



Montana Department of  
**E**NVIRONMENTAL **Q**UALITY

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May 14, 2012

Fran Nunn  
Phillips 66 Company  
2626 Lillian Ave  
Billings, MT 59101

Dear Ms. Nunn:

Montana Air Quality Permit #2946-05 is deemed final as of May 12, 2012, by the Department of Environmental Quality (Department). This permit is for a bulk product terminal and associated equipment. 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

Doug Kuenzli  
Environmental Science Specialist  
Air Resources Management Bureau  
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VW:DCK  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #2946-05

Phillips 66 Company  
2626 Lillian Ave  
Billings, MT 59101

May 12, 2012



## MONTANA AIR QUALITY PERMIT

Issued to: Phillips 66 Company  
2626 Lillian Ave  
Billings, MT 59101

MAQP #: 2946-05  
Administrative Amendment (AA) Request  
Received: 04/02/2012  
Department Decision on AA: 04/26/2012  
Permit Final: 05/12/2012  
AFS# 013-0022

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Phillips 66 Company (Phillips 66) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### Section I: Permitted Facilities

#### A. Plant Location

Phillips 66 operates a bulk product terminal, which stores and transfers petroleum products (gasoline and distillate) received from the Yellowstone Pipeline and distributes them to regional markets via tank truck. This facility is located in the Northeast ¼ of Section 3, Township 20 North, Range 4 East, in Cascade County, just east of the Great Falls city limits. The facility is known as the Great Falls bulk terminal. A complete listing of the emissions points is contained in the permit analysis.

#### B. Current Permit Action

The Department of Environmental Quality (Department) received notification on April 2, 2012, from ConocoPhillips Company (ConocoPhillips) indicating a transfer of assets and assignment of ownership from ConocoPhillips to Phillips 66. The current permit action reflects the transfer ownership of the facility and updates the permit language and rule references used by the Department.

### Section II: Conditions and Limitations

#### A. Tank Truck Loading Rack

1. Loading of tank trucks shall be restricted to the use of submerged fill and dedicated normal service and/or switch loaded service (ARM 17.8.749).
2. Phillips 66 shall be limited to a maximum of 88,200,000 gallons of gasoline throughput for the truck loadout operation during any rolling 12-month period (ARM 17.8.749).
3. Phillips 66 shall be limited to a maximum of 88,200,000 gallons of distillate product throughput for the truck loadout operation during any rolling 12-month period (ARM 17.8.749).
4. Phillips 66 shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

5. Phillips 66 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).
6. Phillips 66 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).
7. Phillips 66 shall treat all unpaved portions of access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.6 (ARM 17.8.749).

B. Inspection and Repair Requirements

1. Each calendar month, all valves, flanges, pump seals, and open-ended lines shall be inspected for total organic compound leaks. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.749).
2. Phillips 66 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.B.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).

C. Testing Requirements

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

D. Operational Reporting Requirements

1. Phillips 66 shall document, by month, the gasoline and distillate throughput for the truck loadout operation. Phillips 66 shall total the amount of gasoline and distillate throughput for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitations in Sections II.A.2 and II.A.3, respectively. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

2. A record of each monthly leak inspection required under Section II.B of this permit shall be kept on file at the bulk terminal. Inspection records shall include, at a minimum, the following information (ARM 17.8.749):
  - 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
3. Phillips 66 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. For reporting purposes, the tanks shall be identified using the tank numbers contained in the permit analysis.

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

4. Phillips 66 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 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 (ARM 17.8.745).
5. All records compiled in accordance with this permit must be maintained by Phillips 66 as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – Phillips 66 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 Systems (CEMS), Continuous Emission Rate Monitoring Systems (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 Phillips 66 fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Phillips 66 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 air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Phillips 66 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 be expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis  
 Phillips 66 Company – Great Falls Terminal  
 MAQP #2946-05

I. Introduction/Process Description

A. Permitted Equipment:

Phillips 66 Company (Phillips 66) operates a bulk gasoline and distillate terminal that includes the following equipment:

<u>Source</u>	<u>Installed</u>	<u>Fuel Stored</u>	<u>Cap (Barrels)</u>	<u>Type of Tank</u>
Loading Rack	1960			
T-90	1960	Gasoline	60000	Ext. Flt. Roof
T-91	1960	Gasoline	36000	Ext. Flt. Roof
T-92	1960	Diesel	36000	Ver. Fxd, Roof
T-93	1960	Jet Kerosene (JFA)	36000	Ver. Fxd, Roof
T-94	1960	Diesel	25000	Ext. Flt. Roof
T-95		Off Spec Product	500	Ver. Fxd. Roof
Additive Tanks				

B. Source Description

Phillips 66 operates a bulk product terminal, which stores and transfers petroleum products (gasoline and distillate) received from the Yellowstone Pipeline and distributes them to regional markets via tank truck. This facility is located in the Northeast ¼ of Section 3, Township 20 North, Range 4 East, in Cascade County, just east of the Great Falls city limits. The facility is known as the Great Falls bulk terminal.

C. Permit History

October 9, 1997, **MAQP #2946-00** was issued to Conoco Inc. (Conoco), to exempt them from 40 Code of Federal Regulations (CFR) 63, Subpart R – National Emission Standards for Gasoline Distribution Facilities applicability. Conoco’s Great Falls bulk terminal was not required to obtain an air quality permit because this facility was constructed prior to November 23, 1968; however, Conoco requested a throughput limit on the facility to keep them below the 40 CFR 63, Subpart R applicability threshold.

A letter from ConocoPhillips Company (ConocoPhillips) dated January 3, 2003, and received by the Department of Environmental Quality (Department), on January 10, 2003, notified the Department that Conoco had changed its name to ConocoPhillips. The permit action changed the facility name from Conoco to ConocoPhillips. MAQP #2946-01 was updated to reflect current permit language and rule references used by the Department. **MAQP #2946-01** replaced MAQP #2946-00.

A letter from ConocoPhillips dated November 24, 2004, and received by the Department on December 1, 2004, notified the Department that ConocoPhillips planned to install a 4,000-gallon vertical tank used to store a lubricity additive. Since the uncontrolled Potential to Emit (PTE) of the 4,000-gallon vertical tank was less than 15 tons per year (tpy) of any regulated pollutant the tank was added to the permit under the provisions of Administrative Rules of Montana (ARM) 17.8.745 Montana Air Quality Permits-- Exclusion for De Minimis Changes. MAQP #2946-01 was updated to reflect current permit language and rule references used by the Department. **MAQP #2946-02** replaced MAQP #2946-01.

A letter from ConocoPhillips dated December 6, 2004, and received by the Department on December 15, 2004, notified the Department that ConocoPhillips planned to install a 20,000-barrel internal floating roof tank used to store a combination of distillates and gasoline. Since the uncontrolled PTE of the 20,000-barrel internal floating roof tank is less than 15 tpy of any regulated pollutant the tank was added to the permit under the provisions of ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. ConocoPhillips was considered a New Source Performance Standard (NSPS) affected facility under 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels. The emissions were conservatively calculated using more total throughput than allowed by the current permit. **MAQP #2946-03** replaced MAQP #2946-02.

ConocoPhillips, in review of information for application for the Title V Renewal Application, identified that the de minimis addition previously permitted as the Transmix Tank (permit action for MAQP #2946-03) had not been installed. The application also identified applicability of 40 CFR 63, Subpart BBBBBB to this facility. This permit action was an administrative action pursuant to ARM 17.8.764 which included the removal of the Transmix Tank from the listed permitted equipment and emissions inventory sections of the Permit Analysis, added 40 CFR 63, Subpart BBBBBB to the Permit Analysis, and updated the emissions inventory. **MAQP #2946-04** replaced MAQP #2946-03.

D. Current Permit Action

The Department received notification on April 2, 2012, from ConocoPhillips indicating a transfer of assets and assignment of ownership from ConocoPhillips to Phillips 66. The current permit action reflects the transfer ownership of the facility and updates the permit language and rule references used by the Department. **MAQP #2946-05** replaces MAQP #2946-04.

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 ARM and are available, upon request, from the Department. Upon request the Department will provide references for the location of any applicable rules and regulations and provide 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).

Phillips 66 shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

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

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

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide (SO<sub>2</sub>)
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide (NO<sub>2</sub>)
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone (O<sub>3</sub>)
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide (H<sub>2</sub>S)
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
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 Particulate Matter with an Aerodynamic Diameter of Ten Microns or Less (PM<sub>10</sub>)

Phillips 66 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. (1) This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes. (2) This rule requires that no person may cause or authorize emissions to be discharged to an 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 are taken to control emissions of airborne particulate matter. (2) Under this rule, Phillips 66 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. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. 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.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Phillips 66 is not considered an NSPS affected facility under 40 CFR Part 60. The source is not subject to the provisions of Subpart K as the product storage tanks were installed prior to the June 11, 1973 applicability date.
8. ARM 17.8.341 Standards of Performance for Hazardous Air Pollutants. The source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate.
9. 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.
  - 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 Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities applies to this facility. The compliance dates and required recordkeeping, reporting, best management practices, and emissions limitations vary depending on the compliance method chosen.

- c. 40 CFR 63, Subpart R – National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations) applies to each bulk gasoline terminal, except those bulk gasoline terminals meeting the exemption requirements of 40 CFR 63.420 (a).

Because the facility's calculated emissions screening factor ( $E_T$ ) is less than that prescribed within 40 CFR 63.420(a)(1) and complies with requirements in 40 CFR 60.420(c)-(f), this facility is not subject to the provisions of this Subpart.

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. Phillips 66 was not required to submit a permit application fee for the current permitting action because it is considered an administrative action.
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 operation fee is based on the actual or estimated 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, as 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 which 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 facility to obtain an air quality permit or permit modification if they construct, modify, or use any air contaminant sources that have the PTE greater than 25 tpy of any pollutant. Phillips 66 has the PTE more than 25 tpy of Volatile Organic Compounds (VOC); therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that are not subject to the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Phillips 66 was not required to submit an application for the current permit action because it is considered administrative. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative 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 Phillips 66 of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or 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 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 (Act), rules adopted under the Act, 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 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. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and 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 permitting action is an administrative action. Therefore, this permitting action will not cause a net emissions increase.
- 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 > 100 tpy of any pollutant;
    - b. PTE > 10 tpy of any single Hazardous Air Pollutant (HAP), PTE > 25 tpy of any combination of HAPs, or lesser quantity as the Department may establish by rule; or
    - c. PTE > 70 tpy of 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 #2946-05 for Phillips 66, the following conclusions were made:
    - a. The facility's PTE is greater than 100 tpy for any pollutant.
    - b. The facility's PTE is less than 10 tpy for any single HAP and less than 25 tpy of combined 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 BBBBBB).
    - 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.

Based on these facts, the Department determined that Phillips 66 is subject to the Title V operating permit program. Title V Operating Permit #OP2946-06 was final and effective on November 14, 2009.

III. BACT Determination

A BACT determination is required for each new or modified source. Phillips 66 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 this action is considered an administrative permit action.

VI. Emission Inventory

**Great Falls Bulk Product Terminal  
Facility Emissions**

	Tons / Year	
	VOC	HAPs
Loading Rack Emissions	217.57	11.88
Tank Emissions	16.95	0.98
Liquid Fugitive Emissions	0.19	0.01
Miscellaneous Emissions	3.44	0.19
Total Emissions ►	238.15	13.06

**Loading Rack - Gasoline VOC Emissions:**

Loading Loss Factor

$$L = 12.46 (S * P * M / T) \quad [\text{AP-42 5.2-7, 06/08}]$$

Where,

L, loading loss factor (lbs/1,000 gallons)

S, saturation factor = 0.06 [AP-42 Table 5.2-1, 6/08 - submerged loading and dedicated normal service]

P, true vapor pressure of liquid (psia) = 5.194 [Phillips 66 Data]

M, molecular weight of the vapor (lb/lb-mole) = 64 [Phillips 66 Data]

T, ambient temperature (Rankine) = 504.68 ° [Phillips 66 Data]

$$L = 4.92419358 \text{ lbs emitted} / 1,000 \text{ gallons Loaded}$$

Total Loading Rack Loss

$$L_{\text{Total}} = (Q * 0.001) * L$$

Where,

L<sub>total</sub>, total loading rack loss (lbs/year)

Q, product throughout (gallons)

$$\begin{aligned} L_{\text{total}} &= (88,200,000 * 0.001) * 4.92419358 \\ &= 434,313.873 \text{ lbs/year} \\ &= 217.1569 \text{ tons/year} \end{aligned}$$

**Loading Rack - Distillate VOC Emissions:**

Loading Loss Factor

$$L = 12.46 (S * P * M / T) \quad [\text{AP-42 5.2-7, 06/08}]$$

Where,

L, loading loss factor (lbs/1,000 gallons)

S, saturation factor = 0.06 [AP-42 Table 5.2-1, 6/08 - submerged loading and dedicated normal service]

P, true vapor pressure of liquid (psia) = 0.0049 [Phillips 66 Data]

M, molecular weight of the vapor (lb/lb-mole) = 130 [Phillips 66 Data]

T, ambient temperature (Rankine) = 504.68 ° [Phillips 66 Data]

$$L = 0.009436102084 \text{ lbs emitted / 1,000 gallons Loaded}$$

Total Loading Rack Loss

$$L_{\text{Total}} = (Q * 0.001) * L$$

Where,

$L_{\text{total}}$ , total loading rack loss (lbs/year)

Q, product throughput (gallons)

$$\begin{aligned} L_{\text{total}} &= (88,200,000 * 0.001) * 0.009436102084 \\ &= 832.264 \text{ lbs/year} \\ &= 0.4161 \text{ tons/year} \end{aligned}$$

**Loading Rack - Fugitive Emissions**

Component Type	Number of Components	Emission Factor (lbs/hr-component)	VOC Emissions	
			(lbs/year)	(tons/year)
Valves	143	0.00001	12.527	0.006
Connections	515	0.00002	90.228	0.045
Open Ended Lines	47	0.00029	119.399	0.060
Load Arm	08	0.00029	20.323	0.010
Pumps and Meters	13	0.00119	135.517	0.068
Total Liquid Fugitive Emissions ►			<b>377.994</b>	<b>0.098</b>

*Basis: Phillips 66 provided data*

**Storage Tank VOC Loss/Emissions:**

*Basis:*

1. Emission determination based on U.S. EPA TANKS 4.0.9d Emissions Estimate Software
2. Emissions calculated on a "Monthly Time Basis" within Tanks 4.0.9d Report
3. Meteorological Data used in Emissions Calculations: Great Falls, Montana (Avg. Atmospheric Pressure = 12.88 psia)

**Tank 90 - External Floating Roof Tank [Gasoline - 60,000 bbl]**

Tank Dimensions		Paint Characteristics	
Diameter (ft):	95.00	Internal Shell Condition:	Light Rust
Volume (gallons):	2,343,096.00	Shell Color/Shade:	White/White
Turnovers:	23.57114	Shell Condition:	Good
Annual Net Throughput(gal/yr):	55,229,444.00		

**Tank Construction and Rim-Seal System**

<b>Roof Characteristics</b>		Construction:	Welded
Type:	Pontoon	Primary Seal:	Mechanical Shoe
Deck Type:	Welded	Secondary:	Rim-mounted

**Deck Fitting/Status**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask	1
Unslotted Guide-Pole Well/Gasketed sliding Cover, w. Wiper	3
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Sock	16
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Sock	15
Rim Vent (6-in. Diameter)/Wiegthted Mech. Actuation, Gask.	1

**Tank 91 - External Floating Roof Tank [Gasoline - 36,000 bbl]**

<b>Tank Dimensions</b>		<b>Paint Characteristics</b>	
Diameter (ft):	73.00	Internal Shell Condition:	Light Rust
Volume (gallons):	1,398,768.00	Shell Color/Shade:	White/White
Turnovers:	23.57114	Shell Condition:	Good
Annual Net Throughput(gal/yr):	32,970,556.00		

<b>Roof Characteristics</b>		<b>Tank Construction and Rim-Seal System</b>	
Type:	Pontoon	Construction:	Welded
Deck Type:	Welded	Primary Seal:	Mechanical Shoe
		Secondary:	Rim-mounted

**Deck Fitting/Status**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gasketed	2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Ungasketed	1
Roof Drain (3-in. Diameter)/90% Closed	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	12
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	11
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Ungasketed	1
Slotted Guide-Pole/Sample Well/Gasketed sliding Cover, w. Pole Wiper	1

**Tank 92 - Vertical Fixed Roof Tank [Diesel - 36,000 bbl]**

<b>Tank Dimensions</b>		<b>Paint Characteristics</b>	
Shell Length (ft):	48.00	Shell Color/Shade:	White/White
Diameter (ft):	73.00	Shell Condition:	Good
Liquid Height (ft):	47.00	Roof Color/Shade:	White/White
Avg. Liquid Height (ft):	23.50	Roof Conditions:	Good
Volume (gallons):	1,453,452.00		
Turnovers:	22.943047		
Net Throughput(gal/yr):	33,346,617.00		
Is Tank Heated (y/n):	N		

<b>Breather Vent Settings</b>		<b>Roof Characteristics</b>	
Vacuum Settings (psig):	-0.03	Type:	Cone
Pressure Settings (psig)	0.03	Height (ft)	2.28
		Radius (ft/ft) [Cone Roof]	0.06



**Tank 93 - Vertical Fixed Roof Tank [Jet Fuel A- 36,000 bbl]**

<b>Tank Dimensions</b>		<b>Paint Characteristics</b>	
Shell Length (ft):	48.00	Shell Color/Shade:	White/White
Diameter (ft):	73.00	Shell Condition:	Good
Liquid Height (ft):	47.00	Roof Color/Shade:	White/White
Avg. Liquid Height (ft):	23.50	Roof Conditions:	Good
Volume (gallons):	1,456,098.00		
Turnovers:	22.943047		
Net Throughput(gal/yr):	33,407,324.00		
Is Tank Heated (y/n):	N		
		<b>Roof Characteristics</b>	
		Type:	Cone
		Height (ft)	2.28
		Radius (ft/ft) [Cone Roof]	0.06
<b>Breather Vent Settings</b>			
Vacuum Settings (psig):	-0.03		
Pressure Settings (psig)	0.03		

**Tank 94 - External Floating Roof Tank [Diesel - 25,000 bbl]**

*Note: Contents identified as Diesel Fuel - MAQP application presented emissions calculations as storing gasoline.*

<b>Tank Dimensions</b>		<b>Paint Characteristics</b>	
Diameter (ft):	60.00	Internal Shell Condition:	Light Rust
Volume (gallons):	934,752.00	Shell Color/Shade:	White/White
Turnovers:	22.943	Shell Condition:	Good
Annual Net Throughput(gal/yr):	32,970,556.00		
		<b>Tank Construction and Rim-Seal System</b>	
		Construction:	Welded
		Primary Seal:	Mechanical Shoe
		Secondary:	Rim-mounted
<b>Roof Characteristics</b>			
Type:	Pontoon		
Deck Type:	Welded		
<b>Deck Fitting/Status</b>			
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed			1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed			1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gasketed			2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Ungasketed			1
Roof Drain (3-in. Diameter)/Open			1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed			10
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed			5
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Ungasketed			1
Slotted Guide-Pole/Sample Well/Gasketed sliding Cover, w. Pole Wiper			1

**Tank 95 - Vertical Fixed Roof Tank [Off-Spec. Product - 500 bbl]**

<b>Tank Dimensions</b>		<b>Paint Characteristics</b>	
Shell Length (ft):	16.00	Shell Color/Shade:	White/White
Diameter (ft):	15.00	Shell Condition:	Good
Liquid Height (ft):	15.00	Roof Color/Shade:	White/White
Avg. Liquid Height (ft):	1.00	Roof Conditions:	Good
Volume (gallons):	19,908.00		
Turnovers:	12		
Net Throughput(gal/yr):	238,896.00		
Is Tank Heated (y/n):	N		
		<b>Roof Characteristics</b>	
		Type:	Cone
		Height (ft)	2.28

**Breather Vent Settings**

Vacuum Settings (psig): -0.03  
 Pressure Settings (psig) 0.03

Radius (ft/ft) [Cone Roof]

0.06

**Liquid Contents of Storage Tank - Properties:**

**Gasoline [Tank 90, Tank 91, Tank 94 and Tank 95]**

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	34.97	31.00	38.93	44.77	5.0378	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	38.11	33.56	42.66	44.77	5.3657	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.26	36.11	46.40	44.77	5.7106	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Apr	46.32	40.28	52.36	44.77	6.3025	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	May	50.90	44.32	57.47	44.77	6.8784	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Jun	55.02	47.82	62.23	44.77	7.4329	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Jul	58.11	50.02	66.19	44.77	7.8705	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Aug	57.02	49.50	64.54	44.77	7.7141	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Sep	51.78	45.46	58.11	44.77	6.9949	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Oct	47.20	41.90	52.51	44.77	6.4106	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	40.70	36.61	44.78	44.77	5.6477	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	36.08	32.29	39.86	44.77	5.1515	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3

**Distillate [Tank 92 through Tank 93]**

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 15)	Jan	34.97	31.00	38.93	44.77	5.0378	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	38.11	33.56	42.66	44.77	5.3657	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	41.26	36.11	46.40	44.77	5.7106	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Apr	46.32	40.28	52.36	44.77	6.3025	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	May	50.90	44.32	57.47	44.77	6.8784	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Jun	55.02	47.82	62.23	44.77	7.4329	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Jul	58.11	50.02	66.19	44.77	7.8705	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Aug	57.02	49.50	64.54	44.77	7.7141	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Sep	51.78	45.46	58.11	44.77	6.9949	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Oct	47.20	41.90	52.51	44.77	6.4106	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	40.70	36.61	44.78	44.77	5.6477	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	36.08	32.29	39.86	44.77	5.1515	N/A	N/A	62.00			92.00	Opt 4: RVP=15, ASTM Slope=3

**Total Tank VOC Losses/Emissions [Tanks 4.0.9d Emission Report Summary]**

Tank Identification	Rim Seal Loss (lbs/year)	Withdrawal Loss (lbs/year)	Deck fitting Loss (lbs/year)	Deck Seam Loss (lbs/year)	Working Loss (lbs/year)	Breathing Loss (lbs/year)	Total Emissions	
							(lbs/year)	(tons/year)
Tank 90	5562.66	109.64	2448.00	0.00	--	--	8120.30	4.06
Tank 91	4274.46	85.18	12948.85	0.00	--	--	17308.49	8.65
Tank 92	--	--	--	--	579.29	220.60	799.89	0.4
Tank 93	--	--	--	--	550.79	198.77	749.56	0.37
Tank 94	3513.26	67.41	2190.91	0.00	--	--	5771.58	2.89
Tank 95	--	--	--	--	534.98	624.31	1159.29	0.58

**Miscellaneous Emissions**

Component Type	Number of Components	Emission Factor (lbs/year-component)	VOC Emissions	
			(lbs/year)	(tons/year)
Tank Cleaning	1	350	350	0.175
Waste Water Tank	0	399.5	0	0
Waste Water Sump	1	613	613	0.387
OWS	0	11	0	0
Provers	32	7.39	236.48	0.118
Rack Drain	2	613	1226	0.613
Additive Tank	7	37.43	262.01	0.131
Tank Roof Landing	2	2097	4194	2.097
Total Liquid Fugitive Emissions ►			<b>6881.49</b>	<b>3.44</b>

Basis: Phillips 66 provided data

**Source/Facility HAP Emissions**

HAP Constituents	HAP Vapor Fraction	Individual HAP Emissions Per Source (lbs/year)				
		Loading Rack	Loading Fugitive(s)	Total Tank	Misc Tank	Facility Totals
2,2,4,-Trimethylpentane	0.007	3046.02	2.65	237.36	48.17	3334.20
Benzene	0.007	3046.02	2.65	237.36	48.17	3334.20
Cumene	0.000341	148.17	0.13	11.55	2.34	162.19
Ethylbenzene	0.001	435.15	0.38	33.91	6.88	476.31
Naphthalene	1.45E-05	6.31	0.01	0.49	0.10	6.90
n-Hexane	0.02423	10543.59	9.16	821.62	166.74	11541.10
Phenol	2.6E-06	1.13	0.00	0.09	0.02	1.24
Toluene	0.011	4786.61	4.16	373.00	75.70	5239.46
Xylene (mixed isomers)	0.004	1740.58	1.51	135.64	27.53	1905.26
HAP Emission Totals	(lbs/year) ►	<b>23753.57</b>	<b>20.63</b>	1851.02	<b>375.64</b>	<b>26000.87</b>
	(tons/year) ►	<b>11.88</b>	<b>0.01</b>	0.93	<b>0.19</b>	<b>13.00</b>

Basis: HAP vapor fraction provided by Phillips 66  
All Tank Emissions based on Gasoline HAP vapor fraction

V. Existing Air Quality

Phillips 66 is located in the Northwest ¼ of Section 3, Township 20 North, Range 4 East, in Cascade County, just east of the Great Falls city limits. This area is considered unclassified for all criteria pollutants, with the exception of carbon monoxide (CO). Great Falls was re-designated as attainment for CO under a Limited Maintenance Plan in May of 2002. The majority of the emissions from the facility are VOC.

VI. Ambient Air Impact Analysis

The Department did not conduct ambient air modeling for this permit action. The Department believes it will not cause or contribute to a violation of any ambient air quality standard because this permit action was accomplished under the provisions of ARM 17.8.764 and included no increase in emissions.

## 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	
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 was accomplished under the provisions of ARM 17.8.764 and is considered an administrative action; furthermore, this permitting action will not result in an increase in emissions from the facility; therefore, an Environmental Assessment is not required.

Permit Analysis Prepared By: D. Kuenzli

Date: April 10, 2012