Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

March 2, 2012

Amy Gross
ConocoPhillips Helena Products Terminal
2626 Lillian Avenue
Billings, Montana 59101

Dear Ms. Gross:

Montana Air Quality Permit #2907-07 is deemed final as of March 2, 2012, by the Department of Environmental Quality (Department). This permit is for the ConocoPhillips Helena Products Terminal. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

Conditions: See attached.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741 (406) 444-2049

Stephen Coe P.E.
Environmental Engineer
Air Resources Management Bureau

VW:SC
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2907-07

ConocoPhillips Helena Products Terminal
3180 Highway 12 East
Helena, MT 59601

March 2, 2012

MONTANA AIR QUALITY PERMIT

Issued To: ConocoPhillips Company
2626 Lillian Ave
Billings, MT 59101

MAQP: #2907-07
Application Complete: 12/19/2011
Preliminary Determination Issued: 1/13/2012
Department's Decision Issued: 2/15/2012
Permit Final: 3/2/2012
AFS #:030-049-0011A

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to ConocoPhillips Company (ConocoPhillips), pursuant to Sections 75-2-204, 211, 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

ConocoPhillips operates a bulk product terminal, which receives gasoline and distillate fuels from the Yellowstone Pipeline and distributes them around the state via railcar and tank truck. This facility is located in the SE¼ of the NE¼ of Section 28, Township 10 North, Range 3 West, in Lewis and Clark County, Montana. The facility is known as the Helena Bulk Terminal. A complete list of permitted equipment is contained in the permit analysis.

B. Current Permit Action

ConocoPhillips submitted on December 19, 2011 a complete permit application to modify MAQP # 2907-06 by proposing to:

- Replace the current truck loading rack with a new two-bay loading rack, with eight arms per bay,
- Use the existing Vapor Combustor Unit (VCU) for Volatile Organic Compound (VOC) control,
- Increase the available truck loading throughput, and
- Install a new 6,000 barrel (bbl) (4,500 bbl working capacity) ethanol tank (Tank #20).

ConocoPhillips is proposing to remove the existing truck loading rack entirely, and replace it with a new truck loading rack. Previously, the truck loading rack was uncontrolled and not connected to the VCU. The VCU will be brought online to control the vapors collected from the truck loading rack.

Additionally ConocoPhillips is requesting the removal of permit conditions III.A.6 and III.F.5 that restrict the short term throughput of the VCU.

SECTION II: Loading Operations Scenario #1: Reduction of Allowable Throughput with Uncontrolled Tanker Truck Loading

This scenario is originally derived from the conditions of MAQP #2907-04, with modification (reduction) of the throughput limits allowable for the gasoline loadout operations. Operating Scenario #1 applies to the loading operations, until such a time that the Department is provided notification that the project described in MAQP Application #2907-07 is complete, Scenario # 2 becomes applicable, and ConocoPhillips requests removal of Scenario #1.

Railcar Loading Rack

A. Railcar Loading Rack Conditions and Limitations:

1. ConocoPhillips shall not exceed 45,500,000 gallons of gasoline throughput for the railcar loadout operation on a rolling 365 day basis, calculated by summing the current day's throughput, plus the throughput for the previous 364 days.(ARM 17.8.749).

2. ConocoPhillips shall not exceed 420,000,000 gallons of distillate product throughput for the railcar loadout operation, on a rolling 12-month basis (ARM 17.8.749).

3. Loading of railcars shall be restricted to the use of submerged fill and dedicated normal service (ARM 17.8.752).

4. ConocoPhillips' railcar loading rack shall be equipped with a vapor recovery system designed to collect the organic compounds displaced from gasoline railcar product loading and vent those emissions to the flare (ARM 17.8.749).

5. The vapor recovery system shall be designed to prevent any VOC vapors collected at one loading position from passing through another loading position to the atmosphere (ARM 17.8.749).

6. Loading of liquid product into gasoline railcars shall be limited to vapor-tight gasoline railcars using the following procedures (ARM 17.8.749):

    a. ConocoPhillips shall obtain the vapor tightness documentation described in 40 Code of Federal Regulations (CFR) 60 Appendix A Method 27 (or another method approved by the Department) or Department of Transportation (DOT) certification methods for each gasoline railcar that is to be loaded at the railcar loading rack;

    b. ConocoPhillips shall require the railcar identification number to be recorded as each gasoline railcar is loaded at the terminal; and

    c. ConocoPhillips shall take the necessary steps to ensure that any non-vapor-tight gasoline railcar will not be reloaded at the railcar loading rack until vapor tightness documentation for that railcar is obtained.

7. ConocoPhillips shall ensure that loading of gasoline railcars at the railcar loading rack are made only into railcars equipped with vapor recovery equipment that is compatible with the terminal's vapor recovery system (ARM 17.8.749).

8. ConocoPhillips shall ensure that the terminal's and the railcar's vapor recovery systems are connected during each loading of a gasoline railcar at the railcar loading rack (ARM 17.8.749).

9. The vapor recovery and liquid loading equipment shall be designed and operated to prevent gauge pressure in the gasoline railcar from exceeding 4,500 Pascals (Pa) (450 millimeters (mm) of water) during product loading (ARM 17.8.749).

10. No pressure-vacuum vent in the permitted terminal's vapor recovery system shall begin to open at a system pressure less than 4,500 Pa (450 mm of water) (ARM 17.8.749).

11. ConocoPhillips shall operate and maintain an enclosed flare to control VOC and hazardous air pollutant (HAP) emissions during the loading of gasoline in the railcar loading rack (ARM 17.8.752).

12. ConocoPhillips shall not cause or authorize to be discharged into the atmosphere from the enclosed VCU:

    a. Any visible emissions that exhibit an opacity of 10% or greater (ARM 17.8.749); and

    b. Any particulate emissions in excess of 0.10 grains per dry standard cubic foot (gr/dscf) corrected to 12% carbon dioxide (CO_2) (ARM 17.8.749).

13. The total emissions to the atmosphere from the flare due to loading liquid product into gasoline railcars shall not exceed the following:

    a. VOC emissions of 10.0 milligrams per liter (mg/L) of gasoline loaded (ARM 17.8.749 and ARM 17.8.752).

    b. Carbon monoxide (CO) emissions of 10.0 mg/L of gasoline loaded (ARM 17.8.752).

    c. Nitrogen oxide (NO_X) emissions of 4.0 mg/L of gasoline loaded (ARM 17.8.752).

14. ConocoPhillips shall install and continuously operate a thermocouple and an associated recorder, or any other equivalent device, to detect the presence of a flame (ARM 17.8.752).

B. Railcar Loading Rack Testing Requirements

1. The VCU shall be tested for total VOCs, and compliance demonstrated with the emission limitation contained in Section II.A.13.a. every 5 years, or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105).

2. Compliance with the vapor recovery and liquid loading equipment gauge pressure limit contained in Section II.A.9 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. Railcar Loading Rack Inspection and Repair Requirements

1. Each calendar month, the vapor recovery system, the vapor control system, and the railcar loading rack shall be inspected for leaks, liquid or vapor, during product transfer operations. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable. Each leak detection shall be recorded and the source of the leak repaired within 15 calendar days after it is detected (ARM 17.8.105 and ARM 17.8.749).

D. Railcar Loading Rack Recordkeeping Requirements

1. The railcar vapor tightness documentation required in Section II.A.6. of this permit shall be kept on file at the terminal, and be made available for inspection and shall be updated at least once per year to reflect current test results (ARM 17.8.749).

2. 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 17.8.749):

   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); and

   e. Inspector's name and signature.

3. ConocoPhillips shall document, by day, the gasoline throughput for the railcar loading rack. This shall include all gasoline products shipped and received at the railcar loading rack. ConocoPhillips shall total the amount of throughput for the previous day. The daily information will be used to verify compliance with the rolling 365 day limitation in Section II.A.1. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).

4. ConocoPhillips shall document, by month, the distillate throughput for the railcar loading rack. This shall include all distillate products shipped and received at the railcar loading rack. By the 25th day of each month, ConocoPhillips 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 report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).

5. ConocoPhillips shall document, by month, the amount of time that the flare did not operate while gasoline was loaded from the railcar loading rack (ARM 17.8.749).

6. All records compiled in accordance with this permit must be maintained by ConocoPhillips 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).

<u>Truck Loading Rack</u>

E. Truck Loading Rack Conditions and Limitations

1. ConocoPhillips shall not exceed 45,500,000 gallons of gasoline throughput for the truck loadout operation, on a rolling 365 day basis, calculated by summing the current day's throughput, plus the throughput for the previous 364 days.(ARM 17.8.749).

2. ConocoPhillips shall not exceed 105,000,000 gallons of distillate product throughput for the truck loadout operation, on a rolling 12-month basis (ARM 17.8.749).

3. Loading of tank trucks shall be restricted to the use of submerged fill and dedicated normal service (ARM 17.8.749).

F. Truck Loading Rack Recordkeeping Requirements

1. ConocoPhillips shall document, by day, the gasoline throughput for the truck loading rack. ConocoPhillips shall total the amount of throughput for the previous day. The daily information will be used to verify compliance with the rolling 365 day limitation in Section II.E.1. A written report of the compliance verification shall be submitted along with the annual emission inventory (ARM 17.8.749).

2. ConocoPhillips shall document, by month, the distillate throughput for the truck loading rack. By the 25th day of each month, ConocoPhillips shall total the amount of distillate throughput for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.E.2. A written report of the compliance verification shall be submitted along with the annual emission inventory (ARM 17.8.749).

3. All records compiled in accordance with this permit must be maintained by ConocoPhillips 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).

SECTION III: Loading Operations Scenario #2: Controlled Cargo Tank Loading Racks (Plant-wide Controlled Loading):

This scenario is derived from the modifications allowed by MAQP #2907-07, with modification (increase) of the allowable gasoline throughput, which includes the removal of the existing truck loading rack, installation of a new truck loading rack with loading accomplished by using the bottom valve connections of the tanker trucks, and VCU control of the emissions from both truck loading operations and railcar loading operations.

A. Operational Conditions:

1. ConocoPhillips is permitted to operate an enclosed VCU, in conjunction with modification to the Truck Loading Rack, as described in MAQP Application #2907-07. ConocoPhillips shall comply with the notification requirements of Section III.C. (ARM 17.8.749).

2. ConocoPhillips shall not exceed 75,600,000 gallons of gasoline throughput through the truck loadout operations, on a rolling 12-month basis (ARM 17.8.749, ARM 17.8.1204).

3. ConocoPhillips shall not exceed 210,000,000 gallons of gasoline throughput through the railcar loadout operations, on a rolling 12-month basis (ARM 17.8.749, ARM 17.8.1204).

4. ConocoPhillips shall not exceed 105,000,000 gallons of distillate product throughput through the truck loadout operations, on a rolling 12-month basis (ARM 17.8.749).

5. ConocoPhillips shall not exceed 420,000,000 gallons of distillate product throughput through the railcar loadout operations, on a rolling 12-month basis (ARM 17.8.749).

6. ConocoPhillips shall operate and maintain an enclosed VCU to control VOC and HAP emissions during the loading of gasoline (ARM 17.8.752).

7. ConocoPhillips shall limit, by design, the maximum throughput for any possible loading scenario to less than 4,800 gallons per minute (gpm). Flowrate limiting design may include, but not be limited to, the combined capacity of pumps, the use of control valves with maximum flowrate settings, orifices, and/or locked out valves (ARM 17.8.749).

8. ConocoPhillips' loading racks shall be equipped with a vapor recovery system designed to collect the organic compounds displaced from gasoline loading and send those emissions to an enclosed VCU (ARM 17.8.752).

9. Loading of cargo tanks shall be restricted to the use of submerged loading or bottom fill loading and dedicated normal service (ARM 17.8.749).

10. ConocoPhillips shall ensure that loading of gasoline cargo tanks is made only into cargo tanks equipped with vapor recovery equipment that is compatible with the terminal's vapor recovery system (ARM 17.8.749).

11. Loading of product into gasoline cargo tanks shall be limited to vapor-tight cargo tanks using the following procedures (ARM 17.8.749):

    a. ConocoPhillips shall obtain the vapor tightness documentation described in 40 CFR 60 Appendix A Method 27 (or another method approved by the Department) or DOT certification methods for each gasoline cargo tank that is to be loaded at the loading rack;

    b. ConocoPhillips shall require the cargo tank identification number to be recorded as each gasoline cargo tank is loaded at the terminal; and

    c. ConocoPhillips shall take the necessary steps to ensure that any non-vapor-tight gasoline cargo tank will not be reloaded until vapor tightness documentation for that cargo tank is obtained.

12. The vapor recovery and liquid loading equipment shall be designed and operated to prevent gauge pressure in the gasoline cargo tank from exceeding 4,500 Pa (450 mm of water) during product loading (ARM 17.8.749).

13. No pressure-vacuum vent in the terminal's vapor recovery system shall begin to open at a system pressure less than 4,500 Pa (450 mm of water) (ARM 17.8.749).

14. The vapor recovery system shall be designed to prevent any vapors collected at one loading position from passing to another loading position (ARM 17.8.749).

15. ConocoPhillips shall ensure that the terminal's and the cargo tank's vapor recovery systems are connected during each loading of gasoline (ARM 17.8.749).

16. ConocoPhillips shall install and continuously operate a thermocouple, ultraviolet beam, or other equivalent heat sensing device, in proximity to the pilot flame, and an associated recorder, to detect the presence of a pilot flame in the VCU fire box. The VCU shall be equipped to automatically prevent loading operations from beginning at any time that the pilot flame is absent. (ARM 17.8.749).

17. ConocoPhillips shall operate and maintain the VCU and vapor collection system according to manufacturer's recommendations. ConocoPhillips shall perform semiannual (or more frequent according to manufacturer's recommendations) preventative maintenance inspections (ARM 17.8.749).

B. Emissions Limitations:

1. ConocoPhillips shall not cause or authorize to be discharged into the atmosphere from the enclosed VCU:

   a. Visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

   b. Any particulate emissions in excess of 0.10 gr/dscf corrected to 12% CO_2 (ARM 17.8.749).

   c. VOC emissions greater than 10.0 mg/L of gasoline loaded (ARM 17.8.752 and ARM 17.8.1204).

   d. CO emissions greater than 10.0 mg/L of gasoline loaded (ARM 17.8.749).

   e. NO_X emissions greater than 4.0 mg/L of gasoline loaded (ARM 17.8.749).

C. Notification Requirements:

1. ConocoPhillips shall furnish the Department a notification of the date that the modification to the Truck Loading Rack is commenced, postmarked no later than 30 days after such date (ARM 17.8.749).

2. ConocoPhillips shall furnish the Department a notification of the date that the ethanol tank (Tank #20) construction is commenced, postmarked no later than 30 days after such date (ARM 17.8.749).

3. ConocoPhillips shall furnish the Department a notification of the date of initial startup of the modified Truck Loading Rack and VCU, postmarked no later than 15 days after such date (ARM 17.8.749).

4. ConocoPhillips shall furnish the Department a notification of the date of initial startup of the new ethanol tank (Tank #20), postmarked no later than 15 days after such date (ARM 17.8.749).

D. Testing Requirements

1. Within 180 days of the initial startup of the modified Truck Loading Rack, vapor collection system, and VCU, the VCU shall be tested for total VOC emissions to demonstrate compliance with the emission limitation stated in Section III.B.1.c. The VCU shall be tested for total VOC emissions every 5 years or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105).

2. Compliance with the vapor recovery and liquid loading equipment gauge pressure limit contained in Section III.A.12 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 conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

4. The Department may require further testing (ARM 17.8.105).

E. Inspection and Repair Requirements

1. Each calendar month, the vapor recovery system, the vapor control system, and the loading racks shall be inspected for leaks, liquid or vapor, during product transfer operations. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable. Each detected leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected (ARM 17.8.105 and ARM 17.8.749).

F. Recordkeeping Requirements

1. ConocoPhillips shall document, by month, the total gasoline throughput for the Truck Loading Rack. This shall include all gasoline products shipped and received at the truck loading racks. By the 25th day of each month, ConocoPhillips shall total the amount of throughput during the previous month. This information will be used to demonstrate compliance with the throughput limitations of Section III.A.2. This information shall be submitted along with the annual emissions inventory (ARM 17.8.749).

2. ConocoPhillips shall document, by month, the total gasoline throughput for the railcar loading rack. This shall include all gasoline products shipped and received at the loading racks. By the 25th day of each month, ConocoPhillips shall total the amount of throughput during the previous month. This information will be used to demonstrate compliance with the throughput limitations of Section III.A.4. This information shall be submitted along with the annual emissions inventory (ARM 17.8.749).

3. ConocoPhillips shall document, by month, the total distillate throughput for the truck loading rack. This shall include all distillate products shipped and received at the truck loading racks. By the 25th day of each month, ConocoPhillips shall total the amount of throughput during the previous month. This information will be used to demonstrate compliance with the throughput limitations of Section III.A.4. This information shall be submitted along with the annual emissions inventory (ARM 17.8.749).

4. ConocoPhillips shall document, by month, the total distillate throughput for the railcar loading rack. This shall include all distillate products shipped and received at the railcar loading racks. By the 25th day of each month, ConocoPhillips shall total the amount of throughput during the previous month. This information will be used to demonstrate compliance with the throughput limitations of Section III.A.5. This information shall be submitted along with the annual emissions inventory (ARM 17.8.749).

5. The cargo tank vapor tightness documentation required in Section III.A.11 of this permit shall be kept on file at the terminal, and be made available for inspection and shall be updated at least once per year to reflect current test results (ARM 17.8.749).

6. ConocoPhillips shall document, by month, any VCU and/or vapor collection system malfunction which affects the collection and/or destruction efficiency while gasoline is loaded (ARM 17.8.749).

7. ConocoPhillips shall maintain documentation as needed, depicting the design systems in place to limit the maximum combined loading rack throughput capacity to less than 4,800 gpm. This information will be used to demonstrate compliance with Section III.A.7 (ARM 17.8.749).

8. A record of each monthly leak inspection required under Section III.E of this permit shall be kept on file at the 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); and

    e. Inspector's name and signature.

9. All records compiled in accordance with this permit must be maintained by ConocoPhillips 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).

SECTION IV: Plant Wide Conditions and Limitations (Applicable to both Scenario #1 and Scenario #2)

A. Limitations and Conditions

1. ConocoPhillips 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).

2. ConocoPhillips shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart XX, Standards of Performance for Bulk Gasoline Terminals for all loading racks at a bulk gasoline terminal that deliver liquid product into gasoline tank trucks that commenced construction or modification after December 17, 1980. (ARM 17.8.340 and 40 CFR 60, Subpart XX).

3. ConocoPhillips shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid (VOL) Storage vessels (including Petroleum Liquid Storage Vessels) for which construction, reconstruction or modification commenced after July 23, 1984 with a capacity of 75 to 151 cubic meters, and that have a product with a true vapor pressure of 15.0 kilopascals (kPa) or more. (ARM 17.8.340 and 40 CFR 60, Subpart Kb).

4. ConocoPhillips shall comply with all applicable standards, limitations, reporting, recordkeeping, and notification requirements of ARM 17.8.342, as specified in 40 CFR 63, National Emission Standards for Hazardous Air Pollutants, Subpart A and Subpart BBBBBB (ARM 17.8.342, ARM 17.8.752, and 40 CFR 63, Subpart A and Subpart BBBBBB):

    a. Subpart A - General Provisions applies to all equipment or facilities subject to a NESHAP for source categories subpart as listed below.

b. Subpart BBBBBB – National Emission Standards for Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities. Bulk gasoline terminals that are an area source of HAPs that were constructed or modified after November 9, 2006.

SECTION V: Fugitive Emissions Sources (Applicable to both Scenario #1 and Scenario #2)

A. Limitations and Conditions

1. ConocoPhillips shall ensure that any open-ended line be sealed with a valve (ARM 17.8.749).

2. ConocoPhillips 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).

3. ConocoPhillips shall treat all unpaved portions of 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 V.A.2 (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 leaks. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.749).

2. ConocoPhillips 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. 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. Recordkeeping Requirements

1. A record of each monthly leak inspection required under Section V.B.1 of this permit shall be kept on file at the 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); and

e. Inspector’s name and signature

SECTION VI: Soil Vapor Extraction Unit (Applicable to both Scenario #1 and Scenario #2)

A. Emissions Limitations

VOC Emissions from the Soil Vapor Extraction Unit (SVE) system shall not exceed 23.7 tons per year (TPY) (ARM 17.8.749).

B. Recordkeeping Requirements

ConocoPhillips shall calculate total annual VOC emissions from the SVE system. The emissions must be reported on the annual emissions inventory (ARM 17.8.749).

SECTION VII: Plant Wide Reporting Requirements (Applicable to both Scenario #1 and Scenario #2)

A. Operational Reporting Requirements

1. ConocoPhillips 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). ConocoPhillips shall submit the following information annually to the Department by March 15th of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

   a. The type of liquid stored in each tank.

   b. The average true vapor pressure of the liquid stored in each tank.

   c. The estimated annual throughput of liquids for each tank.

   d. The annual throughput of distillate and gasoline for the railcar loading rack.

   e. The annual throughput of distillate and gasoline for the truck loading rack.

   For reporting purposes, the tanks shall be identified using the tank numbers contained in Section I.A.1. of the permit analysis.

2. ConocoPhillips shall calculate facility-wide annual VOC emissions, including emissions from the SVE system, the loading racks, and storage tanks, and miscellaneous and fugitive emissions. The emissions must be reported on the annual emissions inventory (ARM 17.8.749).

3. ConocoPhillips shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include the addition of ***a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department,

in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

4. All records compiled in accordance with this permit must be maintained by ConocoPhillips 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).

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

SECTION VIII: General Conditions (Applicable to both Scenario #1 and Scenario #2)

A. Inspection – ConocoPhillips 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 ConocoPhillips fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving ConocoPhillips 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, failure to pay the annual operation fee by ConocoPhillips 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
ConocoPhillips Company
MAQP #2907-07

I. Introduction/Process Description

ConocoPhillips Company (ConocoPhillips) owns and operates a bulk product terminal. The facility is located in the SE¼ of the NE¼ of Section 28, Township 10 North, Range 3 West, in Lewis and Clark County, Montana, and is known as the Helena Bulk Terminal.

A. Permitted Equipment

1. Eight (8) Product Storage Tanks:

Tank #	Yr manuf.	Fuel Stored	Barrels	Type of Tank
T-20	2012	Ethanol	6,000	Int. flt. Roof
T-30	1953	Jet Kerosene	20,000	Fixed roof
T-31	1953	#2 Diesel	30,000	Fixed roof
T-32	1953	Gasoline	20,000	Int. flt. Roof
T-33	1953	Gasoline	30,000	Int. flt. Roof
T-35	1959	Gasoline	30,000	Ext. flt. Roof
T-36	1959	Gasoline	30,000	Ext. flt. Roof
T-37	1959	Gasoline	30,000	Ext. flt. Roof

2. Loading Racks and Associated Control Equipment:

i. Operating Scenario #1:

- 2-bay Truck Loading Rack consisting of 4 distillate and 4 gasoline loading arms.
- Railcar Loading Rack consisting of 6 loading arms capable of loading gasoline or distillate fuel.
- One Vapor Recovery System capturing the gasoline vapors from railcar loading and sending those vapors to an enclosed flare (Vapor Combustion Unit (VCU)) for thermal oxidation.

ii. Operating Scenario #2:

- 2-bay Truck Loading Rack with 2 loading stations in each bay consisting of a total of 8 gasoline loading arms and 8 distillate arms. One bay will be utilized for offloading denatured ethanol.
- Railcar Loading Rack consisting of 6 loading arms capable of loading gasoline or distillates.
- One Cargo Tank Loading Racks Vapor Recovery System capturing the gasoline vapors from both railcar loading and truck loading operations and sending those vapors to an enclosed flare (VCU) for thermal oxidation.

3. Five (5) Additive Tanks (Insignificant Units) containing fuel detergents and/or lubricity additives.

4. Equipment Leak Emissions:

   i. Operating Scenario #1:

Component Type	Estimated Number of Components
Valves	291
Connections	912
Open-ended Lines	49
Load Arms	20
Pump Seals and Meters	27

   ii. Operating Scenario #2:

Component Type	Estimated Number of Components
Valves	320
Connections	1003
Open-ended Lines	54
Load Arms	36
Pump Seals and Meters	41

5. Other Miscellaneous Emissions:

Component Type	Number of Components
Tank Cleaning	1
Wastewater (WW)Tanks	0
WW Sumps	2
Oil Water OW Sep	0
Provers*	192
Rack Drains	2
Tank Roof Landings	5

**Provers: 192 provers = 16 provers-meters x 3 replicates x 4X per year*

6. Soil Vapor Extraction (SVE) System:

   An 11-well SVE system installed for remediation purposes.

B. Source Description

ConocoPhillips operates a bulk product terminal, which receives gasoline and distillate fuels from the Yellowstone Pipeline and distributes them around the state via tank truck. The facility is also designed for distribution via railcar.

C. Permit History

The original facility included 2 distillate tanks (T-30 and T-31), 2 gasoline tanks (T-32 and T-33), a gasoline and distillate railcar loading rack, and a gasoline and distillate truck loading rack. The truck loading rack consisted of 4 distillate loading arms and 4 gasoline loading arms. The railcar loading rack consisted of 4 loading arms capable of loading gasoline and distillate. In 1959, Conoco, Inc. (Conoco), added gasoline storage tanks T-35, T-36, and T-37.

On January 24, 1996, **MAQP #2907-00** was issued for Conoco to expand their rail loadout facility to accommodate the loading of gasoline. The proposed changes to the product railcar loading rack consisted of the removal of the existing loading arms and the installation of 6 new loading arms capable of loading gasoline and distillate fuel. Volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions from the gasoline railcar loadout were controlled with an enclosed flare. The control on the gasoline railcar loading rack, combined with the throughput limits on the truck loading rack, kept Conoco below Title III Maximum Achievable Control Technology (MACT) applicability thresholds.

On February 14, 2002, **MAQP #2907-01** was issued to Conoco for construction and operation of a new truck loading rack and installation of a flare to control loading emissions. The new loading rack replaced the existing truck loading rack at the Helena Products Terminal. The Helena Products Terminal operated under a Title V operating permit because the facility was considered a major source for VOC emissions. The installation of the flare on the truck loading rack significantly reduced VOC emissions below the major source threshold. The flare was controlled beyond the requirements of Title 40 Code of Federal Regulations (CFR) Part 60 New Source Performance Standards (NSPS), which was considered to be Best Available Control Technology (BACT) for similar loading racks. The Montana Department of Environmental Quality (Department) had grounds to revoke the Title V permit following appropriate installation of the flare and at Conoco's request; however, Conoco would be considered a Title V synthetic minor.

The limit on the VOC emissions from the flare was as follows: the total VOC emissions to the atmosphere from the flare due to loading liquid product into tank trucks shall not exceed 10.0 milligrams per liter (mg/L) of gasoline loaded. This limit is more stringent than the 40 CFR 60, Subpart XX, VOC emissions limit of 35.0 mg/L of gasoline loaded. The source complied with the Subpart XX 35.0 mg/L limit by maintaining compliance with the 10.0 mg/L limit in MAQP #2907-01.

Because Conoco's flare was defined as an incinerator under Montana Code Annotated (MCA) 75-2-215, a determination that the emissions from the flare would constitute a negligible risk to public health was required prior to the issuance of a permit to the facility. Conoco and the Department identified the following HAP from the flare, which were used in the health risk assessment. These constituents are typical components of gasoline.

Benzene
Ethyl Benzene
Hexane
Toluene
Xylenes

The reference concentrations for the above pollutants were obtained from EPA's Integrated Risk Information System (IRIS) database, where available. The model performed for the HAP identified above demonstrated compliance with the negligible risk requirement. MAQP #2907-01 replaced MAQP #2907-00.

A letter from ConocoPhillips dated January 3, 2003, and received by the Department 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 #2907-02** replaced MAQP #2907-01.

A letter from ConocoPhillips dated November 24, 2004, and received by the Department December 1, 2004, notified the Department that ConocoPhillips planned to install a 2,000-gallon vertical tank used to store a lubricity additive. Since the uncontrolled potential to emit (PTE) of the 2,000-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 #2907-03 was also updated to reflect current permit language and rule references used by the Department. **MAQP #2907-03** replaced MAQP #2907-02.

ConocoPhillips submitted an application on June 28, 2006, for the addition of a SVE System. In addition, ConocoPhillips never installed the 2-Bay truck loading rack and thermal oxidizer permitted in 2002 in MAQP #2907-01. Therefore, the company requested to remove this equipment from the permit. Furthermore, ConocoPhillips wanted to revise the throughput limits for truck loading and add limits for the railcar loading racks to maintain plant-wide emissions below 250 tpy of VOC. The permit was revised to clarify some of the conditions and limitations. The following provides more detail on each of these points.

The proposed SVE system had a calculated PTE of 23.7 tpy of VOC from the eleven wells, based on field scale emission tests conducted in February 2006. Emissions were based on the predicted concentration of VOC, assuming exponential decrease in VOC concentrations from the initial range of 920 – 13,000 parts per million on a volume basis (ppmv) documented in the laboratory analysis for the field study. BACT was determined to be no additional control.

This permit removed references to the 2-Bay truck loading rack and thermal oxidizer that were never installed, and the permit reverted back to the original truck loading requirements. Without the addition of the new truck loading rack, the facility was no longer subject to the NSPS for gasoline loading, 40 CFR 60, Subpart XX.

In an effort to ensure the facility maintains its status as a minor source under Prevention of Significant Deterioration (PSD), the following limits were changed, added, or clarified: Section II -Railcar loading throughput limits for gasoline and distillate; Section III - Truck loading throughput limits for gasoline and distillate, and Section V - annual VOC emission limited to less than 250 tpy VOC.

Lastly, specific requirements for operating the storage tanks in conformance with ARM 17.8.324 were added for clarity. **MAQP #2907-04** replaced MAQP #2907-03.

On May 21, 2009, the Department received an application for a modification of MAQP #2907-04 from Bison Engineering, Inc. on behalf of ConocoPhillips. An affidavit of Public Notice was received by the Department on June 2, 2009, and additional information received June 9, 2009, completing the application. The application proposed: 1.) to modify the existing truck loading rack by removing the north loading bay, and using only the south loading bay with loading being accomplished by using the bottom valve connections of the tanker trucks and 2.) to use an existing VCU for VOC emissions control from both the truck loading rack and the railcar loading rack (collectively called the cargo tank loading racks). The project would result in a net decrease of emissions, significantly reducing VOC emissions with a slight increase in conventional combustion products. The requested operational permit conditions would allow the facility to be designated as a synthetic minor with respect to Title V.

Because the VCU met the definition of an incinerator pursuant to 75-2-103, MCA, the permit analysis included a health risk assessment as required by ARM 17.8.770. Operational and emissions limitations were combined for both the railcar and the tank truck loading operations. Other changes included updates made to reflect the current applicable requirements, permit

language, format, and rule references used by the Department. Title V synthetic minor status for this facility was conditional based upon the installation and operation of the equipment as described in the application. **MAQP #2907-05** replaced MAQP #2907-04.

The Department received a letter from ConocoPhillips on September 13, 2010 requesting an administrative change to reduce the total allowable throughput of gasoline for the facility to 91,000,000 gallons per rolling 12-month period. ConocoPhillips requested this throughput limit be split between the railcar loading rack operations and the truck loading rack operations. Because the facility has not made the modifications permitted in MAQP #2907-05, and the facility requested to retain the ability to proceed with the project in the future, the Department constructed Operating Scenarios to more clearly identify the applicable requirements associated with this facility.

This permitting action included those conditions of MAQP #2907-04, which were the conditions under which the facility must currently operate, with an administrative change to reduce the allowed gasoline throughput under this scenario. This permit also included those conditions which would be applicable should ConocoPhillips proceed with the modifications previously permitted in MAQP #2907-05, in which the facility would control all gasoline cargo tank loading operations through use of gasoline vapor collection and combustion. **MAQP #2907-06** replaced MAQP #2907-05.

D. Current Permit Action

ConocoPhillips submitted on October 28, 2011 a permit application to modify MAQP # 2907-06 by proposing to:

- Replace the current truck loading rack with a new two-bay loading rack, with eight arms per bay,
- Use the existing VCU for VOC control,
- Increase the available truck loading throughput,
- Install a new 6,000 barrel (bbl) (4,500 bbl working capacity) ethanol tank (Tank #20).

ConocoPhillips is proposing to remove the existing truck loading rack entirely, and replace it with a new truck loading rack. Previously, the truck loading rack was uncontrolled and not connected the VCU. The VCU will be brought online to control the vapors collected from the truck loading rack.

ConocoPhillips is requesting the removal of permit conditions III.A.6 and III.F.5 that restrict the short term throughput of the VCU. The VCU originally had a short term permit limit of 2,300 gallon per minute (gpm) however the actual design capacity of the VCU is 4,800 gpm as confirmed by documentation from the manufacturer. The annual throughput to the VCU is limited by the throughput limits placed on the loadout units. The annual throughput limits on the loadout units is well below the annual capacity of the VCU. Additionally the combined pumping capacity of all the pumps on site is less than the VCU capacity. Permit conditions III.A.6 (new condition III.A.7) and III.F.5 (new condition III.F.7) will be modified to assure that the pumping capacity on site does not exceed the design capacity of the VCU.

This permit action will not change scenario #1 as detailed in MAQP # 2907-06 and will modify scenario #2 to reflect the requested changes to the permit as detailed above. **MAQP # 2907-07** replaces MAQP # 2907-06.

E. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the 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.*, MCA.

   ConocoPhillips 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_{10}

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, ConocoPhillips 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, NSPS. ConocoPhillips 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 XX – Standard of Performance for Bulk Gasoline Terminals applies to the total of all the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks, the construction or modification of which is commenced after December 17, 1980.

c. 40 CFR 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid (VOL) Storage vessels (including Petroleum Liquid Storage Vessels), for which construction, reconstruction or modification commenced after July 23, 1984 with a capacity of 75 to 151 cubic meters, and that have a product with a true vapor pressure of 15.0 kilopascals (kPa) or more.

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 appropriate.

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 Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. A bulk gasoline terminal that is not subject to the control requirements of 40 CFR 63 Subpart R is subject to this subpart. The emissions sources to which this subpart applies are gasoline storage tanks, gasoline loading racks, vapor collection-equipped gasoline cargo tanks, and equipment components in vapor or liquid gasoline service that meet the criteria specified in Tables 1 through 3 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. ConocoPhillips submitted the appropriate permit application fee for the current permit 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 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 MAQP application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

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

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an MAQP or permit modification to construct, modify, or use any air contaminant sources that have the PTE greater than 25 tpy of any pollutant. ConocoPhillips has a PTE greater than 25 tpy 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. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. ConocoPhillips submitted the required permit application for the current permit action as a result of a routine compliance inspection. (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. Smail submitted an affidavit of publication of public notice for the October 29th 2011 issue of *The Independent Record*, a newspaper of general circulation in the Town of Helena in Lewis & Clark County, as proof of compliance with the public notice requirements.

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 ConocoPhillips 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, MCA.

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.

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 tons/year of any pollutant;

b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} 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 #2907-07 for ConocoPhillips, the following conclusions were made:

a. The facility's PTE is greater 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_{10} nonattainment area.

d. This facility is subject to a current NSPS (40 CFR 60 Subparts A, Kb, and XX).

e. This facility is subject to current NESHAP standards (40 CFR 63 Subparts A and BBBBBB).

f. This source is not a Title IV affected source

g. This source is not a solid waste combustion unit.

h. This source is not a EPA designated Title V source.

i. When operating under Scenario # 2 as allowed by ARM 17.8.1204(3), the Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's potential to emit.

   i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's potential to emit, does not require the source to obtain an air quality operating permit.
   ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

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

Based on these facts, the Department determined that:

When operating under Scenario #1 ConocoPhillips is subject to the Title V Operating Permit program.

When operating under Scenario #2 ConocoPhillips is a Synthetic Minor source and not subject to the Title V Operating Permit program.

III. BACT Determination

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

BACT analysis for VOC control

ConocoPhillips completed a BACT analysis for VOC emissions because VOC's represent the significant emissions from the proposed facility.

A VOC BACT analysis was performed for the VOC emissions from the loading of the petroleum products into trucks at the truck loading rack. Fugitive VOC emissions from equipment leaks (e.g., valves, pumps, flanges, etc.) are not included in the BACT analysis. The table below summarizes the potential VOC emissions from the truck rack loading of petroleum products.

Potential VOC Emissions

Emitting Unit	Controlled PTE (tpy)	Uncontrolled PTE (tpy)
Truck Rack Loading	4.93	178.3

Based on the United States Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards (OAQPS) Manual, the following is a list of VOC control options for this BACT analysis:

- Carbon Adsorbers;
- Incinerators;
- Thermal Oxidizer;
- Catalytic Oxidizer;
- Condensers (Refrigerated and Non-refrigerated);
- Coalescer ; and
- Vapor Combustor.

Carbon Adsorbers

Carbon adsorbers use activated carbon to remove VOC from low to medium concentration gas streams by adsorption. Adsorption itself is a phenomenon where gas molecules passing through a bed of solid particles (e.g., activated carbon) are selectively held there by attractive forces which are weaker and less specific than those of chemical bonds. During adsorption, a gas molecule migrates from the gas stream to the surface of the solid where it is held by physical attraction releasing energy, which typically equals or exceeds the heat of condensation. Most adsorbers can be cleaned by heating to a sufficiently high temperature, usually using steam or hot combustion gases or by lowering the pressure to a low value (vacuum). This cleaning process creates a waste product that will have to be properly disposed.

Five types of adsorbers are used in collecting gases: fixed regenerable beds, disposable/rechargeable canisters, traveling bed adsorbers, fluid bed adsorbers, and chromatographic baghouses. Fixed bed and canister adsorbers are the most common. VOC and acid gases can be controlled with control efficiencies greater than 90%. Common problems with carbon adsorbers can be plugging and fouling of the activated carbon exposed to wet or heavily concentrated particulate gas streams.

Incinerators

The combustion products of the waste gases can be incinerated in a thermal incinerator or in a catalytic incinerator. In a catalytic incinerator a catalyst is used to increase the rate of combustion reaction, allowing the combustion to occur at a lower temperature, typically around 600 degrees Fahrenheit (°F). Thermal incineration is performed at much higher temperatures than catalytic incineration, typically between 1200°F and 2000°F. Control efficiencies for thermal and catalytic incineration can be designed as high as +99 percent (%) for noxious gas streams and typically lower for less noxious gas streams (between 95% and 98%). Catalytic incinerators can plug with high particulate loading and can foul with heavy metals, phosphorus, and sulfur compounds.

A major advantage of incineration is that virtually any gaseous organic stream can be incinerated safely and cleanly, provided proper engineering design is used. Incineration converts organic compounds into carbon dioxide and water, assuming complete combustion. Typically, the waste gas stream is much lower in temperature than is required for incineration; therefore, energy must be supplied to the incinerator to raise the waste gas temperature.

Condensers

Condensers in use today may fall in two categories: refrigerated or nonrefrigerated. Nonrefrigerated condensers are widely used as raw material and/or product recovery devices in chemical process industries. Refrigerated condensers are used as air pollution control devices for treating emission streams with high VOC concentrations (e.g., gasoline bulk terminals, storage, etc.).

Condensation is a separation technique in which one or more volatile compounds of a vapor mixture are separated from the remaining vapors through saturation followed by a phase change. The phase change can be achieved by increasing the system pressure at a given temperature, or by lowering the temperature at a constant pressure.

Removal efficiency of a condenser is dependent on the emission stream characteristics including the nature of the VOC in question, VOC concentration, and type of coolant used. Removal efficiencies above 90% can be achieved with coolants such as chilled water, brine solutions, ammonia, special filter media, etc.

Another type of condenser is a coalescer, which uses a filter medium to collect and condense vapor mist containing VOC emissions. Coalescers have been used on asphalt loading and storage facilities for many years and are used in the petroleum refinery industry for collecting and removing VOC emissions from asphalt loading and storage facilities.

Vapor Combustion Unit

Flaring is a combustion control process for VOCs in which the waste gas stream is piped to a remote, usually elevated, location (for safety reasons) and burned in an open flame in an enclosed stack using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing for nearly complete (>98%) VOC destruction. Complete combustion in a VCU is governed by flame temperature, residence time in the combustion zone, turbulent mixing of the components to complete the oxidation reaction, and available oxygen for free radical formation.

All of the listed control technologies are technically feasible for this application. Therefore, this BACT analysis will explore all of the listed VOC control options.

The OAQPS Manual gives various expected control efficiencies ranging from 70 to 99% for the destruction of VOC in a thermal oxidizer and VOC capture in a condenser. As recommended in the OAQPS Manual, 98% control was used for the thermal oxidizer, and, based on vendor information, 95% was used for the condenser. The Table below ranks the VOC control options.

Ranking of VOC Control Options

Control Technology	Control Efficiency
VCU	98%
Thermal Oxidation	98%
Condenser	95%
Carbon Adsorber	90+%

The VCU and thermal oxidizers both achieve the same VOC destruction efficiency of 98%. Conoco proposed to use an existing VCU for the control of VOC emissions from the loading racks.

Environmental Impacts

Thermal oxidation and the use of vapor combustors involve potential environmental impacts. Employing thermal oxidation will require the combustion of additional fuel to increase the waste gas temperatures from 370ºF to 1600ºF. This combustion will increase pollutant loading (i.e., combustion gases) on the environment. These environmental impacts are not considered significant enough to eliminate these options from further evaluation.

Energy Impacts

The use of thermal oxidation or vapor combustors may require the combustion of additional energy resources to attain the proper reaction temperature range. These energy impacts are not considered significant enough to eliminate these options from further evaluation.

Economic Impacts

The economic impacts of these control options have not been investigated here, because the vapor combustor is currently installed at the facility, and would be the least costly option to operate. Because Conoco is proposing a control strategy with the highest efficiency, no economic analysis is necessary.

Conoco proposes to use the existing vapor combustion unit to control VOC emissions from the truck loading rack as well as the railcar loading rack. Conoco proposes using the John Zink Vapor Combustion Unit, with a guaranteed VOC emission rate of 10 milligrams per liter of petroleum product loaded. This emission rate for VOCs is well below the requirement of 80 mg/liter loaded required by NESHAPS Subpart BBBBBB, and 35 mg/liter loaded required by NSPS Subpart XX. The Department determined that utilizing a VCU with proper operation and design constitutes BACT. The BACT emission limit for VOC would be 10 mg/L.

VOC BACT Analysis for an Ethanol Storage Tank (Tank #20)

Conoco is proposing to install an internal floating roof on the new tank proposed for the facility. The internal floating roof will provide approximately 98 % control of VOC emissions.
As demonstrated in the RACT/BACT/LAER Clearinghouse (RBLC) search results in the Table below, this type of control is typically considered BACT for similar applications. Conoco proposes that the planned internal floating roof represents the maximum achievable degree of reduction for VOC emissions from the onsite tanks, taking into account energy, environmental, and economic impacts.

RBLC Results for Ethanol Storage Tanks

	Process Description	**Process Control Method**	**Date of Permit Issuance**
Sunnyside Ethanol, LLC, PA	Storage Tanks	Floating Roof Tanks	05/07/2007
Verenium- Highlands Ethanol Facility, FL	Ethanol, Gasoline Storage and Blending	Internal Floating Roof	12/10/2009
Asalliance Biofuels, LLC – ASA Bloomingburg, LLC, OH	Ethanol Storage Tanks (4)	None	08/10/2006

The Department determined that utilizing a floating roof on the new ethanol tank with proper operation and design constitutes BACT.

IV. Emission Inventory

ConocoPhillips Company – Helena Product Terminal
Potential to Emit in Tons Per Year
Operating Scenario #1: Uncontrolled Truck Loading Operations

	Allowable Emissions					
Source	**VOC**	**NO_X**	**CO**	**SO_2**	**$PM_{10}/PM_{2.5}$**	**HAPs**
Storage Tank Emissions (8 Tanks)	13.77					0.18
Railcar Loading VCU Emissions	1.90	0.76	1.90	ND	ND	0.02
Railcar Vapor Collection System Losses	1.42					0.0007
Truck Loading Losses	109.46					0.05
Equipment Leaks	0.42					0.0001
Miscellaneous Emissions	5.69					0.07
SVE System	23.70					0.31
TOTAL :	**156.36**	**0.76**	**1.90**	**ND**	**ND**	**0.64**

ConocoPhillips Company – Helena Product Terminal
Potential to Emit in Tons Per Year
Operating Scenario #2: Plant-wide Controlled Loading Operations

	Allowable Emissions					
Source	**VOC**	**NO_X**	**CO**	**SO_2**	**$PM_{10}/PM_{2.5}$**	**HAPs**
Storage Tank Emissions (8 Tanks)	13.77					0.88
Cargo Tank Loading Racks VCU Emissions	11.95	4.78	11.95	ND	ND	0.16
Cargo Tank Loading Losses	8.76					0.002
Equipment Leaks	0.43					0.01
Miscellaneous Emissions	5.69					0.07
SVE System	23.70					0.31
TOTAL :	**64.30**	**4.78**	**11.95**	**ND**	**ND**	**0.72**

Scenario 1 VCU Emissions:

VOC Emissions:

Emissions Factor:	10	mg/L gas loaded (Manufacturer Information)			
Gasoline Throughput:	45,486,000	gal/yr (Permit throughput limitation)			
Calculations:	10 mg/L loaded * 45,486,000gal/yr * 3.8 liter/gal * 1g/1000 mg * 1lb/454 gm =			3807	lb/yr
	3807 lb/yr * 0.0005 lb/ton =			**1.90**	**ton/yr**

NOX Emissions:

Emissions Factor:	4	mg/L gas loaded (Manufacturer Information)			
Gasoline Throughput:	45,486,000	gal/yr (Permit throughput limitation)			
Calculations:	4 mg/L loaded * 45,486,000gal/yr * 3.8 liter/gal * 1g/1000 mg * 1lb/454 gm =			1523	lb/yr
	1522lb/yr * 0.0005 lb/ton =			**0.76**	**ton/yr**

CO Emissions:

Emissions Factor:	10	mg/L gas loaded (Manufacturer Information)			
Gasoline Throughput:	45,486,000	gal/yr (Permit throughput limitation)			
Calculations:	10 mg/L loaded * 45,486,000gal/yr * 3.8 liter/gal * 1g/1000 mg * 1lb/454 gm =			3807	lb/yr
	3807lb/yr * 0.0005 lb/ton =			**1.90**	**ton/yr**

PM Emissions:

ND

SOX Emissions:

ND

HAPs Emissions:

Speciation of Gasoline VOC Emissions: 1.90 ton/yr

HAP	% of total VOC Emissions	emissions/yr	
Benzene	0.300%	0.0057	Ton/yr
Methanol	0.040%	0.0008	Ton/yr
Ethylbenzene	0.020%	0.0004	Ton/yr
n-Hexane	0.510%	0.0097	Ton/yr
1,2,4-Trimethyl Benzene	0.010%	0.0002	Ton/yr
Toluene	0.330%	0.0063	Ton/yr
Xylenes	0.090%	0.0017	Ton/yr
TOTAL HAPs	1.30%	**0.0247**	**Ton/yr**

Scenario 2 VCU Emissions:

VOC Emissions:

Emissions Factor:	10	mg/L gas loaded (Manufacturer Information)		
Gasoline Throughput:	285,600,000	gal/yr (Permit throughput limitation)		
Calculations:	10 mg/L loaded * 285,600,000gal/yr * 3.8 liter/gal * 1g/1000 mg * 1lb/454 gm =		23905	lb/yr
	23904lb/yr * 0.0005 lb/ton =		**11.95**	**ton/yr**

NOX Emissions:

Emissions Factor:	4	mg/L gas loaded (Manufacturer Information)		
Gasoline Throughput:	285,600,000	gal/yr (Permit throughput limitation)		
Calculations:	4 mg/L loaded * 285,600,000gal/yr * 3.8 liter/gal * 1g/1000 mg * 1lb/454 gm =		9562	lb/yr
	9561lb/yr * 0.0005 lb/ton =		**4.78**	**ton/yr**

CO Emissions:

Emissions Factor:	10	mg/L gas loaded (Manufacturer Information)		
Gasoline Throughput:	285,600,000	gal/yr (Permit throughput limitation)		
Calculations:	10 mg/L loaded * 285,600,000gal/yr * 3.8 liter/gal * 1g/1000 mg * 1lb/454 gm =		23905	lb/yr
	23904lb/yr * 0.0005 lb/ton =		**11.95**	**ton/yr**

PM Emissions:

ND

SOX Emissions:

ND

HAPs Emissions:

Speciation of Gasoline VOC Emissions: 11.95 ton/yr

HAP	% of total VOC Emissions	emissions/yr	
Benzene	0.300%	0.0359	ton/yr
Methanol	0.040%	0.0048	ton/yr
Ethylbenzene	0.020%	0.0024	ton/yr
n-Hexane	0.510%	0.0610	ton/yr
1,2,4-Trimethyl Benzene	0.010%	0.0012	ton/yr
Toluene	0.330%	0.0394	ton/yr
Xylenes	0.090%	0.0108	ton/yr
TOTAL HAPs	1.30%	**0.155**	**ton/yr**

Scenario 1 Truck Loading Rack Emissions

VOC from Gasoline loading:

$$L_L = 12.46 \frac{SPM}{T}$$

(AP-42 Chapter 5, 6/2008)

where:

L_L = loading loss, pounds per 1000 gallons ($lb/10^3$ gal) of liquid loaded

S = a saturation factor (see Table 5.2-1)
P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) (see Figure 7.1-5, Figure 7.1-6, and Table 7.1-2)
M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) (see Table 7.1-2)
T = temperature of bulk liquid loaded, °R (°F + 460)

S =	0.6	(AP-42 Table 5.2-1, 6/2008, submerged loading: dedicated service)
P =	4.945	psia (prior determination)
M =	64.08	lb/lb-mol (prior determination)
T =	503.64	Rankine (prior determination)

Gasoline Loading =	1,083,000	barrels/yr	=	45,486,000	gallons/yr

Calculations:	12.46 * ((0.6*4.945*64.08)/503.64) =	4.704	lb / thousand gal loaded
	4.704 * 45486000/1000 * 0.0005 ton/lb =		**ton/yr**
		106.98	**VOC**
HAPs Fraction:	0.02% see VCU HAPs Speciation		
	106.98ton/yr * 0.0002054 HAPs fraction =	**0.02**	**ton/yr HAPs**

VOC from Distillate loading:

S =	0.6	(AP-42 Table 5.2-1, 6/2008, submerged loading: dedicated service)
P =	0.0049	psia (ConocoPhillips)
M =	130	lb/lb-mol (ConocoPhililps)
T =	503.64	Rankine (ConocoPhillips)

Distillate Loading =	12,500,000	barrels/yr	=	525,000,000	gallons/yr

Calculations:	12.46 * ((0.6*0.0049*130)/503.64) =	0.0095	lb / thousand gal loaded
	.0095 * 525000000/1000 * 0.0005 ton/lb =		**ton/yr**
		2.48	**VOC**
HAPs Fraction:	1.27% Distillate HAPS Speciation - MAQP#2907-04		
	2.48 ton/yr * 0.01274 HAPs fraction =	**0.03**	**ton/yr HAPs**

Total

106.98 ton/yr +		**ton/yr**
2.48 ton/yr =	**109.46**	**VOC**
0.02ton/yr + 0.03 ton/yr =	**0.05**	**ton/yr HAPs**

Scenario 2 Loading Racks Emissions (Losses from Collection)

VOC from Gasoline loading:

$$L_L = 12.46 \frac{SPM}{T}$$

(AP-42 Chapter 5, 6/2008)

where:

L_L = loading loss, pounds per 1000 gallons ($lb/10^3$ gal) of liquid loaded

S = a saturation factor (see Table 5.2-1)
P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) (see Figure 7.1-5, Figure 7.1-6, and Table 7.1-2)
M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) (see Table 7.1-2)
T = temperature of bulk liquid loaded, °R (°F + 460)

S =	0.6	(AP-42 Table 5.2-1, 6/2008, submerged loading: dedicated service)
P =	4.945	psia (prior determination)
M =	64.08	lb/lb-mol (prior determination)
T =	503.64	Rankine (prior determination)

Collection Eff = 98.7% collection efficiency (manufacturer information)

Gasoline Loading = 6,800,000 barrels/yr = 285,600,000 gallons/yr

Calculations: 12.46 * ((0.6*4.945*64.08)/503.64) * (1-0.987) = 0.061 lb / thousand gal loaded
0.061 * 285600000/1000 * 0.0005 ton/lb = **8.73 ton/yr VOC**

HAPs Fraction: 0.02% see VCU HAPs Speciation

8.73 ton/yr * 0.0002054 HAPs fraction = **0.00179 ton/yr HAPs**

VOC from Distillate loading:

S =	0.6	(AP-42 Table 5.2-1, 6/2008, submerged loading: dedicated service
P =	0.0049	psia (ConocoPhillips)
M =	130	lb/lb-mol (ConocoPhililps)
T =	503.64	Rankine (ConocoPhillips)

Collection Eff = 98.7% collection efficiency (manufacturer information)

Distillate Loading = 12,500,000 barrels/yr = 525,000,000 gallons/yr

Calculations: 12.46 * ((0.6*0.0049*130)/503.64) * (1-0.987) = 0.0001 lb / thousand gal loaded
.0001 * 525000000/1000 * 0.0005 ton/lb = **0.03 ton/yr VOC**

HAPs Fraction: 1.27% Distillate HAPS Speciation - MAQP#2907-04

0.03 ton/yr * 0.01274 HAPs fraction = **0.00041 ton/yr HAPs**

Total

8.73 ton/yr + 0.03 ton/yr = **8.76 ton/yr VOC**

0ton/yr + 0 ton/yr = **0.002205 ton/yr HAPs**

Soil Vapor Extraction Emissions

** 7-day field test in spring 2006 developed maximum anticipated emissions

Permitted VOC Emissions:	23.7	ton/yr
HAPs Emissions (see VCU HAPs Speciation):	1.30%	

Calculations:

23.7 ton/yr * 0.013 HAPs Fraction = **0.31** **ton/yr**

Scenario 1 Equipment Leaks

Fugitive Emissions From Equipment Leaks

The number of components comes from an actual component count by ConocoPhillips, adjusted by the expected change in number of components due to this permitting action. Only components in light liquid service are listed as components in distillate service have minimal VOC emissions

Component	Number of Components	Emissions Factor Per Component** (lb/hr)	Calculations		
Valves	291	0.0000948	291 components * 0.0000948 lb/hr =	0.028	lb/hr
			0.028 lb/hr * 8760 hr * 0.0005 ton/lb =	0.12	ton/yr
Connections	912	0.0000176	912 components * 0.0000176 lb/hr =	0.016	lb/hr
			0.016 lb/hr * 8760 hr * 0.0005 ton/lb =	0.07	ton/yr
Open-ended Lines	49	0.000287	49 components * 0.000287 lb/hr =	0.014	lb/hr
			0.014 lb/hr * 8760 hr * 0.0005 ton/lb =	0.06	ton/yr
Load Arms	20	0.000287	20 components * 0.000287 lb/hr =	0.006	lb/hr
			0.006 lb/hr * 8760 hr * 0.0005 ton/lb =	0.03	ton/yr
Pumps and Meters	27	0.00119	27 components * 0.00119 lb/hr =	0.032	lb/hr
			0.032 lb/hr * 8760 hr * 0.0005 ton/lb =	0.14	ton/yr
			TOC Equipment Leak Emissions =	**0.42**	**ton/yr**

** Basis for emissions Factors: Table 2-3 of EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/RR-95-017).

No non-VOC concentrations are given, therefore this emissions inventory assumes all TOC = VOC

HAPs emissions = 0.00009 ton/yr

Scenario 2 Equipment Leaks

Fugitive Emissions From Equipment Leaks

The number of components comes from an actual component count by ConocoPhillips, adjusted by the expected change in number of components due to this permitting action. Only components in light liquid service are listed as components in distillate service have minimal VOC emissions

Component	Number of Components	Emissions Factor Per Component** (lb/hr)	Calculations		
Valves	320	0.00001	320 components * 0.00001 lb/hr =	0.003	lb/hr
			0.003 lb/hr * 8760 hr * 0.0005 ton/lb =	0.01	ton/yr
Connections	1003	0.00002	1003 components * 0.00002 lb/hr =	0.020	lb/hr
			0.02 lb/hr * 8760 hr * 0.0005 ton/lb =	0.09	ton/yr
Open-ended Lines	54	0.000287	54 components * 0.000287 lb/hr =	0.015	lb/hr
			0.015 lb/hr * 8760 hr * 0.0005 ton/lb =	0.07	ton/yr
Load Arms	36	0.000287	36 components * 0.000287 lb/hr =	0.010	lb/hr
			0.01 lb/hr * 8760 hr * 0.0005 ton/lb =	0.05	ton/yr
Pumps and Meters	41	0.00119	41 components * 0.00119 lb/hr =	0.049	lb/hr
			0.049 lb/hr * 8760 hr * 0.0005 ton/lb =	0.21	ton/yr
			TOC Equipment Leak Emissions =	**0.43**	**ton/yr**

** Basis for emissions Factors: Table 2-3 of EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/RR-95-017).

No non-VOC concentrations are given, therefore this emissions inventory assumes all TOC = VOC

HAPs emissions = 0.00557 ton/yr

Miscellaneous Emissions

Miscellaneous Emissions Factors are those used by ConocoPhillips based on engineering calculations and process knowledge.

Component Type	Number of Components	Emissions Factor (lb/yr-component)	Calculations		
Tank Cleaning	1	1218.48	1 components * 1218.48 lb/yr =	1218.48	lb/yr
			1218.48 lb/yr * 0.0005 ton/lb =	0.61	ton/yr
WW Tanks	0	399.5	0 components * 399.5 lb/yr =	0	lb/yr
			0 lb/yr * 0.0005 ton/lb =	0	ton/yr
WW Sumps	2	613	2 components * 613 lb/yr =	1226	lb/yr
			1226 lb/yr * 0.0005 ton/lb =	0.61	ton/yr
Rack Drain	2	613	2 components * 613 lb/yr =	1226	lb/yr
			1226 lb/yr * 0.0005 ton/lb =	0.61	ton/yr
OW Separator	0	11	0 components * 11 lb/yr =	0	lb/yr
			0 lb/yr * 0.0005 ton/lb =	0.00	ton/yr
Provers	192	7.4	192 components * 7.4 lb/yr =	1420.8	lb/yr
(10 prover-meters x 3 replacements x 4x/yr)			1420.8 lb/yr * 0.0005 ton/lb =	0.71	ton/yr
Tank Roof Landings	5	1218.5	5 components * 1218.5 lb/yr =	6092.5	lb/yr
			6092.5 lb/yr * 0.0005 ton/lb =	3.05	ton/yr
Additive Tanks	5	37.4	5 components * 37.4 lb/yr =	187	lb/yr
			187 lb/yr * 0.0005 ton/lb =	0.09	ton/yr
			Total Miscellaneous VOC Emissions:	**5.69**	**ton/yr**

HAPs from Miscellaneous Emissions from application data.

No non-VOC concentrations are given, therefore this emissions inventory assumes all TOC = VOC

HAPs emissions = 0.07391 ton/yr

V. Existing Air Quality

ConocoPhillips' Helena Bulk Product Terminal is located in an area designated as unclassifiable/attainment for the National Ambient Air Quality Standards for criteria pollutants.

VI. Ambient Air Impact Analysis

This permit action is for a project that results in a net decrease in emissions. The action greatly reduces VOC emissions, and has a minor increase in conventional combustion product emissions. The increases in NOx and CO were quantified, and are well below deminimis levels. Therefore, the Department believes it will not cause or contribute to a violation of any ambient air quality standard.

A Screen3 Model Run, an EPA-approved screening model, using the inputs obtained from the permit application, was completed for the VCU emissions. The parameters and results of the run, along with HAPs speciation, are given in the Health Risk Assessment below. The Department determined, based on air modeling, that the impacts from this permitting action would be minor, and does not pose an unacceptable health risk.

VII. Health Risk Assessment

A full health risk assessment was completed as a part of the application. The health risk assessment was completed using conservative assumptions internal to the Screen3 modeling, annual throughput limits for the VCU, and conservative assumptions in the risk assessment. The following section outlines the health risk assessment completed.

The EPA model SCREEN3 was utilized to estimate a worst-case hourly average ambient air concentration of VOCs that could be expected to result from VCU emissions. To estimate peak concentrations of individual toxic compounds, the maximum VOC concentration was multiplied by speciation factors for gasoline vapors that ConocoPhillips has developed.

SCREEN3 model inputs and justification for parameter selection are presented in Table 1 below. Results of the SCREEN3 modeling are presented in Table 2.

Table 1: SCREEN3 Model Inputs and Justification

Model Input	Input Value	Input Value Justification
Model Options		
Source Type	Point	The flame is enclosed in the VCU, which makes the choice of modeling a flare and the calculated lift that accompanies that option inappropriate. Therefore, the point source option was chosen as the most representative of the source characteristics.
Terrain Options	Simple Elevated	Simple elevated receptors are necessary to specify the 1m receptor height used in this model. See the receptor options for more detail.
Fumigation	None	Shoreline effects and inversion breakup details were unknown or not applicable and were omitted from the model.
Rural/Urban	Rural	The land use of the surrounding area was determined to be less than 50% I1, I2, C1, R2 and R3, based upon viewing satellite imagery and knowledge of the area. SCREEN3 guidance dictates that in this instance, the Rural option should be chosen.
Meteorology	All Stab. & WS	This option was chosen to incorporate all stability classes and wind speeds into the model. This choice is the default and the most conservative option.

Model Input	Input Value	Input Value Justification
Ambient Temperature	68°	This is the default temperature, and was maintained as a standard condition of this model.
Mixing Height	Regulatory	Without justification to choose another option, the regulatory default option was maintained.
Anemometer Height	10 m	This is the default option which the meteorological data within SCREEN3 is based upon.
Source Options		
Emission Rate	0.343 g/s	Calculated based upon the required maximum emission factor for the VCU of 10 mg VOC liter of gasoline loaded along with a requested annual throughput limit for the loadout system of 6.8 million barrels of gasoline.
Stack Height	35 feet	Provided by manufacturer.
Stack Inside Diameter	7.5 feet	Provided by manufacturer; see Attachment 4 of the incompleteness letter response.
Exit Velocity	4.33 ft/sec	Provided by manufacturer, based on VCU minimum operating range; see Attachment 4 of the incompleteness letter response.
Flow Rate	11,477.6 acfm	Calculated, based upon stack diameter and velocity.
Exit Temperature	1501°F	Provided by manufacturer, based on VCU minimum operating range; see Attachment 4 of the incompleteness letter response.
Cavity	Regulatory Default	Without justification to choose another option, the regulatory default option was maintained.
Building Options		
Height	40 ft	Height of T31, the largest and closest structure to the source.
Length	73 ft	Diameter of T31, the largest and closest structure to the source.
Width	73 ft	Diameter of T31, the largest and closest structure to the source.
Receptor Options		
Minimum Distance	55 m	55 meters is the approximate closest distance between the source and the fenceline.
Maximum Distance	50,000 m	50,000 meters is the maximum distance for which the SCREEN3 model will predict concentrations.
Receptor Height	1 m	While the terrain surrounding the facility is largely flat, a receptor height of one meter was specified to account for minor variances in elevation. Further refinements of elevation were unnecessary based on the distance at which maximum impacts occurred.
Flagpole Height	0	Receptor concentrations were predicted at ground level, which is typical for these applications.

Table 1: SCREEN3 Model Output Results

One Hour Maximum VOC Concentration (µg/m^3)	Annual Maximum VOC Concentration[a] (µg/m^3)	Distance to Maximum Concentration From Source
129.17	12.917	55 m

[a] Annual maximum concentration calculated utilizing the 0.1 scaling factor, as recommended by the Department and the EPA.

ARM 17.8.770(1)(c) exempts individual pollutants from the requirement to perform an HHRA provided "exposure from inhalation is the only appropriate pathway to consider" and the ambient concentration of the pollutant is less than the screening levels specified in Table 1 or Table 2 of the rule. Using these tables is appropriate in this case because the HAPs that will be emitted from the VCU are not expected to deposit, so inhalation would be the predominant exposure pathway.

The screening threshold tables contain screening-level risk thresholds for chronic cancer risk and chronic and acute non-cancer hazard, though all three values are not provided for all of the HAPs considered in this analysis. Where a screening value was not available, the risk of that type of exposure effect was considered negligible. The results presented in Table 3 show that benzene is the only pollutant for which risk assessments should be performed. All other modeled concentrations are below the screening values.

Table 2: Department Screen Level Concentrations

Model Result, One Hour Maximum VOCs (µg/m^3) =						129.17
Annual Average, 0.1 x One Hour Maximum VOCs (µg/m^3) =						12.917
	Vapor Weight Fraction	**Annual Average (µg/m^3)**	**Cancer Chronic[a] (µg/m^3)**	**Non-Cancer Chronic[b] (µg/m^3)**	**Non-Cancer Acute[b] (µg/m^3)**	**Screen Out of HRA? (YES/NO)**
Benzene	0.0030	0.0388	1.20E-02	0.71	n/a	NO
Ethylbenzene	0.0002	0.0026	n/a	10	n/a	YES
n-Hexane	0.0051	0.0659	n/a	2	n/a	YES
Toluene	0.0033	0.0426	n/a	4	n/a	YES
m-Xylene	0.0009	0.0116	n/a	3	44	YES

(a) ARM 17.8.770, Table 1.
(b) ARM 17.8.770, Table 2.

Because the peak annual average modeled concentrations of benzene exceeded the ARM 17.8.770 screening-level concentration thresholds, a more refined risk assessment was performed for inhalation exposure to this HAP. General methodology described in EPA's Human Health Risk Assessment Protocol (HHRAP) was followed.[1]

[1] HHRAP chapters are available here: http://www.epa.gov/osw/hazard/tsd/td/combust/risk.htm#hhrad. See Chapter 7 for analyses methods.

The peak annual average modeled concentration of benzene was multiplied by a Unit Risk Factor (URF) published by EPA for this type of analysis.[2] The result of this calculation conservatively estimates the probability of developing cancer from exposure to a pollutant or a mixture of pollutants over a 70-year lifetime, usually expressed as the number of additional cancer cases in a given number of people. For example, a cancer risk value of 1.0E-06 is interpreted as a one-in-a-million lifetime probability of the exposure resulting in cancer.

The annual average benzene concentration was divided by its respective Reference Concentrations (RfC) to determine individual non-cancer hazard quotients. RfCs have been developed to compare effects of a theoretical exposure to a standard exposure level with known effects. They represent estimates of daily concentrations that, when exposure persists over a given period of time (generally 70 years for chronic effects), adverse effects are considered unlikely. The individual hazard quotients were also summed to derive a cumulative hazard index value. Results of the cancer risk and non-cancer hazard assessments are presented in Table 4.

Table 3: Calculated Risk Summary

Chemical	Annual Average Concentration ($\mu g/m^3$)	EPA Risk Factors[(a)]		Calculated Cancer Risk	Calculated Non-Cancer Chronic HQ
		Cancer, Chronic (per $\mu g/m^3)^{-1}$	Non-Cancer Chronic HQ ($\mu g/m^3$)		
Benzene	0.0388	7.80E-06	30	3.07E-07	1.29E-03
			Total =	3.07E-07	1.29E-03

(a) These chronic dose-response values are available at http://www.epa.gov/ttn/atw/toxsource/table1.pdf.

ARM 17.8.740(16) defines "negligible risk to the public health, safety, and welfare and to the environment" as "an increase in excess lifetime cancer risk of less than 1.0×10^{-6}, for any individual pollutant, and 1.0×10^{-5}, for the aggregate of all pollutants, and an increase in the sum of the noncancer hazard quotients [i.e., hazard index] for all pollutants with similar toxic effects of less than 1.0, as determined by a human health risk assessment conducted according to ARM 17.8.767." As shown in Table 4, the results of this analysis are all well below these regulatory threshold values.

Increased cancer risk and the non-cancer hazard index were demonstrated to be far below the regulatory thresholds for negligible risk. This demonstration was made with combined worst case or conservative assumptions throughout the modeling and risk assessment. These assumptions included:

- Conservative screening level modeling utilizing SCREEN3
- A person breathing the maximum concentration 24 hours per day, 365 days per year for 70 years

The results of this analysis demonstrate there would be negligible risk to public health from the operation of ConocoPhillips' product loadout Vapor Combustion Unit.

[2] See Table 1 at this EPA web site: http://www.epa.gov/ttn/atw/toxsource/summary.html.

VIII. 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.

IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Analysis Prepared By: Stephen Coe
Date: January 13, 2012

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: ConocoPhillips Pipeline Company
2626 Lillian Ave.
Billings, MT 59101

Montana Air Quality Permit (MAQP) Number: 2907-07

Preliminary Determination Issued: 1/13/2012
Department Decision Issued: 2/15/2012
Permit Final: 03/02/2012

1. *Legal Description of Site*: This facility is located in the SE¼ of the NE¼ of Section 28, Township 10 North, Range 3 West, in Lewis and Clark County, MT

2. *Description of Project*: The Department received an application for a modification of MAQP #2907-06 from Bison Engineering, Inc. on behalf of ConocoPhillips. The application is for a project to remove the north truck loading bay from service, and to use an existing Vapor Combustor Unit (VCU) for Volatile Organic Compounds (VOC) emissions control from both the truck loading rack and the railcar loading rack. The project will result in a net decrease of emissions, significantly reducing VOC emissions with a slight increase in conventional combustion products.

3. *Objectives of Project*: The objective of the project is to reduce VOC emissions.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because ConocoPhillips demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #2907-07.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats				xx		Yes
B	Water Quality, Quantity, and Distribution				xx		Yes
C	Geology and Soil Quality, Stability and Moisture				xx		Yes
D	Vegetation Cover, Quantity, and Quality				xx		Yes
E	Aesthetics				xx		Yes
F	Air Quality			xx			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources				xx		Yes
H	Demands on Environmental Resource of Water, Air and Energy			xx			Yes
I	Historical and Archaeological Sites				xx		Yes
J	Cumulative and Secondary Impacts				xx		Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. The Department determined that there would be no discernible impact on terrestrial and aquatic life. No habitats would be directly impacted, since the project would occur on existing developed industrial land. Therefore, no impacts to terrestrial and aquatic life habitats would be expected as a result of this permit action.

B. Water Quality, Quantity and Distribution

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. This project would not require the use of water, and there is no surface water on the site. There would be a reduction in the number of valves, connections, load arms, and pump seals and meters, therefore reducing leak possibilities. The Department determined that there would be no discernible impacts to water quality, quantity and distribution for this permit action.

C. Geology and Soil Quality, Stability and Moisture

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. There would be a reduction in the number of valves, connections, load arms, and pump seals and meters, therefore reducing leak possibilities. The project would occur on existing developed industrial land on site. Therefore, the Department determined that there would be no discernible impacts to water quality, quantity and distribution for this permit action.

D. Vegetation Cover, Quantity, and Quality

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. Deposition of pollutants from this permitting action would be minute due to the very small amount of pollutants emitted. Overall, there would be no discernable impacts to vegetation cover, quantity, and quality.

E. Aesthetics

This project would occur within the current site for this terminal. The project would remove equipment. The VCU would be required to be enclosed, and have no visible emissions, therefore no visible flame or visible emissions would result from this project. Therefore, there would be no impacts to aesthetics as a result of this permitting action.

F. Air Quality

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. Given the large decrease in VOC emissions and small increase in NO_x and CO, this permitting action would result in a minor impact to air quality.

G. Unique Endangered, Fragile, or Limited Environmental Resources

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as carbon monoxide and nitrogen oxides as a result of burning the VOCs. Furthermore, the facility resides in an area which has been used for industrial purposes for longer than 50 years. Therefore, there would be expected to be no impacts to unique, endangered, fragile, or limited environmental resources.

H. Demands on Environmental Resource of Water, Air and Energy

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. Therefore, there would be no demands on air resources. The project would combust VOCs using a VCU which may be supplemented with additional fuel, and so therefore would have a minor demand for energy. The project would not require the use of water, and the Department determined that there would be no discernible impacts to water quality, quantity and distribution for this permit action. Therefore, no demand on water resources would be expected as a result of this project.

I. Historical and Archaeological Sites

This project would occur on-site and therefore not disturb any land on which has not already been developed and currently in use by ConocoPhillips. Therefore, no impacts to any historical or archaeological site would be anticipated.

J. Cumulative and Secondary Impacts

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. The Department therefore would expect that there would be no cumulative and secondary impacts as a result of this project.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				xx		Yes
B	Cultural Uniqueness and Diversity				xx		Yes
C	Local and State Tax Base and Tax Revenue			xx			Yes
D	Agricultural or Industrial Production			xx			Yes
E	Human Health			xx			Yes
F	Access to and Quality of Recreational and Wilderness Activities				xx		Yes
G	Quantity and Distribution of Employment				xx		Yes
H	Distribution of Population				xx		Yes
I	Demands for Government Services			xx			Yes
J	Industrial and Commercial Activity			xx			Yes
K	Locally Adopted Environmental Plans and Goals				xx		Yes
L	Cumulative and Secondary Impacts				xx		Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The proposed facility would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the project would take place at a previously disturbed, industrial site. The proposed project would not change the nature of the site.

B. Cultural Uniqueness and Diversity

The proposed project would not cause a change in the cultural uniqueness and diversity of the area because the land is currently used as a bulk terminal; therefore, the land use would not be changing.

C. Local and State Tax Base and Tax Revenue

The terminal's overall throughput capacity limitation would increase as a result of the proposed project. However, no new employees would be expected to be needed for this project. Therefore, minor impacts to the local and state tax base and tax revenue would be anticipated from this project.

D. Agricultural or Industrial Production

The proposed project would not result in a reduction of available acreage or productivity of any agricultural land; therefore, agricultural production would not be affected. The bulk terminal's overall throughput capacity limitation would increase as a result of the proposed project.

E. Human Health

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. Furthermore, modeling and a human health risk assessment were completed as a part of this permitting action. The risk assessment was assessing emissions that would be lower as a part of this project than they currently would be if the project was not completed. Therefore this permitting action has a net positive affect to overall Human Health.

F. Access to and Quality of Recreational and Wilderness Activities

This project would not have an impact on recreational or wilderness activities because this project would not result in any changes in access to and quality of recreational and wilderness activities.

G. Quantity and Distribution of Employment

No change in the number of employees currently onsite is anticipated as a result of this project. Therefore, this project would have not impacts to the quantity and distribution of employment at the facility

H. Distribution of Population

This project does not involve any significant physical or operational change that would affect the location, distribution, density, or growth rate of the human population. The distribution of population would not change as a result of this project.

I. Demands for Government Services

The demands on government services would experience a minor impact. The primary demand on government services would be the acquisition of the appropriate permits by the facility and compliance verification with those permits. However, as a result of completion of this project, the facility would be able to rescind the Title V permit for this facility, ultimately lowering the air quality related government services required.

J. Industrial and Commercial Activity

The bulk terminal's overall capacity would increase as a result of the proposed project. Industrial and commercial activity in the neighboring area would not anticipated to be affected by issuing MAQP #2907-07. Therefore, minor impacts on industrial activity wouldbe expected as a result.

K. Locally Adopted Environmental Plans and Goals

The bulk terminal will be responsible for filling and obtaining all necessary locally adopted Environmental Plans and Goals.

L. Cumulative and Secondary Impacts

This project would significantly reduce VOC emissions, with a very small increase in combustion products such as CO and NO_x as a result of burning the VOCs. The project would result in a net reduction in emissions, no expected change in the quantity or distribution of employment, and a potential decrease in demands for governmental services. Therefore, no cumulative or secondary impacts would be expected to result from this permitting action.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the modification of loading racks and associated emissions control. MAQP #2907-07 includes conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau

EA prepared by: Stephen Coe
Date: 1/13/2012