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up 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).

#### SECTION V: General Conditions

- A. Inspection – CHS 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 emissions monitoring system (CEMS), continuous emissions 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 CHS fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving CHS 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 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 MAQP 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, failure to pay the annual operation fee by CHS 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 or 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  
 CHS, Inc. – Logan Bulk Terminal  
 MAQP #3901-01

I. Introduction/Process Description

CHS Inc. (CHS) owns and operates a bulk petroleum product terminal. The facility is located at the Northwest ¼ of Section 35, Township 2 North, Range 2 East, in Gallatin County, Montana, and is known as the Logan Bulk Terminal.

A. Permitted Equipment

1. Product Storage Tanks

Tank Number	Tank Description	Tank Type	Nominal Capacity (gallons)	CHS Logan Terminal Tank #
Tank #1	Gasoline Tank	External Floating Roof	840,000	Tank 1
Tank #2	Gasoline Tank	External Floating Roof	840,000	Tank 2
Tank #3	Diesel Tank	Cone Roof	42,000	Tank 3B
Tank #4	Diesel Tank	Cone Roof	840,000	Tank 4
Tank #5	Diesel Tank	Cone Roof	840,000	Tank 5
Tank #6	Diesel Tank	Cone Roof	42,000	Tank 6A
Tank #7	Gasoline/Transmix Tank	Internal Floating Roof	42,000	Tank 7A
Tank #8	Ethanol Tank	Internal Floating Roof	42,000	Tank 8A
Tank #9	Diesel/Biodiesel Tank	Cone Roof	42,000	Tank 6B
Tank #10	Gasoline Tank	Internal Floating Roof	42,000	Tank 7B
Tank #11	Diesel Tank	Cone Roof	42,000	Tank 3A
Tank #12	Ethanol Tank	Internal Floating Roof	42,000	Tank 8B

2. Loading Rack:

Truck product loading rack consists of two bays, each with two loading arms (one diesel and one gasoline) to load product from tanks into tank trucks.

Vapors from product loading are controlled by a John Zink Vapor Combustor Unit (VCU), which is an enclosed flare. The VCU has a small propane-fired auxiliary burner, which only runs when CHS loads product.

3. Associated Equipment:

- i. Electric pumps, valves, flanges and piping; and
- ii. Electric fire pump.

## B. Source Description

The CHS-Logan Bulk Terminal will be a bulk storage and distribution facility for CHS petroleum products marketed throughout western Montana. The terminal will receive gasoline, diesel fuel, ethanol, and biodiesel fuel from the Yellowstone Pipeline or railcar. The products will be stored in storage tanks, then loaded into tanker trucks for shipment. The facility will have an estimated actual throughput of 5,000 barrels per day (bbl/day) each of gasoline and diesel, and an estimated actual throughput of 500 bbl/day each of ethanol, bio-diesel, and transmix.

## C. Permit History

On November 6, 2006, the Department of Environmental Quality – Air Resources Management Bureau (Department) received an application from Bison Engineering, Inc., on behalf of CHS, for the Logan bulk terminal. **MAQP #3901-00** was issued final on February 6, 2007.

## D. Current Permit Action

On April 22, 2010, the Department received a de minimis request from Bison Engineering, Inc., on behalf of CHS, to add one 1,000-oil barrel (barrel) gasoline tank, one 1,000 barrel ethanol tank, and one 1,000 barrel diesel tank to the CHS Logan Bulk Terminal. In that correspondence, inconsistencies between the originally determined potential to emit of the permitted facility, and the potential to emit of the facility as-built, was demonstrated. The facility as-built was shown to have lower potential emissions than originally assumed. In a letter dated May 3, 2010, the Department responded to the request. The May 3<sup>rd</sup> correspondence outlined the Department's analysis of the matter, leading to this permitting action.

The addition of the three new tanks qualified as a de minimis exclusion from the requirements of a permit modification, with a potential to emit less than 5 tons per year of volatile organic compounds (VOC). This permitting action is an administrative action which updates the permit to include the three new tanks.

This permitting action also updates the permit to clarify conditions of Section III.A.2, to update the emissions inventory and equipment list, and to update the permit to the current format and rule references used by the Department. **MAQP #3901-01** replaces MAQP #3901-00.

## 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 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).

CHS 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>

CHS 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, CHS 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 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.
6. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
7. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
8. 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). CHS is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.
  - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
  - b. 40 CFR 60, Subpart Kb – Standard of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. The gasoline, ethanol, and transmix tanks will be subject to 40 CFR 60 Subpart Kb. The diesel tanks are exempt since the vapor pressure of diesel is approximately 0.1 kilopascal (kPa), which is below the 3.5 kPa threshold.
  - c. 40 CFR 60, Subpart XX, Standard of Performance for Bulk Gasoline Terminals. This subpart applies to loading racks at bulk gasoline terminals, constructed since December 17, 1980, that deliver liquid product into gasoline tank trucks. The CHS - Logan Bulk Terminal is subject to this subpart.
9. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as applicable. CHS is not subject to Subpart J (National Emission Standards for Equipment Leaks of Benzene) or Subpart V (Fugitive Emission Sources) since the CHS – Logan facility will not process or handle material containing 10% or greater by weight of benzene or other Hazardous Air Pollutant (HAP).
10. 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 an NESHAP Subpart as listed below:
  - b. 40 CFR 63 Subpart BBBBBB – National Emissions Standards for Hazardous Air Pollutants for Source Categories: Gasoline Distribution Bulk Terminals, Bulk Plants, Pipeline Facilities, and Gasoline Dispensing Facilities. This subpart contains national emission limitations and management practices for hazardous air pollutants emitted from area source gasoline distribution bulk terminals, bulk plants, and pipeline facilities. This subpart also contains requirements to demonstrate compliance with the emission limitations and management practices. The CHS – Logan Bulk Terminal is subject to this subpart. This rule provides a number of different acceptable control methods which are summarized in Tables 1 and 2 of this Subpart.
- D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:
1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
  2. ARM 17.8.402 Requirements. CHS must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or modified stack for CHS is below the allowable 65-meter GEP stack height.
- E. 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. The current action is an administrative action; therefore, no fee was required.
  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 MAQP (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 prorate the required fee amount.
- F. 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 MAQP 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. The CHS Logan terminal has a PTE greater than 25 tons per year of VOC; therefore, an MAQP 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. This rule requires that a permit application be submitted prior to installation, modification, or use of a source. The current action is an administrative action; therefore, a permit application and affidavit of publication are not required.
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 MAQPs 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 CHS 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 MAQP 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.
12. ARM 17.8.763 Revocation of Permit. An MAQP 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).



13. ARM 17.8.764 Administrative Amendment to Permit. An MAQP 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 MAQP 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.
15. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).

G. 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).

H. 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 > 100 tons/year of any pollutant;
  - b. PTE > 10 tons/year of any one hazardous air pollutant (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 (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 #3901-01 for CHS, 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 for any one HAP and less than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
- d. This facility is subject to current New Source Performance Standards (40 CFR 60 Subpart Kb and Subpart XX).
- e. This facility is subject to area source provisions of a current New Emissions Standards for Hazardous Air Pollutant standards (Maximum Achievable Control Technology (MACT) Standard: 40 CFR 63 Subpart BBBB).
- f. This source is not a Title IV affected source
- g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that CHS will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, CHS will be required to obtain a Title V Operating Permit.

I. MCA 75-2-103, Definitions provides in part as follows:

- 1. "Incinerator" means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.
- 2. "Solid waste" means all putrescible and non-putrescible solid, semi-solid, liquid, or gaseous wastes including, but not limited to air pollution control facilities.

J. MCA 75-2-215, Solid or hazardous waste incineration -- additional permit requirements, including but not limited to the following requirements:

- 1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators. CHS therefore had to obtain an MAQP.
- 2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including HAPs, from the incineration of solid waste. The Department determined that the information submitted in this application is sufficient to fulfill this requirement.
- 3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety and welfare. The Department completed a health risk assessment based on an emissions inventory and ambient air quality modeling submitted by CHS. Based on the results of the emission inventory, modeling, and health risk assessment, the Department determined in issuing MAQP #3901-00 that CHS's VCU system is in compliance with this requirement.
- 4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. In issuing MAQP #3901-00, the Department determined that the VCU system constituted BACT.

In MAQP Application #3901-00, CHS submitted a health risk assessment, identifying the maximum concentration of HAPs released from the proposed truck loading VCU. The assessment predicted that the increased cancer risk was well below the acceptable criteria of  $1 \times 10^{-6}$  and the sum of all non-cancer hazard quotients are below the criteria of 1.0.

### III. BACT Determination

A BACT determination is required for each new or modified source. CHS 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

Allowable Annual Emissions (ton/yr)						
Source	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM/PM <sub>10</sub>	HAPs
Storage Tanks	11.27					0.28
Truck Loading Rack VCU - Vapor Destruction Efficiency Loss	21.9	8.8	21.9			0.49
Truck Loading Rack -Vapor Collection Efficiency Loss	4.8					0.11
Fugitive Emissions (Equipment Leaks)	0.5					0.01
Misc. Emissions	0.2					
Fugitive Emissions (Vehicle Travel)					33.5/6.6	
<b>TOTAL =</b>	<b>38.7</b>	<b>8.8</b>	<b>21.9</b>		<b>33.5/6.6</b>	<b>0.89</b>

#### Emissions Inventory and Calculations Notes:

avg = average  
 bbl = oil barrel (42 gallons)  
 CO = carbon monoxide  
 ft = foot  
 HAPs = hazardous air pollutants  
 lb = pound  
 Misc = miscellaneous  
 NO<sub>x</sub> = oxides of nitrogen  
 PM = particulate matter

PM<sub>10</sub> = particulate matter with an aerodynamic diameter of 10 microns or less  
 RVP = Reid vapor pressure  
 SO<sub>2</sub> = sulfur dioxide  
 VCU = vapor combustion unit (enclosed flare)  
 VMT = vehicle miles traveled  
 VOC = volatile organic compounds  
 yr = year

#### UPDATED EMISSIONS INVENTORY CALCULATIONS:

##### Tanks 4.0.9d Input Parameters:

Tanks 1 and 2: External Floating Roof Gasoline Tanks, 20,000 bbl capacity each

Dimensions: 60 ft diameter, 840,000 gal volume, 132.7 turnovers  
 Paint Characteristics: light rust inside, white color, good shell condition  
 Roof characteristics: pontoon type, detailed fitting information (see file)  
 RVP: 11  
 Helena, MT meteorological data

Tanks 3, 6, 9, and 11: Vertical Fixed Roof Diesel Tanks, 1,000 bbl capacity each

Dimensions: 34 ft height, 15.50 ft width, 30 ft liquid height, 17 ft avg height, 122.64 turnovers  
 Paint characteristics: white shell and roof color, good shell and roof condition  
 Roof characteristics: cone, 0.06 ft/ft slope  
 Distillate Fuel #2  
 Helena, MT meteorological data

Tanks 4 and 5: Vertical Fixed Roof Diesel Tanks, 20,000 bbl capacity each

Dimensions: 48 ft height, 60 ft diameter, 40 ft liquid height, 24 ft avg height, 125.62 turnovers  
Paint characteristics: white shell and roof color, good shell and roof condition  
Roof characteristics: cone, 0.06 ft/ft slope  
Distillate Fuel #2  
Helena, MT meteorological data

Tank 7 & 10: Internal Floating Roof Gasoline Tank, 1,000 bbl capacity

Dimensions: 15.5 ft diameter, 42,000 gal volume, 132.7 turnovers  
Paint characteristics: light rust inside, white color, good shell condition  
Self supporting roof  
Mechanical shoe primary seal with shoe-mounted secondary seal  
Detailed deck fitting (see file)  
RVP: 13  
Helena, MT meteorological data

Tank 8 & 12: Internal Floating Roof Ethanol Tank, 1,000 bbl capacity

Dimensions: 15.5 ft diameter, 42,000 gal volume, 272.21 turnovers  
Paint characteristics: light rust inside, white color, good shell condition  
Self supporting roof  
Mechanical shoe primary seal with rim-mounted secondary seal  
Detailed deck fitting (see file)  
Ethyl alcohol  
Helena, MT meteorological data

**Calculated VOC Emissions:**

Tanks 1 and 2:	$9,652.41 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 4.83 \text{ ton/yr} * 2 =$	9.65 ton/yr
Tanks 3, 6, 9, 11:	$30.46 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.015 \text{ ton/yr} * 4 =$	0.06 ton/yr
Tanks 4 and 5:	$620.75 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.31 \text{ ton/yr} * 2 =$	0.62 ton/yr
Tank 7:	$766.09 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.383 \text{ ton/yr}$	0.38 ton/yr
Tank 8 & 12:	$182.99 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.091 \text{ ton/yr} * 2 =$	0.18 ton/yr
<u>Tank 10:</u>	<u><math>766.09 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 0.383 \text{ ton/yr}</math></u>	<u>0.38 ton/yr</u>
<b>TOTAL:</b>		<b>11.27 ton/yr</b>

**HAPs information from: Gasoline Distribution Industry (STAGE 1) – Background Information for Proposed Standards, EMA-453/R-94-002a, January 1994, Appendix C, Table C-2 and Table C-5:**

Gasoline: 0.48%Benzene, 0.04% EthyleBenzene, 1.08% n-Hexane, 0.64% Toluene, 0.14% m-Xylene

**PREVIOUS EMISSIONS INVENTORY CALCULATIONS:**

**Truck Loading Rack - VCU Emissions:**

Annual truck loading rack emissions from the VCU are based on a restricted annual gasoline throughput and emission factors provided by the flare manufacturer (John Zink).

Emissions (E) = Emission Factor (EF) [lb/thousand gal (lb/Mgal)] \* Annual throughput of material (Q, Mgal/yr)  
where Q = the maximum annual gasoline throughput

**VOC**

EF = 10.0 mg/L of gasoline loaded (per manufacturer’s specifications) = 0.0834 lb/Mgal  
E = 0.0834 lb/Mgal \* 525,600 Mgal/yr \* 0.0005 ton/lb = 21.9 ton/yr

**NO<sub>x</sub>**

EF = 4.0 mg/L of gasoline loaded (per manufacturer’s specifications) = 0.0334 lb/Mgal  
E = 0.0334 lb/Mgal \* 525,600 Mgal/yr \* 0.0005 ton/lb = 8.8 ton/yr

**CO**

EF = 10.0 mg/L of gasoline loaded (per manufacturer’s specifications) = 0.0834 lb/Mgal  
E = 0.0834 lb/Mgal \* 525,600 Mgal/yr \* 0.0005 ton/lb = 21.9 ton/yr

**Truck Loading Rack - Fugitive Emissions (vapor collection loss):**

Annual fugitive loading rack emissions are based on the amount of material loaded, the collection efficiency of the vapor collection system, and engineering calculation based on the vapor pressure and molecular weight of the product (AP-42 Section 5.2). Note that the assumption of 99.2% collection efficiency was an estimate based on knowledge of the process and comparison with assumptions made for another bulk terminal in the state.

Emissions (E, lb/yr) =

$$\text{Annual throughput of material (Q, Mgal/yr)} * 12.46 * (S * P_{\text{vap}} * MW_{\text{vap}} / T) * (1 - \text{VCUeff} * \text{VDUeff}) / 10000$$

		<b>Distillate (Diesel &amp; Bio-Diesel)</b>	<b>Gasoline (RVP 13) and Ethanol &amp; Transmix</b>
Q	Thousand gal/yr (Mgal/yr)	251,368	274,230
S	Saturation Factor	0.6	0.6
P <sub>vap</sub>	True Vapor Pressure (psia)	0.0033 @ 42 deg F	4.7 @ 40 Deg F
MW <sub>vap</sub>	Vapor molecular weight (lb/lbmol)	130	62
T	Temperature (deg R)	502	502
VCU eff	Vapor Capture Efficiency	99.2%	99.2%
VDUeff	Vapor Destruction Efficiency	--Calc per Zink’s--	--Calc per Zink’s --

Collection Efficiency Loss emissions from distillate:

$$E = 251,368 \text{ Mgal/yr} * 12.46 * (0.6 * 0.0033 * 130) / 502 * (1 - (99.2) / 100)$$

$$E = 12.8 \text{ lb/yr}$$

Collection Efficiency Loss emissions from gasoline (based on worst-case RVP 13):

$$E = 274,230 \text{ Mgal/yr} * 12.46 * (0.6 * 4.7 * 62) / 502 * (1 - (99.2) / 100)$$

$$E = 9,520.5 \text{ lb/yr} * 1 \text{ ton} / 2000 \text{ lb} = 4.76 \text{ tons per year}$$

**Fugitive Emissions from Equipment Leaks (Leaks from process equipment: valves, connections, etc.)**

$$\text{Emissions (lb/yr)} = \text{Number of components} * \text{EF (lb/hr-component)} * 8760 \text{ hr/yr}$$

Basis for Emission Factors: EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/R-95-017). Table 2-3: Marketing Terminal Average Emission Factors (Gas Service), Total organic compounds (including non-VOCs such as methane & ethane). CHS chose to calculate all the components based on Gas Service, because the emissions were calculated slightly higher than calculating the components based on Liquid Service.

Component Type	Number of Components	EF (lb/hr-component)	VOC Emissions (lb/yr)
Valves	120	2.87E-05	30.2
Pressure Release Valves	20	2.87E-05	5.0
Connections	300	9.26E-05	243.4
Open-ended Lines	10	2.65E-04	23.2
Load Arms	4	2.65E-04	9.3
Fittings	200	9.26E-05	162.2
Flanges	500	9.26E-05	405.6
Pumps and Meters	50	1.43E-04	62.6
<b>TOTAL</b>			<b>941.5 lb/yr</b> <b>0.47 tpy</b>

### Miscellaneous Emissions

Emissions (lb/yr) = Number of components \*EF (lb/yr-component)

Miscellaneous emissions include emissions from additive tanks, and meter provings. The facility determined that other potential types of miscellaneous emission sources, such as tank cleanings and rack drains and wastewater sumps, are extremely rare and/or unquantifiable. Emissions estimations are based on process knowledge and engineering calculations.

Component Type	Number of Components	EF (lb/yr-component)	VOC Emissions (lb/yr)
Provers*		62.2	62.2
Additive Tanks	4	37.4	371.4
<b>TOTAL</b>			<b>433.6 lb/yr</b> <b>0.22 tpy</b>

\*Provers: 20 provers/year x 200 gal/prover = 4,000 gal/yr. Basis for Tanks 4.09d

### HAP Speciation Factors – HAP/VOC (based on CHS' Glendive analysis)

Stream	Benzene	Toluene	Ethyl-benzene	Xylenes	n-Hexane	Total
Gasoline (vapor)	0.52%	0.39%	0.03%	0.16%	1.12%	2.22%

**Note:** the Emission inventory assumed an unrealistic worst-case emission of HAPs as the gasoline vapor input into the VRU; there were no available factors to provide an estimate of HAPs remaining post-combustion.

### Fugitive Emissions from Vehicle Travel

Vehicle Miles Traveled: 3 loads/hr x 24 hr/day x 2 racks x 0.25 miles/truck/load = 36 VMT/day (Facility Estimate)  
Based on paved road travel for 50 ton trucks  
Control Efficiency Included in Emission Factor

PM Emissions:

PM Emissions Factor (Rated Load Capacity @ 50 Tons): 5.1 lbs/VMT (AP-42, Section 13.2.1, 11/2006)  
PM = (36 VMT/day) x (5.1 lb/VMT)  
PM = 183.6 lbs/day  
= 33.5 ton/yr

PM<sub>10</sub> Emissions:

PM<sub>10</sub> Emissions Factor (Rated Load Capacity @ 50 Tons): 1.0 lbs/VMT (AP-42, Section 13.2.1, 11/2006)  
 PM<sub>10</sub> = (36 VMT/day) x (1.0 lb/VMT)  
 PM<sub>10</sub> = 36.0 lbs/day  
 = 6.6 ton/yr

PM<sub>2.5</sub> Emissions:

PM<sub>2.5</sub> Emissions Factor (Rated Load Capacity @ 50 Tons): 0.15 lbs/VMT (AP-42, Section 13.2.1, 11/2006)  
 PM<sub>2.5</sub> = (36 VMT/day) x (0.15 lb/VMT)  
 PM<sub>2.5</sub> = 5.4 lbs/day  
 = 1.0 ton/yr

V. Existing Air Quality

CHS facility is located the Northwest ¼ of Section 35, Township 2 North, Range 2 East, in Gallatin County, Montana. This area is considered attainment for all criteria pollutants.

VI. Ambient Air Impact Analysis

The Department determined, based on ambient air modeling, that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. 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	
XX		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	XX	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	XX	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	XX	4. Does the action deprive the owner of all economically viable uses of the property?
	XX	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?
	XX	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	XX	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?
	XX	7a. Is the impact of government action direct, peculiar, and significant?
	XX	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	XX	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?
	XX	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 is considered an administrative action; therefore, an Environmental Assessment is not required.

Analysis Prepared By: Shawn Juers  
Date: June 3, 2010